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A Compendium of Environmental Quality Benchmarks

D.D. MacDonald, T. Berger, K. Wood, J. Brown, T. Johnsen,
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A Compendium of Environmental Quality Benchmarks

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Abstract

This compendium of environmental quality benchmarks contributes to the Georgia Basin Ecosystem Initiative (GBEI) - a federal-provincial partnership that provides tools, support and a broad framework for action towards long-term sustainability in the Georgia Basin.

Results of monitoring programs in the aquatic environment provide important information on environmental conditions, but such data cannot alone be used to determine if particular uses are being protected. For this reason, water quality, sediment quality, and tissue residue guidelines are basic tools in evaluating environmental conditions and for the development of focussed water management strategies. Ideally, Canadian or British Columbia benchmarks with which to compare environmental levels would be available for all monitored parameters and media. This is not the case, so interim guidance of available benchmarks developed by other jurisdictions was sought.

In response to this need for chemical benchmarks for assessing environmental conditions in the Fraser River Basin, Environment Canada commissioned the development of a compendium of guidelines in 1994. Under GBEI, the freshwater benchmarks contained in the 1994 volume were reviewed and updated, and the content was expanded to include marine and estuarine environmental quality benchmarks as well.

This is a compilation of environmental quality criteria, guidelines, objectives, and standards worldwide that will provide a comprehensive library of benchmarks for use in GBEI, Puget Sound and elsewhere. For application in GBEI, CCME or provincial guidelines or criteria will be applied. Where these are not available, benchmarks from other jurisdictions are presented for guidance, and possible application as “interim” levels. No attempt has been made to identify those benchmarks most applicable to conditions in the GBEI study area.

The document is divided into four sections: 1) An introductory portion, 2) tables of water quality benchmarks, 3) tables of sediment quality benchmarks and 4) tables of tissue residue guidelines.

Résumé

Ce recueil de points de référence concernant la qualité de l'environnement contribue à l'Initiative de l'écosystème du bassin de Géorgie (IÉBG), partenariat entre les gouvernements fédéral et provincial visant à fournir les outils, le soutien et un cadre de travail élargi pour les projets axés sur la conservation des ressources du bassin de Géorgie.

Les programmes d'étude de l'environnement aquatique fournissent d'importantes informations sur les conditions environnementales mais ces données ne peuvent être utilisées seules pour déterminer si une composante des ressources est utilisée de manière appropriée ou non. Des directives concernant la qualité de l'eau, la composition des sédiments et la teneur en contaminants dans les tissus de certains animaux sont nécessaires pour évaluer les conditions environnementales et élaborer des stratégies ciblées concernant la gestion de l'eau. Dans un contexte idéal, il faudrait pouvoir établir des points de référence pour le Canada ou la Colombie-Britannique concernant tous les paramètres et éléments mesurés dans l'environnement. Ce niveau n'étant pas encore atteint, on fait temporairement appel à des points de référence élaborés par d'autres juridictions.

Pour répondre au besoin de points de référence concernant les produits chimiques mesurés dans l'environnement du bassin du Fraser, Environnement Canada avait commandé en 1994 l'élaboration d'un recueil de points de référence. Les points de référence pour l'eau douce rassemblés dans ce recueil ont été examinés et mis à jour et le contenu du recueil a été élargi pour inclure également des points de référence concernant la qualité des environnements marins et estuariens.

Il s'agit là d'une compilation de critères, de directives, d'objectifs et de standards concernant la qualité de l'environnement et provenant du monde entier. Le recueil constitue donc une vaste banque de points de référence que l'on pourra utiliser dans le cadre de l'IÉBG, pour Puget Sound et ailleurs. En ce qui concerne l'IÉBG, les directives ou les critères établis par le CCME ou la province seront appliqués. Lorsque ces derniers feront défaut, on pourra se référer aux points de référence utilisés par d'autres juridictions et présentés comme guide et comme niveau de référence possible à court terme. On n'a pas essayé d'identifier les points de référence qui seraient les plus appropriés pour les conditions prévalant dans le secteur d'étude visé par l'IÉBG.

Le document est divisé en quatre sections : 1) Introduction ; 2) Tableaux de points de référence pour la qualité de l'eau; 3) Tableaux de points de référence pour la qualité des sédiments; 4) Tableaux de directives concernant la teneur en contaminants dans les tissus de certains animaux.

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1.0 Introduction

In 1993, Environment Canada and B.C. Ministry of Environment Lands, and Parks established a historic agreement to ensure the long-term sustainability of the Georgia Basin. The resulting five year program, the Georgia Basin Ecosystem Initiative (GBEI), is intended to improve air quality, reduce and prevent water pollution, combat climate change, conserve and protect important habitats, and support community-based environmental initiatives. This program will build on the progress that was achieved under the Fraser River Action Plan by strengthening partnerships and expanding the scope of activities.

The reduction and prevention of water pollution has been identified as a critical element of GBEI. The overall goal of the Clean Water Action Plan is to improve water quality to better protect and improve the aquatic ecosystem and to promote the well-being of human inhabitants. A number of objectives have been established to clarify this goal, including:

- To ensure that surface waters (freshwater, estuarine, and marine) and groundwaters are protected from non-point source pollution;
- To ensure that toxic chemicals do not adversely affect the aquatic ecosystem;
- To ensure that shellfish harvesting is revitalized;
- To ensure that pollution is arrested and reversed; and,
- To ensure that health risks are minimized through liquid waste management programs and drinking water source protection.

Achievement of these objectives will require the timely implementation of a strategic action plan that effectively coordinates that activities of the federal and provincial agencies, as well as their partners. Some of the strategic priorities that have been identified thus far for the Clean Water Action Plan include:

- Identification, measurement, and management of toxic substance which have the potential to damage aquatic organisms;
- Management of urban stormwater to reduce the deposition of contaminants;
- Establishment of appropriate environmental practices for vessels and marine facilities to reduce pollution from garbage, oil, sewage, and toxic substances;
- Establishment of best management practices to reduce agricultural non-point sources pollution;

- Improvement of water conservation;
- Protection of drinking water sources;
- Improvement of sewage treatment operations and biosolids management;
- Development of pollution prevention programs for municipalities and small businesses;
- Development of maintenance, restoration, and remediation plans for shellfish harvesting areas and the creation of new shellfish harvesting areas; and,
- Restriction of pleasure craft sewage discharges.

Evaluation of the effectiveness of this strategic action plan will rely, to a significant extent, on assessments of ambient environmental quality conditions in the Georgia Basin. That is, the effectiveness of Clean Water Action Plan will be evaluated by determining if management actions are actually improving environmental quality and conserving the water uses that depend on the aquatic ecosystem. While ambient monitoring data are useful for assessing trends in environmental quality, determination of the level of protection afforded water uses in the Georgia Basin also requires chemical benchmarks against which ambient monitoring data can be evaluated.

In Canada, water quality guidelines for the protection of raw water supplies have been derived by Health and Welfare Canada (HWC). Ambient water quality guidelines for other water uses and sediment quality guidelines have been developed by Canadian Council of Ministers of the Environment (CCME). Similarly, tissue residue guidelines for the protection of human health and wildlife have been formulated by Health and Welfare Canada and the Canadian Council of Minister of the Environment, respectively. While these ongoing Canadian programs have provided environmental quality guidelines for many of the substances, the requisite guidelines for many priority substances in the Georgia have not yet been established. Nevertheless, there is a need for indicator levels of contaminants to assess environmental survey and sampling results, to establish priority areas for pollution abatement activities, and to assess the effectiveness of any remedial measures that are implemented. For this reason, a comprehensive assembly of existing environmental quality benchmarks (including criteria, guidelines, objectives and standards) from jurisdictions throughout the world has been conducted to support environmental management initiatives in the Georgia Basin.

1.1 Background

Environmental quality guidelines and criteria for water have historically been concerned with the protection of human health. As such, most of the early water quality guidelines (WQG) focussed on bacteriological characteristics of surface waters that could be used as raw water supplies. As our understanding of human toxicology expanded, so did our need for water quality guidelines that addressed the chemical attributes of water, such as metals and nitrate levels. Disposal of toxic industrial chemicals and widespread use of pesticides have lead to further concerns over the quality of potable water sources in Canada. As such, the Canadian Council of Ministers of the Environment formed a Task Force on Water Quality Guidelines to initiate the development of a comprehensive suite of guidelines for the protection of human health (CCREM 1987; HWC 1993).

Despite the quality and number of guidelines available to evaluate the quality of drinking water sources in Canada, these guidelines may not necessarily be appropriate for adoption as water quality objectives (WQO) in the Georgia Basin. While the withdrawal of raw water for drinking water supplies is an important water use, frequently, it is not the most *sensitive* water use. Evaluations have demonstrated that freshwater aquatic organisms generally have the most demanding requirements in terms of water quality (see CCREM 1987). Conservation and protection of designated water uses in the Georgia Basin is, at least in part, dependent on the availability of water quality guidelines for priority substances for the protection of sensitive freshwater, estuarine, and marine species. In addition, other important water uses, such as livestock watering, irrigation, recreation and aesthetics, and industrial water supplies, must be addressed in the management of water resources in the Georgia Basin. Furthermore, protection of marine environmental quality is an emerging concern in British Columbia, necessitating the development of tools to support the evaluation of environmental quality data.

Contaminated sediment has also been identified as a significant environmental concern in the Georgia Basin. Elevated levels of environmental contaminants may occur in sediments due to an array of natural processes; however, contamination of freshwater, estuarine, and marine sediments is more likely to occur due to human activities. Pollutants from industrial, municipal, and non-point sources can accumulate in suspended or bed sediments and, in so doing, result in adverse effects on benthic organisms. Desorption of toxic chemicals from suspended or deposited sediments can result in the degradation of the quality of the overlying water. Sediment quality guidelines provide a means of assessing the quality of freshwater, estuarine, and marine sediments and in support of informed management decisions (e.g., source control, remediation, etc.).

In addition to the direct toxicological effects of water-borne and sediment-associated environmental pollutants from industrial, municipal, and non-point sources, many of these contaminants have the potential to accumulate in the tissues of aquatic biota. Bioaccumulation in aquatic biota may have significant implications to the species affected and to the aquatic and terrestrial species, including humans, that consume aquatic biota for food. Numerical tissue residue guidelines provide a basis for assessing the hazards that tissue-borne contaminants pose to human health and wildlife and, hence, a basis for regulating contaminant inputs into the environment.

Many areas of the Georgia Basin are characterized by significant and expanding industrial and residential developments. As a result, point and non-point source effluents from industrial facilities, municipalities, agricultural operations, and other developments have the potential to degrade receiving water systems. While the results of monitoring programs provide important information on environmental conditions within the Georgia Basin, such data alone cannot be used to determine if the designated water uses are being protected. For this reason, water quality, sediment quality, and tissue residue guidelines are required to support evaluations of environmental quality conditions and the development of focussed water management strategies in the Georgia Basin.

In response to the need for chemical benchmarks for assessing environmental conditions in the Fraser River Basin, Environment Canada commissioned the development of a compendium of guidelines in 1994 (MacDonald 1994; MacDonald *et al.* 1994). Under GBEI, the focus has expanded to include not only the freshwater benchmarks contained in the 1994 volume, but current marine and estuarine environmental quality. This report provides the Clean Water Action Plan with a compendium of chemical benchmarks to be used in the development of environmental monitoring programs, to interpret water, sediment, and tissue chemistry data, to evaluate the need for remedial actions, and to facilitate environmental quality objectives development in the Georgia Basin.

1.2 Study Objectives

This report has been prepared to support initiatives undertaken as part of the Clean Water Action Plan of GBEI. More specifically, it provides a compendium of environmental benchmarks for priority substances that have been identified in the Georgia Basin. The particular objectives of the study were:

- To revise and refine the existing Environmental Assessment Information System (EAIS);
- To update the EAIS to include the chemical benchmarks that have been developed since 1994, benchmarks for additional substances, and benchmarks for additional jurisdictions; and,
- To expand the EAIS to include chemical benchmarks for marine ecosystems.

The methods that were used to address each of these study objectives are described in the Study Approach section of this report.

1.3 Definitions

Environmental quality benchmarks have been developed by a number of jurisdictions in Canada, with the Canadian Council of Ministers of the Environment (CCME; previously known as the Canadian Council of Resource and Environment Ministers; CCREM) taking a lead role. In addition, various other agencies in Canada and elsewhere around the world have well established programs for developing environmental quality benchmarks. However, many of these jurisdictions have adopted different terms for tools that they use in their water management processes. To avoid confusion in the application of these terms, the following definitions are recommended for use in the Georgia Basin:

- *Environmental Quality Criteria and Guidelines* – These are numerical concentrations or narrative statements recommended to support and maintain designated water uses. For example: "no harmful effects on mysid shrimp will result if the maximum concentration of zinc remains below 0.166 mg/L" (Suter and Rosen 1988).
- *Environmental Quality Objectives* – These are numerical concentrations or narrative statements which have been established to support and protect the designated uses of water at a specified site. For example: "the average concentration of zinc in the Fraser River Estuary <u>should not</u>

exceed 0.050 mg/L. This objective is predicted to protect sensitive fish and aquatic life species, and in so doing should ensure that other beneficial uses of water will not be impaired" (Swain and Holms 1985). Establishment of a water quality objective requires agreement between all of the agencies responsible for the management of water quality in the basin under consideration.

- *Environmental Quality Standards* – These are environmental quality objectives that are recognized in enforceable environmental control laws of a level of government. For example: "the average concentration of zinc in the Columbia River basin shall not exceed 0.086 mg/L" (Oregon Department of Environmental Quality 1989).

As indicated above, management agencies around the world have adopted various terms to describe the chemical benchmarks that apply within their jurisdiction. In this document, no attempt has been made to interpret the chemical benchmarks that have been promulgated by the various agencies. Rather, the available information on the chemical benchmarks and their applications has been compiled as they were received. For this reason, those who wish to utilize chemical benchmarks are advised to obtain and review the underlying documentation to make sure that they are appropriate for use in the intended application.

2.0 Study Approach

This study was undertaken to develop a comprehensive database of environmental quality benchmarks promulgated for freshwater, estuarine, and marine ecosystems around the world. A step-wise approach was used to compile environmental quality benchmarks that could be applicable for evaluating and interpreting environmental quality data collected under the GBEI. As a first step, environmental quality criteria, guidelines, objectives, and standards from a diverse array of organizations worldwide were collected and collated. Next, the supporting documentation provided with the benchmarks was reviewed and evaluated. Subsequently, the benchmarks that met the selection criteria were incorporated into an electronic database. The information contained in the database was then verified against the information contained in the original publication. Finally, the information in the database was searched by media type (i.e., water, sediment, and tissue), ecosystem type (i.e., freshwater, estuarine, and marine), and water use (i.e., raw water for drinking water supply, recreation and aesthetics, aquatic life, etc.) to generate the data summaries presented in this report. Each of these steps are described in more detail in the following sections.

2.1 Collection and Collation of Existing Environmental Quality Benchmarks

Regulatory agencies throughout the world have developed environmental quality criteria, guidelines, objectives, and/or standards for a wide range of environmental management applications. While some of these benchmarks are intended to provide informal tools for interpreting environmental monitoring data, others are intended to be used in regulatory and enforcement programs. In recognition of the potential relevance of all types of benchmarks to GBEI initiatives, we attempted to identify as many sources of benchmarks as possible.

Several approaches were used to obtain environmental quality benchmarks from regulatory agencies throughout the world. First, the organizations that were contacted in development of the original compendium (MacDonald 1994; MacDonald *et al.* 1994) were re-contacted to obtain their most recent benchmarks for assessing environment quality conditions. Next, the internet searches were used to identify additional contacts with regulatory agencies. Each of these agencies were were then contacted by letter or telephone to determine if environmental quality benchmarks were available and to obtain hard copies of relevant reports. In total more that 150 organizations were contacted in this way. Web sites for various regulatory agencies worldwide were searched, and any available benchmarks were downloaded and collated. In total, more than 800 web sites were reviewed during this process and numerical benchmarks were obtained from more than 50 of these sites. The MESL topic library was also used as a source of environmental quality benchmarks that had been acquired over the past five years. A listing of all sources of environmental quality benchmarks was developed to support as a step in the data compilation.

2.2 Review and Evaluation of Environmental Quality Benchmarks

All of the documents that were obtained during the course of the study were reviewed and evaluated. Benchmarks from individual documents were incorporated into the database if:

- the methods that were used to derive the benchmarks were readily apparent;
- the source of the original benchmarks was readily apparent (i.e., for the benchmarks that were adopted form another jurisdiction); and,
- the benchmarks were effects-based (i.e., the benchmarks were based on effects or lack of effects on the uses of designated water, sediment, and biological tissues).

This step was ensures that the most relevant benchmarks were incorporated into the database.

2.3 Compilation and Verification of Environmental Quality Benchmarks

A great deal of information was obtained during the data acquisition stage of this study. Recognizing that the available resources might not support compilation of all of acquired environmental quality benchmarks, a prioritization system was developed to ensure that the most relevant benchmarks were incorporated into the electronic database. Benchmarks from jurisdictions on the west coast of Canada and the United States (i.e., Alaska, British, Columbia, Alberta, Washington, Idaho, Montana, Wyoming, Colorado, and California) were assigned the highest priority because environmental conditions in these areas were likely to be most similar to those within the GBEI study area. The Canadian environmental quality guidelines were included on the list of highest priority benchmarks (i.e., CCREM 1987). Benchmarks from the jurisdictions located in central Canada, on the east coast of Canada (Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland) and in the United States (Maine, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, District of Columbia, Maryland, and Virginia) were a secondary priority because they included benchmarks for temperate marine and estuarine areas. Benchmarks from other jurisdictions within North America were considered to be the third priority for entry into the

database, while a lower priority was assigned the benchmarks from areas located elsewhere worldwide.

Environmental quality benchmarks meeting the evaluation criteria were incorporated in the Environmental Assessment Information System which includes the chemical name (e.g., dissolved oxygen), media type (e.g., water), water type (e.g., estuarine), water use (e.g., aquatic life), CAS registry number (i.e., Chemical Abstracts Service registry number for the chemical), CAS name, any other chemical names for the substance, the benchmark value and units (e.g., 5 mg/L, jurisdiction (e.g., Alaska), literature reference, the approach used to derive the benchmark (e.g., theoretical toxicological approach; TTA), information on benchmark application (e.g., minimum level; for estuaries and tidal tributaries), and any other relevant information. Generally, the information on the benchmarks that was provided by each regulatory agency was incorporated into the database as supplied. No attempt was made to interpret the benchmarks in terms of the common definitions that have been used by the Canadian Council of Ministers of the Environment (CCREM 1987). For this reason, users are encouraged to obtain the original publications in applying the compiled benchmarks in their specific application. In some cases, the units that were reported for the benchmarks were converted to standard units to make the information in the database more consistent (e.g., for dissolved oxygen, a benchmark of 5000 mg/L was converted to 5 mg/L in the database).

Accuracy of the information was of central importance during this study. For this reason, all of the data contained in the database was verified prior to generating summary tables. Data were verified in three steps. First, information in the database was sorted by reference and compiled in spreadsheets. Next, two reviewers then compared the information in the spreadsheets to the information contained in the original reference to identify errors or omissions. Finally, any changes deemed necessary were incorporated into the database. In this way, the accuracy of the information contained in the EAIS was assured.

2.4 Preparation of Environmental Quality Benchmark Summaries

Information acquired during this study was compiled (i.e., EAIS) and summarized for the appendices. Summaries of available environmental quality benchmarks were prepared for each water type, water use, and media type - Appendices 2-4. In this way the reader may quickly obtain the benchmarks and related information that pertain most closely to their specific application.

No attempt has been made to identify guidelines which would be the most appropriate for use in the Georgia Basin.

3.0 Results and Discussion

This study was initiated to compile numerical environmental quality benchmarks for priority substances in the Georgia Basin (Table 1). As a first step in this process, jurisdictions located in North America and around the world were contacted to obtain chemical benchmarks for freshwater, estuarine, and marine systems and supporting documentation. Agencies contacted and a list of agencies providing chemical benchmarks are presented in Tables 2 and 3, respectively. Information obtained from all sources was reviewed and, if acceptable, incorporated into an electronic database in MS Access format.

The database developed during the course of this project is termed the Environmental Assessment Information System (EAIS). The EAIS was originally developed in Paradox format to compile the chemical benchmarks for freshwater and estuarine systems available to March, 1994 (MacDonald 1994; MacDonald et al. 1994). The original Paradox database was converted to MS Access format for use in this project.

The chemical benchmarks assembled during the course of this study were compiled in summary tables. The various chemical benchmarks for evaluating water quality conditions are presented in Appendix 2. This compilation includes chemical benchmarks for the protection of:

- human health (water supplies; Appendix 2-1);
- human health (bioaccumulation in aquatic organisms; Appendix 2-2);
- recreation and aesthetics (Appendix 2-3);
- freshwater aquatic life (Appendix 2-4);

- marine and estuarine aquatic life (Appendix 2-5);
- irrigation (Appendix 2-6);
- livestock watering (Appendix 2-7);
- wildlife watering (water consumption; Appendix 2-8);
- wildlife (bioaccumulation in aquatic organisms; Appendix 2-9); and,
- industrial uses (Appendix 2-10).

The available chemical benchmarks for assessing sediment quality conditions in freshwater, estuarine, and marine ecosystems have also been compiled in summary tables (Appendix 3). These compilations present the chemical benchmarks that have been developed for the protection of:

- freshwater aquatic life (Appendix 3-1);
- marine and estuarine aquatic life (Appendix 3-2);
- wildlife from adverse effects associated with the bioaccumulation of persistent substances in the tissues of aquatic organisms (Appendix 3-3);
- human health from adverse effects associated with the bioaccumulation of persistent substances in the tissues of aquatic organisms (Appendix 3-4); and,
- agricultural uses (i.e., disposal of sediments in upland agricultural areas for use as soil; Appendix 3-5).

To support evaluations of the ecological and human health risks posed by persistent organic pollutants and other bioaccumulative substances, the available chemical benchmarks for assessing tissue residue levels were compiled in summary tables. These summary tables include the chemical benchmarks that have been promulgated for the protection of:

- aquatic life (Appendix 4-1);
- wildlife (Appendix 4-2); and,
- human health (Appendix 4-3).

While the guidelines and criteria that have been compiled in the Environmental Assessment Information System represent important tools for assessing environmental quality conditions, the information in the tables should not be

used in insolation to make environmental management decisions. **It is crucial that users fully understand the procedures that were used to derive the values and the underlying assumptions.** In that way, users can identify the guidelines and criteria that apply most directly to their specific application. **For this reason, it is recommended that the original sources of the guidelines and criteria be reviewed prior to selecting tools to support specific environmental assessments.**

4.0 Summary

A review of the world literature was conducted to identify and compile environmental quality criteria, guidelines, objectives, and standards that could provide guidance in environmental programs conducted under GBEI. However, no attempt have been made to identify the most appropriate environmental quality guidelines for use in the Georgia Basin. To assist in the selection of appropriate chemical benchmarks, descriptions of the major approaches to the derivation of these assessment tools were include in MacDonald (1994). In addition, the various protocols for the derivation of numerical environmental quality guidelines have been posted on the Environment Canada Home Page on the World Wide Web. By reviewing these protocols and the supporting documentation provided with the various chemical benchmarks, it should be possible to identify the benchmarks that were developed using procedures that are similar to those employed by the CCME. It is understood that the CCME-approved guidelines will be used under the Georgia Basin Initiative when available and that such guidelines will replace the informal chemical benchmarks included in this document, as they are developed. It should also be noted that approaches utilized by British Columbia and Ontario are functionally similar to those that are recommended by the CCME. Therefore, the resultant criteria and guidelines are likely to be similar to those that will, ultimately, be approved by the CCME.

Summaries of the environmental quality criteria, guidelines, objectives, and standards compiled during this study are presented in Appendices 2, 3, and 4 of this report. These summaries are presented by media type and water use. Water quality guidelines for the protection of human health, recreation and aesthetics, aquatic life, wildlife, agriculture, and industrial water uses have been presented in separate tables. Sediment quality guidelines for the protection of aquatic life, wildlife, and human health are also included in the supporting documentation. Finally, tissue residue guidelines for the protection of human and wildlife consumers of aquatic biota have also been summarized.

The appendices presented here provide a relevant tool for evaluating the results of environmental survey and monitoring programs conducted in the Georgia Basin. These tables will require periodic updating if they are to remain current and viable. Therefore, it is recommended that the database and tables be updated every five years to assure that users are provided with access to the most recent information for assessing environmental quality.

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Table 1

List of Priority Substances

Table 1. List of priority substances used in EIAS preparation.

Chemical	Chemical	Chemical
1,1,1-Trichloroethane	DDAC	Nitric Acid
1,1,2,2-Tetrachloroethane	Di-n-butyl phthalate	Nitrite
1,2-Dichlorobenzene	Di-n-octyl phthalate	Nitrobenzene
1,2-Dichloroethane	Dibenzo(a,e)pyrene	Nitrosamines
1,4-Dichlorobenzene	Dichlorobenzenes	Nonylphenol
2,4-Dimethylphenol	Dichloroethylene	o-Xylene
3-methylphenol	Dichloroethylether	PAHs
Acenaphthylene	Dichloromethane	PCBs
Acetic acid	Diethyl phthalate	Pentachlorobenzene
Acetone	Dimethyl phthalate	Pentachlorophenol
Acrylonitrile	Dimethylnaphthalenes	Phenanthrene
Aluminum	Dimethylphenanthrene	Phenol
Ammonia	Dioxane (1,4)	Phthalate esters
Aniline	Dioxin	Propylene dichloride
Anthracene	Ethylbenzene	Pyrene
Antimony	Ethylene dichloride	Residual chlorine
AOX	Ethylene Oxide	Resin acids
Arsenic	Fluoranthene	Selenium
Barium	Fluorene	Silver
Benz(a)anthracene	Formalydehyde	Sodium hydroxide
Benzene	Furan	Styrene
Benzo(a)flouranthene	Hexachlorobenzene	Sulphate
Benzo(a)pyrene	Hexane	Sulphide
Benzylbutyl phthalate	Hydrochloric Acid	Tetrachlorobenzenes
Beryllium	Hydrogen fluoride	Tetrachloroethylene
Bis(2-ethylhexyl)phthalate	IPBC	Titanium
Boron	Iron	Toluene
Bromoform	Isophorone	Tributyltin
Cadmium	Lead	Trichlorobenzenes
Carbon tetrachloride	m,p-Xylene	Trichloroethylene
Chlorocatechols	Magnesium	Trimethylnaphthalenes
Chloroform	Manganese	Trimethylphenanthrene
Chloroguiacols	Mercury	Xylene
Chlorophenols	Methylchloroform	Zinc
Chromium	Methylnaphthalenes	
Chrysene	Methylphenanthrene	
Cobalt	Molybdenum	
Copper	Naphthalene	
Cyanide	Nickel	

Table 2

List of Jurisdictions from which Environmental Quality Benchmarks were Requested

Table 2. List of Jurisdictions from which Environmental Quality Benchmarks were Requested.

Jurisdiction	Jurisdiction	Jurisdiction
Alaska	Ecuador	Illinois
Alberta	El Salvador	India
Algeria	EPA Region 1	Indiana
Antigua	EPA Region 2	Indonesia
Argentina	EPA Region 3	Iowa
Arizona	EPA Region 4	Ireland
Arkansas	EPA Region 5	Israel
Australia	EPA Region 6	Italy
Austria	EPA Region 7	Jamaica
Bangladesh	EPA Region 8	Japan
Benin	EPA Region 9	Jordan
Bolivia	EPA Region 10	Kansas
Brazil	Estonia	Kazakhstan
British Columbia	Ethiopia	Kentucky
Brussels	Europe	Kenya
Burkina Faso	European Community	Korea
Burrard Inlet, BC	European Union	Laos
California	Fiji	Latvia
Cambodia	Finland	Louisiana
Canada	Florida	Luxembourg
Chile	France	Macedonia
China	Georgia	Madagascar
Colorado	Germany	Maine
Columbia	Great Lakes	Malawi
Colville Indian Reservation, WA	Greece	Malaysia
Chehalis Reservation, WA	Grenada, W.I.	Malta
Connecticut	Guatemala	Manitoba
Croatia	Guinea	Mariana Islands
Cyprus	Guinea-Bissau	Maryland
Czech Republic	Hawaii	Massachusetts
Delaware	Hong Kong	Mexico
Denmark	Hungary	Michigan
District of Columbia	Iceland	Micronesia
Dominican Republic	Idaho	Minnesota

Table 2. List of Jurisdictions from which Environmental Quality Benchmarks were Requested (continued).

Jurisdiction	Jurisdiction	Jurisdiction
Mississippi	Quebec	United States
Mississippi Sound, MS	Republic of Yemen	Uruguay
Missouri	Rhode Island	USSR
Montana	Romania	Utah
Namibia	Russia	Venezuela
Nebraska	San Francisco Bay, CA	Vermont
Nepal	Saskatchewan	Vietnam
Netherlands	Saudi Arabia	Virginia
Nevada	Scotland	Western Australia
New Brunswick	Shanghai	Washington State
New England	Sierra Leone	West Virginia
Newfoundland	Similkameen River Basin, BC	Wisconsin
New Hampshire	Singapore	Yugoslavia
New York State	Slovenia	Zambia
New Zealand	South Africa	Zimbabwe
North Carolina	South Carolina	
Norway	South Dakota	
Nova Scotia	Spain	
Oak Ridge, TN	St. Kitts	
Ohio	St. Lawrence River, Canada	
Oklahoma	St. Lucia	
Ontario	Swaziland	
Oregon	Sweden	
Pakistan	Switzerland	
Panama	Taiwan	
Pennsylvania	Tanzania	
Philippines	Texas	
Poland	Thailand	
Portugal	The Bahamas	
Prince Edward Island	The Gambia	
Puerto Rico	Tinidad & Tobago, W. I.	
Puget Sound, WA	Uganda	
Puyallup Tribe of Indians, WA	Ukraine	
Qatar	United Arab Emirates	

Table 3

List of Jurisdictions from which Environmental Quality Benchmarks were Obtained

Table 3. List of Jurisdictions for which Environmental Quality Benchmarks were Obtained.

Jurisdiction	Jurisdiction	Jurisdiction
Alaska	Israel	Quebec
Alberta	Italy	Rhode Island
Arizona	Japan	San Francisco Bay, CA
Arkansas	Kansas	Saskatchewan
Australia	Kentucky	Similkameen River Basin, BC
Brazil	Korea	South Dakota
British Columbia	Louisiana	Spain
Burrard Inlet, BC	Maine	St. Lawrence River, Canada
California	Manitoba	Sweden
Canada	Mariana Islands	Switzerland
Chile	Maryland	Texas
China	Massachusetts	Thailand
Colorado	Michigan	United Kingdom
Connecticut	Minnesota	United States
Delaware	Mississippi	USSR
Denmark	Mississippi Sound, MS	Utah
District of Columbia	Missouri	Venezuela
Ecuador	Montana	Virginia
Europe	Netherlands	Washington State
Finland	Nevada	West Virginia
Florida	New England	Western Australia
France	New Hampshire	Wisconsin
Georgia	New York State	Zambia
Germany	New Zealand	
Great Lakes	Norway	
Greece	Nova Scotia	
Hawaii	Ohio	
Hong Kong	Oklahoma	
Iceland	Ontario	
Idaho	Oregon	
Illinois	Philippines	
India	Poland	
Indiana	Puerto Rico	
Iowa	Puget Sound, WA	

Table 4

A List of Chemical Names, Chemical Abstract Service Registry Numbers, and Chemical Abstract Service

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System.

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
3570-75-0	2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole		
83-32-9	Acenaphthene	1,2-Dihydroacenaphthene	peri-ethylenenaphthalene; 1,8-ethylenenaphthalene
208-96-8	Acenaphthylene		
60-35-5	Acetamide		Acetic acid amide
67-64-1	Acetone	2-Propanone	dimethyl ketone; ß-ketopropane; pyroacetic ether
98-86-2	Acetophenone	1-Phenylethanone	phenylmethyl ketone; acetylbenzene; hypnone
540-59-0	Acetylene Dichloride	1,2-Dichloroethene; 1,2-dichloroethylene	sym-dichloroethylene; Dioform; Dichloroethylene; Dichloroethylenes; 1,2- Dichloroethylene (mixture); Dichloroethylene (cis & trans)
540-59-0	Acetylene Dichloride (trans)	1,2-Dichloroethene; 1,2-dichloroethylene	sym-dichloroethylene; Dioform; Dichloroethylene; Dichloroethylenes; 1,2- Dichloroethylene (trans); Dichloroethylene (trans)
260-94-6	Acridine		Dibenzo[b,e]pyridine; 10-azaanthracene
107-02-8	Acrolein	2-Propenal	acrylic aldehyde; acrylaldehyde; acraldehyde; aqualin
79-06-1	Acrylamide	2-Propenamide	
79-10-7	Acrylic Acid		
107-13-1	Acrylonitrile	2-propenenitrile	vinyl cyanide; cyanoethylene; Acritet; Fumigrain; Ventox
3688-53-7	AF-2;[2-(2-furyl)-3(5-nitro-2 furyl) acrylamide		
15972-60-8	Alachlor	2-Chloro-N-(2,6-diethylphenyl)-N-(methoxymethyl)acetamide; 2-chloro-2',6'-diethyl-N-(methoxymethyl)acetanilide	metachlor; CP 50144; Lasso; Alanex
116-06-3	Aldicarb	2-Methyl-2-(methylthio)propanal O-[(methylamino)carbonyl]oxime; 2-methyl-2-(methylthio)propionaldehyde O-(methylcarbamoyl)oxime	UC 21149; Temik
116-06-3	Aldicarb (dissolved)	2-Methyl-2-(methylthio)propanal O-[(methylamino)carbonyl]oxime; 2-methyl-2-(methylthio)propionaldehyde O-(methylcarbamoyl)oxime	UC 21149; Temik
116-06-3	Aldicarb (total)	2-Methyl-2-(methylthio)propanal O-[(methylamino)carbonyl]oxime; 2-methyl-2-(methylthio)propionaldehyde O-(methylcarbamoyl)oxime	UC 21149; Temik
-	Aldicarb + Methomyl		
1646-88-4	Aldicarb Sulfone		
1646-87-3	Aldicarb Sulfoxide		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
309-00-2	Aldrin	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-dimethanonaphthalene; HHDN	compd 118; Octalene
-	Aldrin + Dieldrin		
-	Aldrin + Dieldrin (dissolved)		
-	Aldrin + Dieldrin (total)		
-	Alkalinity		
42615-29-2	Alkyl Benzene Sulfonates (linear)		
68391-01-5	Alkyl Dimethyl Benzyl Ammonium Chloride		
	Alkyl Diphenyl Oxide Sulfonates		
584-79-2	Allethrin	2-methyl-4-oxo-3-(2-propenyl)-2-cyclopenten-1-yl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (9CI)	(+/-)-2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylic acid ester with 2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (8CI)
107-05-1	Allyl Alcohol	2-Propen-1-ol	1-propenol-3; vinyl carbinol
107-05-1	Allyl Chloride	3-Chloro-1-propane	3-chloropropylene; Chlorallylene
7429-90-5	Aluminum		Al
7429-90-5	Aluminum (dissolved)		Al
-	Aluminum (ionic)		
7429-90-5	Aluminum (total)		Al
834-12-8	Ametryn		
82-28-0	Amino-2-methylanthraquinone, 1-		
132-32-1	Amino-9-ethylcarbazole hydrochloride, 3-		
26148-68-5	Amino-9H-pyrodo[2,3-b]indole, A-alpha-C, 2-		
117-79-3	Aminoanthraquinone, 2-		
97-56-3	Aminoazotoluene, o-	2-Methyl-4-[(2-methylphenyl)azo]benzenamine	C.I.Solvent Yellow 3; 4-(o-tolylazo)-o-toluidine; 4'-amino-2,3'-dimethylazobenzene; 5-(o-tolylazo)-2-aminotoluene; toluazotoluidine; C.I. 11160
-	Aminomethylene Phosphonic Acid Salts		
26445-05-6	Aminopyridine		
504-29-0	Aminopyridine, alpha-	2-Pyridinamine	2-aminopyridine

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
462-08-8	Aminopyridine, ß-	3-Pyridinamine	3-aminopyridine
-	Aminopyridines		
108-44-1	Aminotoluene, 3-		Aminotoluene, m-
106-49-0	Aminotoluene, 4-		Aminotoluene, p-
61-82-5	Amitrole	1H-1,2,3-Triazol-3-amine	3-amino-1H-1,2,4-triazole; aminotriazole; ATA; ENT 25445; Amizol; Cytrol; Weedazol
7664-41-7	Ammonia		
7664-41-7	Ammonia (total)		
7664-41-7	Ammonia (total-N unionized)		
7664-41-7	Ammonia (unionized)		
-	Ammonia Nitrogen		
-	Ammonium		
7664-41-7	Ammonium (NH4+)		
-	Ammonium Compounds (Quaternary)		
62-53-3	Aniline	Benzenamine	aniline oil; phenylamine; aminobenzene; aminophen; kyanol
62-53-3	Aniline (dissolved)	Benzenamine	aniline oil; phenylamine; aminobenzene; aminophen; kyanol
62-53-3	Aniline (total)	Benzenamine	aniline oil; phenylamine; aminobenzene; aminophen; kyanol
-	Anions		
134-29-2	Anisidine hydrochloride, o-		
90-04-0	Anisidine, o-	2-methoxybenzenamine	
120-12-7	Anthracene		
120-12-7	Anthracene (dissolved)		
120-12-7	Anthracene (total)		
7440-36-0	Antimony		Stibium; Sb; regulus of antimony
7440-36-0	Antimony (dissolved)		Stibium; Sb; regulus of antimony
7440-36-0	Antimony (total)		Stibium; Sb; regulus of antimony

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
140-57-8	Aramite	Sulfurous acid 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester; sulfurous acid 2-(p-tert-butylphenoxy)-1-methylethyl 2-chloroethyl ester	2-chloroethyl 1-methyl-2-(p-tert-butylphenoxy)ethyl sulfite; 2-(p-tert-butylphenoxy)isopropyl 2-chloroethyl sulfite; beta-chloroethyl beta-(p-tert-butylphenoxy) -alpha-methylethyl sulfitecompound 88R; ENT 16519; Aratron; Niagaramite; Ortho-Mite
-	Arochlors		
12674-11-2	Aroclor 1016		PCB 1016
11104-28-2	Aroclor 1221		PCB 1221
11141-16-5	Aroclor 1232		PCB 1232
1336-36-3	Aroclor 1242		PCB 1242
12672-29-6	Aroclor 1248		PCB 1248
11097-69-1	Aroclor 1254		PCB 1254
11096-82-5	Aroclor 1260		PCB 1260
7440-38-2	Arsenic		Grey arsenic; metallic arsenic, arsen (German); As
7440-38-2	Arsenic (dissolved)		Grey arsenic; metallic arsenic, arsen (German); As
22569-72-8	Arsenic (III)		As III
22569-72-8	Arsenic (III) (dissolved)		As III
7440-38-2	Arsenic (total)		Grey arsenic; metallic arsenic, arsen (German); As
7440-38-2	Arsenic (V)		
-	Aryltriazoles		
1332-21-4	Asbestos		
1912-24-9	Atrazine	6-Chloro-N-ethyl-N'-(1-methylethyl)-1,3,5-triazine-2,4-diamine; 2-chloro-4-ethylamino-6-isopropylamine-s-triazine	G 30027; AAtrex; Atranex; Gesaprim; Primatol A
1912-24-9	Atrazine (dissolved)	6-Chloro-N-ethyl-N'-(1-methylethyl)-1,3,5-triazine-2,4-diamine; 2-chloro-4-ethylamino-6-isopropylamine-s-triazine	G 30027; AAtrex; Atranex; Gesaprim; Primatol A
1912-24-9	Atrazine (total)	6-Chloro-N-ethyl-N'-(1-methylethyl)-1,3,5-triazine-2,4-diamine; 2-chloro-4-ethylamino-6-isopropylamine-s-triazine	G 30027; AAtrex; Atranex; Gesaprim; Primatol A
492-80-8	Auramine	Aniline, 4,4'-(imidocarbonyl)bis(N,N-dimethyl-	
115-02-6	Azaserine	…	O-diazo-acetyl-L-serine

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
446-86-6	Azathioprine	6-[(1-Methyl-4-nitro-1H-imidazol-5-yl)thio]-1H-purine	6-(1-methyl-4-nitro-5-imidazolyl)mercaptopurine; azothioprine; BW 57-322; NSC-39084; Azamune; Azanin; Azoran; Imuran; Imurel
2642-71-9	Azinphos-ethyl	O,O-diethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] phosphorodithioate (9CI); O,O-diethylphosphorodithioate S-ester with 3-mercaptomethyl-1,2,3-benzotriazin-4(3H)-one (8CI)	azinphosethyl; ENT 22014
2642-71-9	Azinphos-ethyl (dissolved)	O,O-diethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] phosphorodithioate (9CI); O,O-diethylphosphorodithioate S-ester with 3-mercaptomethyl-1,2,3-benzotriazin-4(3H)-one (8CI)	azinphosethyl; ENT 22014
2642-71-9	Azinphos-ethyl (total)	O,O-diethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] phosphorodithioate (9CI); O,O-diethylphosphorodithioate S-ester with 3-mercaptomethyl-1,2,3-benzotriazin-4(3H)-one (8CI)	azinphosethyl; ENT 22014
86-50-0	Azinphos-methyl	Phosphorodithioic acid O,O-dimethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] ester; phosphorodithioic acid O,O-dimethyl ester, S-ester with 3-mercaptomethyl-1,2,3-benzotriazin-4(3H)-one	Bayer 17147; ENT 23233; R 1582; Cotnion-methyl; Gusathion M; Guthion
86-50-0	Azinphos-methyl (dissolved)	Phosphorodithioic acid O,O-dimethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] ester; phosphorodithioic acid O,O-dimethyl ester, S-ester with 3-mercaptomethyl-1,2,3-benzotriazin-4(3H)-one	Bayer 17147; ENT 23233; R 1582; Cotnion-methyl; Gusathion M; Guthion
86-50-0	Azinphos-methyl (total)	Phosphorodithioic acid O,O-dimethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] ester; phosphorodithioic acid O,O-dimethyl ester, S-ester with 3-mercaptomethyl-1,2,3-benzotriazin-4(3H)-one	Bayer 17147; ENT 23233; R 1582; Cotnion-methyl; Gusathion M; Guthion
103-33-3	Azobenzene	Diphenyldiazene	diphenyl diimide; azobenzide; azobenzol; benzeneazobenzene
-	Bacteria		
7440-39-3	Barium		Ba
7440-39-3	Barium (dissolved)		Ba
7440-39-3	Barium (total)		Ba
22781-23-3	Bendiocarb	2,2-Dimethyl-1,3-benzodioxol-4-olmethylcarbamate; methylcarbamic acid 2,3-(isopropylidenedioxy)phenyl ester	NC 6897; Ficam
1861-40-1	Benfluralin	N-Butyl-N-ethyl-2,6-dinitro-4-(trifluoromethyl)benzenamine; N-butyl-N-ethyl-alpha,alpha,alpha-trifluoro-2-6-dinitro-p-toluidine	N-butyl-N-ethyl-2,6-dinitro-4-trifluoromethylaniline; benefin; benthrodine; EL-110; Balan; Balfin; Benefex; Quilan

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
25057-89-0	Bentazon	3-(1-Methylethyl)-1H-2,1,3-benzothiadiazin-4(3H)-one 2,2-dioxide	3-isopropyl-1H-2,1,3-benzothiadiazin-4(3H)-one 2,2 dioxide; bentazone; bendioxide; Basagran
-	Benthic Sedimentation (induced)		
56-55-3	Benzanthracene, 1,2-	Benz[a]anthracene	2,3-benzphenanthracene; tetraphene; benzanthrene; naphthanthracene
56-55-3	Benzanthracene, 1,2- (dissolved)	Benz[a]anthracene	2,3-benzphenanthracene; tetraphene; benzanthrene; naphthanthracene
56-55-3	Benzanthracene, 1,2- (total)	Benz[a]anthracene	2,3-benzphenanthracene; tetraphene; benzanthrene; naphthanthracene
71-43-2	Benzene		Benzol; cyclohexatriene
71-43-2	Benzene (dissolved)		Benzol; cycylohexatriene
71-43-2	Benzene (total)		Benzol; cycylohexatriene
92-87-5	Benzidine	[1,1'-Biphenyl]-4,4'-diamine	p-diaminodiphenyl
271-61-4	Benzisothiazole		
205-82-3	Benzo(a)fluoranthene		
50-32-8	Benzo(a)pyrene		3,4-Benzpyrene; 1,2-benzpyrene
50-32-8	Benzo(a)pyrene (dissolved)		3,4-Benzpyrene; 1,2-benzpyrene
50-32-8	Benzo(a)pyrene (total)		3,4-Benzpyrene; 1,2-benzpyrene
205-97-0	Benzo(bk)fluoranthene		
191-24-2	Benzo(ghi)perylene		
191-24-2	Benzo(ghi)perylene (dissolved)		
191-24-2	Benzo(ghi)perylene (total)		
207-08-9	Benzo(k)fluoranthene		
207-08-9	Benzo(k)fluoranthene (dissolved)		
207-08-9	Benzo(k)fluoranthene (total)		
-	Benzofluoranthene		
-	Benzofluoranthene (total)		
205-99-2	Benzofluoranthene, 3,4-	Benzo(b)fluoranthene	
205-99-2	Benzofluoranthene, 3,4- (dissolved)	Benzo(b)fluoranthene	
205-99-2	Benzofluoranthene, 3,4- (total)	Benzo(b)fluoranthene	
-	Benzofluoranthenes		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
65-85-0	Benzoic Acid		Benzenecarboxylic acid; phenylformic acid; dracylic acid
98-07-7	Benzotrichloride	(Trichloromethyl)benzene; alpha,alpha,alpha-trichlorotoluene	phenylchloroform; oemga,omega,omega-trichlorotoluene; benzenyl trichloride; toluene trichloride
100-51-6	Benzyl Alcohol	Benzenemethanol	phenylcarbinol; phenylmethanol; alpha-hydroxytoluene
100-44-7	Benzyl Chloride	(Chloromethyl)benzene	alpha-chlorotoluene
1694-09-3	Benzyl Violet 4B	Ammonium, (4-(p-(dimethylamino)-alpha-(p-(ethyl(m-sulfobenzyl)amino)phenyl)benzylide ne)-	
7440-41-7	Beryllium	2,5-cyclohexadien-1-ylidene)ethyl(m-sulfobenzyl)-, hydroxide, inner salt, sodium salt	Glucinium; Be
7440-41-7	Beryllium (dissolved)		Glucinium; Be
7440-41-7	Beryllium (total)		Glucinium; Be
1304-56-9	Beryllium Oxide		BeO
13510-49-1	Beryllium Sulfate		BeO4S
82657-04-3	Bifenthrin	[1alpha,3alpha(Z)]-(+/-)-3-(2-Chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylic acid (2-methyl[1,1'-biphenyl]-3-yl)methyl ester	2-methylbiphenyl-3-ylmethyl-(Z)-(1RS)-cis-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate; biphenate; biphenthrin; biphentrin; FMC-54800; Brigade; Talstar; Capture
82657-04-3	Bifenthrin (dissolved)	[1alpha,3alpha(Z)]-(+/-)-3-(2-Chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylic acid (2-methyl[1,1'-biphenyl]-3-yl)methyl ester	2-methylbiphenyl-3-ylmethyl-(Z)-(1RS)-cis-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate; biphenate; biphenthrin; biphentrin; FMC-54800; Brigade; Talstar; Capture
82657-04-3	Bifenthrin (total)	[1alpha,3alpha(Z)]-(+/-)-3-(2-Chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylic acid (2-methyl[1,1'-biphenyl]-3-yl)methyl ester	2-methylbiphenyl-3-ylmethyl-(Z)-(1RS)-cis-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate; biphenate; biphenthrin; biphentrin; FMC-54800; Brigade; Talstar; Capture
-	Biological Oxygen Demand		BOD
92-52-4	Biphenyl		
92-52-4	Biphenyl, 1,1'-		
92-67-1	Biphenylamine, p-	[1,1'-Biphenyl]-4-amine	p-aminobiphenyl; p-aminodiphenyl; anilinobenzene; xenylamine
111-91-1	Bis(2-chloroethoxy)methane		
108-60-1	Bis(2-chloroisopropyl) Ether		
103-23-1	Bis(2-ethylhexl) Adipate		
117-81-7	Bis(2-ethylhexyl) Phthalate	1,2-Benzenedicarboxylic acid bis(2-ethylexyl) ester	di(2-ethylhexyl) phthalate; dioctyl phthalate; Octoil
3558-60-9	Bis(2-Methoxyethyl) benzene		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
10043-35-3	Boric Acid		Boracic acid; orthoboric acid; Borofax
	Boric Acid, Borates And Metaborates		
7440-42-8	Boron		B
7440-42-8	Boron (total)		B
314-40-9	Bromacil	5-Bromo-6-methyl-3-(1-methylpropyl)-2,4(1H,3H)-pyrimidinedione; 5-bromo-3-sec-butyl-6-methyluracil	5-bromo-6-methyl-3-(1-methylpropyl)uracil; du Pont herbicide 976; Hyvar; Uragon; Urox B
-	Bromide		
7726-95-6	Bromine		Br
108-86-1	Bromobenzene		
74-97-5	Bromochloromethane		
75-27-4	Bromodichloromethane		dichlorobromomethane
72-25-2	Bromoform	Tribromomethane	
1689-84-5	Bromoxynil	3,5-Dibromo-4-hydroxybenzonitrile;	3,5-dibromo-4-hydroxyphenyl cyanide; 2,6-dibromo-4-cyanophenol; broxynil; ENT 20852; MB 10064; Brominil; Buctril.
23184-66-9	Butachlor		
106-99-0	Butadiene, 1,3-		alpha, beta-Butadiene; bivinyl; divinyl; erythrene; vinylethylene; biethylene; pyrrolylene
15798-64-8	Butenal, (cis) 2-		
123-73-9	Butenal, (trans) 2-		
1190-76-7	Butenenitrile, (cis) 2-		
627-26-9	Butenenitrile, (trans) 2-		
112-34-5	Butoxyethoxyethanol		
5131-66-8	Butoxypropanol		
71-36-3	Butyl Alcohol, n-	1-Butanol; butyl alcohol	propyl carbinol
-	Butyl Isopropyl Phthalate		
84-74-2	Butyl Phthalate, N-	1,2-Benzenedicarboxylic acid dibutyl ester; phthalic acid dibutyl ester	dibutyl phthalate; DBP; Di-N-Butyl Phthalate
2008-41-5	Butylate		
25013-16-5	Butylated Hydroxyanisole		BHA; Antrancine4 12; Embanox; Nipantiox 1-F; Tenox BHA; Sustane 1-f;

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
135-98-8	Butylbenzene, 2-		Butylbenzene, sec-
98-06-6	Butylbenzene, 3-		Butylbenzene, tert-
104-51-8	Butylbenzene, n-		
85-68-7	Butylbenzyl Phthalate	Phthalic acid, benzyl butyl ester	
3068-88-0	Butyrolactone, beta-	2-Oxetanone, 4-methyl-	
5160-02-1	C & D Red No.9	Benzenesulfonic acid, 5-chloro-2-((2-hydroxy-1-naphthalenyl)azo)-4-methyl-, barium salt	
569-61-9	C.I. Basic Red 9 monohydrochloride	Benzenamine, 4-((4-aminophenyl)(4-imino-2,5-cyclohexadien-1-ylidene)methyl), monohydrochloride	
7440-43-9	Cadmium		Cd
7440-43-9	Cadmium (dissolved)		Cd
7440-43-9	Cadmium (total)		Cd
7440-70-2	Calcium		Ca
7440-70-2	Calcium (total)		Ca
-	Calcium Ions		
474-62-4	Campesterol	(24R)-Ergost -5-en-3beta-ol	
2425-06-1	Captafol	3a,4,7,7a-Tetrahydro-2-[(1,1,2-tetrachloroethyl)thio]-1H-isoindole-1,3(2H)-dione; N-(1,1,2,2-tetrachloroethylthio)-4-cyclohexene-1,2-dicarboximide	N-(1,1,2,2-tetrachloroethylmercapto)-4-cyclohexane-1,2-dicarboximide; N-(1,1,2,2-tetrachloroethylsulfenyl)-cis-4-cyclohexane-1,2-dicarboximide; Difolatan
2425-06-1	Captafol (dissolved)	3a,4,7,7a-Tetrahydro-2-[(1,1,2-tetrachloroethyl)thio]-1H-isoindole-1,3(2H)-dione; N-(1,1,2,2-tetrachloroethylthio)-4-cyclohexene-1,2-dicarboximide	N-(1,1,2,2-tetrachloroethylmercapto)-4-cyclohexane-1,2-dicarboximide; N-(1,1,2,2-tetrachloroethylsulfenyl)-cis-4-cyclohexane-1,2-dicarboximide; Difolatan
2425-06-1	Captafol (total)	3a,4,7,7a-Tetrahydro-2-[(1,1,2-tetrachloroethyl)thio]-1H-isoindole-1,3(2H)-dione; N-(1,1,2,2-tetrachloroethylthio)-4-cyclohexene-1,2-dicarboximide	N-(1,1,2,2-tetrachloroethylmercapto)-4-cyclohexane-1,2-dicarboximide; N-(1,1,2,2-tetrachloroethylsulfenyl)-cis-4-cyclohexane-1,2-dicarboximide; Difolatan
133-06-2	Captan	3a,4,7,7a-Tetrahydro-2-[(trichloromethyl)thio]-1H-isoindole-1,3(2H)-dione; N-(trichloromethylthio)-4-cyclohexene-1,2-dicarboximide	N-trichloromethylthio-3a,4,7,7a-tetrahydrophthalamide; N-trichloromethylmercapto-4-cyclohexene-1,2-dicarboximide; N-(trichloromethylmercapto)-tetra-tetrahydrophthalimide; ENT 26538; SR-406; Merpan;Orthocide-406; Vancide 89
133-06-2	Captan (dissolved)	3a,4,7,7a-Tetrahydro-2-[(trichloromethyl)thio]-1H-isoindole-1,3(2H)-dione; N-(trichloromethylthio)-4-cyclohexene-1,2-dicarboximide	N-trichloromethylthio-3a,4,7,7a-tetrahydrophthalamide; N-trichloromethylmercapto-4-cyclohexene-1,2-dicarboximide; N-(trichloromethylmercapto)-tetra-tetrahydrophthalimide; ENT 26538; SR-406; Merpan;Orthocide-406; Vancide 89

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
133-06-2	Captan (total)	3a,4,7,7a-Tetrahydro-2-[(trichloromethyl)thio]-1H-isoindole-1,3(2H)-dione; N-(trichloromethylthio)-4-cyclohexene-1,2-dicarboximide	N-trichloromethylthio-3a,4,7,7a-tetrahydrophthalamide; N-trichloromethylmercapto-4-cyclohexene-1,2-dicarboximide; N-(trichloromethylmercapto)-tetra-tetrahydrophthalimide; ENT 26538; SR-406; Merpan;Orthocide-406; Vancide 89
63-25-2	Carbaryl	1-Naphthalenol methylcarbamate; methyl carbamic acid 1-naphthyl ester	1-naphthyl N-methylcarbamate; ENT 23969; OMS 29, UC 7744; Arylam; Carylderm; Clinicide; Derbac; Dicarbam; Ravyon; Seffein; Sevin
86-74-8	Carbazole	9H-Carbazole	9-azafluorene; dibenzopyrrole; diphenylenimine
10605-21-7	Carbendazim	1H-Benzimidazol-2-ylcarbamic acid methyl ester; 2-benzimidazolecarbamic acid methyl ester	2-(methoxycarbonylamino)benzimidazole; methyl 2-benzimidazolecarbamate; carbendazole; BMC; MBC; BCM; BAS 3460; BAS 67054; CTR 6669; Hoe 17411; Bavistin; Derosal
10605-21-7	Carbendazim (dissolved)	1H-Benzimidazol-2-ylcarbamic acid methyl ester; 2-benzimidazolecarbamic acid methyl ester	2-(methoxycarbonylamino)benzimidazole; methyl 2-benzimidazolecarbamate; carbendazole; BMC; MBC; BCM; BAS 3460; BAS 67054; CTR 6669; Hoe 17411; Bavistin; Derosal
10605-21-7	Carbendazim (total)	1H-Benzimidazol-2-ylcarbamic acid methyl ester; 2-benzimidazolecarbamic acid methyl ester	2-(methoxycarbonylamino)benzimidazole; methyl 2-benzimidazolecarbamate; carbendazole; BMC; MBC; BCM; BAS 3460; BAS 67054; CTR 6669; Hoe 17411; Bavistin; Derosal
1563-66-2	Carbofuran	2,3-Dihydro-2,2-dimethyl-7-benzofuranol methylcarbamate; methyl carbamic acid 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	2,2-dimethyl-2,3-dihydro-7-benzofuranyl-N-methylcarbamate; 2,2-dimethyl-7-coumaranyl N-methylcarbamate
75-15-0	Carbon Disulfide		Carbon bisulfide; dithiocarbonic anhydride
56-23-5	Carbon Tetrachloride	Tetrachloromethane	perchloromethane; Necatorina; Benzinoform
56-23-5	Carbon Tetrachloride (dissolved)	Tetrachloromethane	perchloromethane; Necatorina; Benzinoform
56-23-5	Carbon Tetrachloride (total)	Tetrachloromethane	perchloromethane; Necatorina; Benzinoform
-	Carbonate (residual)		
786-19-6	Carbophenothion	Phosphorodithioic acid S-[[(4-chlorophenyl)thio]methyl] O,O-diethyl ester	S-[[(p-chloro-phenyl)thio]methyl] O,O-diethyl phosphorodithioate; O,O-diethyl S-(p-chlorophenylthio)methyl phosphorodithioate; R1303; Garrathion; Trithion
5234-68-4	Carboxin		
-	Cesium 134		
7440-46-2	Cesium 137		Caesium; Cs
-	Chemical Oxygen Demand		COD
302-17-0	Chloral Hydrate	222,-Trichloro-1,1-ethanediol	trichloroacetaldehyde monohydrate; Escre; Noctec; Nycton; Somnos; Lorinal; Chloraldurat
133-90-4	Chloramben	3-Amino-2,5-dichlorobenzoic acid	

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
305-03-3	Chlorambucil	4-[Bis(2-chloroethyl)amino]benzenebutanoic acid; 4-[p-[bis(2-chloroethyl)amino]phenyl]-butyric acid	alpha-[p-di(2-chloroethyl)aminophenyl]butyric acid; N,N-di-2-chloroethyl-alpha-p-aminophenylburyric acid; chloraminophene; chlorambucil; CB 1348; amboclorin; Leukeran
10599-90-3	Chloramines		Chloroazanes
118-75-2	Chloranil		
57-74-9	Chlordane	1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-hexahydro-4,7-methano-1H-indene; 1,2,4,5.6,7,8,8-octa-8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan	1,2,4,5,6,7,8,8-octachloro-4,7-methane-3a,4,7,7a-tetrahydroindane; CD-68; Velsicol 1068; Toxichlor; Niran; Octachlor; Ortho-Klor; Synklor; Corodane;Belt
57-74-9	Chlordane (dissolved)	1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-hexahydro-4,7-methano-1H-indene; 1,2,4,5.6,7,8,8-octa-8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan	1,2,4,5,6,7,8,8-octachloro-4,7-methane-3a,4,7,7a-tetrahydroindane; CD-68; Velsicol 1068; Toxichlor; Niran; Octachlor; Ortho-Klor; Synklor; Corodane;Belt
57-74-9	Chlordane (total)	1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-hexahydro-4,7-methano-1H-indene; 1,2,4,5.6,7,8,8-octa-8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan	1,2,4,5,6,7,8,8-octachloro-4,7-methane-3a,4,7,7a-tetrahydroindane; CD-68; Velsicol 1068; Toxichlor; Niran; Octachlor; Ortho-Klor; Synklor; Corodane;Belt
510-37-9	Chlordane, alpha (cis)		
5103-74-2	Chlordane, beta (trans)		
5566-34-7	Chlordane, gamma (trans)		
143-50-0	Chlordecone	1,1a,3,3a,4,5,5,5a,5b,6-Decachloroctahydro-1,3,4-metheno-2H-cyclobuta[cd]pentalen-2-one;	GC-1189; Kepone
115-28-6	Chlorendic acid	5-Norbornene-2,3-dicarboxylic acid, 1,4,5,6,7,7-hexachloro-	
16887-00-6	Chloride		
16887-00-6	Chloride (dissolved)		
16887-00-6	Chloride (total)		
-	Chlorides		
-	Chlorinated Benzenes (total)		
-	Chlorinated Creosols		
-	Chlorinated Naphthalenes		
-	Chlorinated Paraffins		
7782-50-5	Chlorine		Cl
7782-50-5	Chlorine (total, residual)		Cl
-	Chlorines		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
-	Chlorites		
460-35-5	Chloro-1,1,1-trifluoropropane, 3-		
94-74-6	Chloro-2-Methyl Phenoxy Acetic Acid, 4-	MCPA	
563-47-3	Chloro-2-methylpropene, 1-		alpha-Chloroisobutylene; beta,beta-dimethylvinyl chloride;isocrotyl chloride
563-47-3	Chloro-2-methylpropene, 3-		alpha-Chloroisobutylene; beta,beta-dimethylvinyl chloride; isocrotyl chloride
95-62-2	Chloro-2-toluidine, p-	p-chloro-ortho-toluidine	
615-74-7	Chloro-5-methylphenol, 2-		
59-50-7	Chloro-m-cresol, 4-	4-chloro-3-methylphenol	3-methyl-4-chlorophenol; chlorocresol; parachlorometacresol; 6-chloro-m-cresol; 6-chloro-3-hydroxytoluene; 2-chloro-5-hydroxytoluene
-	Chloro-o-toluidine		
95-69-2	Chloro-o-toluidine, 4-		
95-79-4	Chloro-o-toluidine, 5-		
95-83-0	Chloro-ortho-phenylenediamine, 4-		Chloro-2-phenylenediamine
-	Chloroalkyl Ethers		
108-42-9	Chloroaniline, m-		m-chloroaniline
108-42-9	Chloroaniline, m- (dissolved)		m-chloroaniline
108-42-9	Chloroaniline, m- (total)		m-chloroaniline
95-51-2	Chloroaniline, o-		
106-47-8	Chloroaniline, p-		
108-90-7	Chlorobenzene		Monochlorobenzene; benzene chloride
108-90-7	Chlorobenzenes		
510-15-6	Chlorobenzilate	4-Chloro-alpha-(4-chloropheynl)-alpha-hydroxybenzeneacetic acid ethyl ester; 4,4'-dichlorobenzilic acid ethyl ester	ethyl 4,4'-dichlorobenzilate; ethyl 2-hydroxy-2,2-bis(4-chlorophenyl)acetate; chlorbenzilat; G 23922; compd 338; Acaraben; Akar; Folbex
98-56-6	Chlorobenzotrifluoride, 4-		
109-69-3	Chlorobutane, 1-		
124-48-1	Chlorodibromomethane		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
110-75-8	Chloroethyl Vinyl Ether	(2-Chloroethoxy)ethene	
110-75-8	Chloroethyl Vinyl Ether, 2-	(2-Chloroethoxy)ethene	
67-66-3	Chloroform	Trichloromethane	
67-66-3	Chloroform (dissolved)	Trichloromethane	
67-66-3	Chloroform (total)	Trichloromethane	
107-30-2	Chloromethyl Methyl Ether	Chloromethoxymethane	methyl chloromethyl ether; monochloromethyl ether; chlorodimethyl ether; CMME
90-13-1	Chloronaphthalene, 1-		alpha-Chloronaphthalene
91-58-7	Chloronaphthalene, 2-		ß-Chloronaphthalene
121-73-3	Chloronitrobenzene, m-		m-chloronitrobenzene, 1-chloro-3-nitrobenzene, m-nitrochlorobenzene
121-73-3	Chloronitrobenzene, m- (dissolved)		m-chloronitrobenzene, 1-chloro-3-nitrobenzene, m-nitrochlorobenzene
121-73-3	Chloronitrobenzene, m- (total)		m-chloronitrobenzene, 1-chloro-3-nitrobenzene, m-nitrochlorobenzene
88-73-3	Chloronitrobenzene, o-		1-chloro-2-nitrobenzene; o-nitrochlorobenzene
100-00-5	Chloronitrobenzene, p-		1-chloro-4-nitrobenzene, p-nitrochlorobenzene
100-00-5	Chloronitrobenzene, p- (dissolved)		1-chloro-4-nitrobenzene, p-nitrochlorobenzene
100-00-5	Chloronitrobenzene, p- (total)		1-chloro-4-nitrobenzene, p-nitrochlorobenzene
-	Chlorophenol		
95-57-8	Chlorophenol, 2-		o-chlorophenol
108-43-0	Chlorophenol, 3-		m-chlorophenol
106-48-9	Chlorophenol, 4-		p-chlorophenol
-	Chlorophenols		
93-72-1	Chlorophenoxy Herbicide 2,4,5-TP		
1406-65-1	Chlorophyll a		
76-06-2	Chloropicrin	Trichloronitromethane	76-06-2acquinite; nitrochloroform; Larvacide 100; Picfume
126-99-8	Chloroprene		
1897-45-6	Chlorothalonil	2,4,5,6-Tetrachloro-1,3-benzenedicarbonitrile; tetrachloroisophthalonitrile	m-tetrachlorophthalodinitrile; 2,4,5,6-tetrachloro-1,3-dicyanobenzene; 1,3-dicyano-2,4,5,6-tetrachlorobenzene; chlorthalonil; DAC-2787; Daconil 2787; Bravo; Forturf; Exotherm Termil; Termil

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
1897-45-6	Chlorothalonil (total)	2,4,5,6-Tetrachloro-1,3-benzenedicarbonitrile; tetrachloroisophthalonitrile	m-tetrachlorophthalodinitrile; 2,4,5,6-tetrachloro-1,3-dicyanobenzene; 1,3-dicyano-2,4,5,6-tetrachlorobenzene; chlorthalonil; DAC-2787; Daconil 2787; Bravo; Forturf; Exotherm Termil; Termil
108-41-8	Chlorotoluene, m-		Chlorotoluene, 3-
95-49-8	Chlorotoluene, o-		
106-43-4	Chlorotoluene, p-		
15545-48-9	Chlorotoluron		
54749-90-5	Chlorozotocin	2-[[[(2-Chloroethyl)nitrosoamino]carbonyl]amino]-2-deoxy-D-glucose	2-[3-(2-chloroethyl)-3-nitrosoureido]-2-deoxy-D-glucopyranose; 1-(2-chloroethyl)-1-nitroso-3-(D-glucos-2-yl)urea; DCNU; NSC-178248
101-21-3	Chlorprophan	(3-Chlorophenyl)carbamic acid 1-methylethyl ester	m-chlorocarbanilic acid isopropyl esteisopropyl-m-chlorocarbanilate; isopropyl N-(3-chlorophenyl)carbamate; chloro-ICP; chloropropham; CIPC; Chlor-IFC; Furloe; Sprout-Nip
2921-88-2	Chlorpyrifos	Phosphorothioic acid O,O-diethyl O-(3,5,6-trichloro-2-pyridinyl)ester	O,O-diethyl O-3,5,6-trichloro-2-pyridyl phosphorothioate; chlorpyrifos-ethyl; Dowco 179; ENT 27311; Dursban; Lorsban; Pyrinex; chloropyrifos
57-88-5	Cholesterol	Cholest-5-en-3beta-ol	cholesterin
7440-47-3	Chromium		Cr
7440-47-3	Chromium (dissolved)		Cr
16065-83-1	Chromium (III)	Chromium hydroxide	chromic oxide gel; chromic oxide, hydrous; chromic hydroxide
16065-83-1	Chromium (III) (dissolved)	Chromium hydroxide	chromic oxide gel; chromic oxide, hydrous; chromic hydroxide
7440-47-3	Chromium (total)		Cr
18540-29-9	Chromium (VI)		Cr
18540-29-9	Chromium (VI) (dissolved)		Cr
218-01-9	Chrysene		1,2-Benzphenanthrene
218-01-9	Chrysene (dissolved)		1,2-Benzphenanthrene
218-01-9	Chrysene (total)		1,2-Benzphenanthrene
87-29-6	Cinnamyl Anthranilate	2-Aminobenzoic acid 3-phenyl-2-propenyl ester; anthranilic acid cinnamyl ester	3-phenyl-2-propenyl anthranilate; cinnamyl o-aminobenzoate
-	Clarity		
7440-48-4	Cobalt		Co
7440-48-4	Cobalt (total)		Co

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
-	Coke oven emissions		
-	Coliforms (total)		
-	Colour		
-	Colour (change)		
-	Conductivity		
7440-50-8	Copper		Cu
7440-50-8	Copper (dissolved)		Cu
7440-50-8	Copper (total)		Cu
360-68-9	Coprostanol	5-beta-Cholestan-3-beta-ol	
360-68-9	Coprosterol	5beta-cholestan-3beta-ol	3beta-coprostanol; stercorin
-	Corrosivity		
56-72-4	Coumaphos	Phosphorothioic acid O-(3-chloro-4-methyl-2-oxo-2H-1-benzopyran-7-yl) O,O-diethyl ester; 3-chloro-7-hydroxy-4-methylcoumarin O-ester with O,O-diethyl phosphorothioate	3-chloro-4-methylumbelliferone, O-ester with O,O-diethyl phosphorothioate; O,O-diethyl O-(3-chloro-4-methyl-7-coumarinyl) phosphorothioate; O,O-diethyl O-(3-chloro-4-methylumbelliferone)thiophosphate; coumafos; Bayer 21/199; Asuntol; Baymix; Co-ral; Melda
56-72-4	Coumaphos (dissolved)	Phosphorothioic acid O-(3-chloro-4-methyl-2-oxo-2H-1-benzopyran-7-yl) O,O-diethyl ester; 3-chloro-7-hydroxy-4-methylcoumarin O-ester with O,O-diethyl phosphorothioate	3-chloro-4-methylumbelliferone, O-ester with O,O-diethyl phosphorothioate; O,O-diethyl O-(3-chloro-4-methyl-7-coumarinyl) phosphorothioate; O,O-diethyl O-(3-chloro-4-methylumbelliferone)thiophosphate; coumafos; Bayer 21/199; Asuntol; Baymix; Co-ral; Melda
56-72-4	Coumaphos (total)	Phosphorothioic acid O-(3-chloro-4-methyl-2-oxo-2H-1-benzopyran-7-yl) O,O-diethyl ester; 3-chloro-7-hydroxy-4-methylcoumarin O-ester with O,O-diethyl phosphorothioate	3-chloro-4-methylumbelliferone, O-ester with O,O-diethyl phosphorothioate; O,O-diethyl O-(3-chloro-4-methyl-7-coumarinyl) phosphorothioate; O,O-diethyl O-(3-chloro-4-methylumbelliferone)thiophosphate; coumafos; Bayer 21/199; Asuntol; Baymix; Co-ral; Melda
120-71-8	Cresidine, p-	o-Anisidine, 5-methyl-	
108-39-4	Cresol, m-	3-Methylphenol	
95-48-7	Cresol, o-	2-Methylphenol	
106-44-5	Cresol, p-	4-Methylphenol	
1319-77-3	Cresols	Methyl phenols	

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
7700-17-6	Crotoxyphos	3-[(Dimethoxyphosphinyl)oxy]-2-butenoic acid 1-phenylethyl ester; 3-hydroxycrotonic acid alpha-methylbenzyl ester dimethyl phosphate	O,O-dimethyl O-[1-methyl-2-(1-phenylcarbethoxy)vinyl] phosphate; dimethyl 2-(alpha-methylbenzyloxycarbonyl)-1-methylvinyl phosphate; ENT 24717; SD 4294; Ciodrin
98-82-8	Cumene	(1-methylethyl)benzene	cumol; isopropylbenzene
135-20-6	Cupferron	N-Hydroxy-N-nitrosobenzenamine ammonium salt	N-nitrosophenylhydroxylamine ammonium salt
21725-46-2	Cyanazine	2-[[4-Chloro-6-(ethylamino)-1,3,5-triazin-2-yl]amino]-2-methylpropanenitrile; 2-[[4-chloro-6-(ethylamino)-s-triazin-2-yl]amino]-2-methylpropionitrile	SD 15418; WL 19805; DW 3418; Bladex; Fortrol
57-12-5	Cyanide		CN
57-12-5	Cyanide (total)		CN
-	Cyanides		
506-68-3	Cyanogen bromide		
506-77-4	Cyanogen Chloride		CClN
50-18-0	Cyclophosphamide	N,N-Bis(2-chloroethyl)tetra-hydro-2H-1,3,2-oxazaphosphorin-2-amine 2-oxide; 2-[bis(2-chloroethyl)amino]tetrahydro-2H-1,3,2-oxazophosphorine 2-oxide	1-bis(2-chloroethyl)amino-1-oxo-2-aza-5-oxaphosphoridin; bis(2-chloroethyl)phosphamide cyclic propanolamide ester; bis(2-chloroethyl)phosphoramide cyclic propanolamide ester;N,N-bis(beta-chloroethyl)-N',O-trimethylenephosphoric acid ester diamide; cycloph
25155-15-1	Cymene		isopropyltoluene; methylisopropybenzene
52315-07-8	Cypermethrin	3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl)methyl ester	(+/-)-alpha-cyano-3-phenoxybenzyl-(+/-)-cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropane carboxylate; NRDC 149; FMC 30980; PP 383; Agrothrin; Ammo; Arrivo; Barricade; Cymbush; Cypercare;Cyperkill; Cypersect; Demon; Dysect; Fastac; Flectron; Nurell
52315-07-8	Cypermethrin (dissolved)	3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl)methyl ester	(+/-)-alpha-cyano-3-phenoxybenzyl-(+/-)-cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropane carboxylate; NRDC 149; FMC 30980; PP 383; Agrothrin; Ammo; Arrivo; Barricade; Cymbush; Cypercare;Cyperkill; Cypersect; Demon; Dysect; Fastac; Flectron; Nurell
52315-07-8	Cypermethrin (total)	3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl)methyl ester	(+/-)-alpha-cyano-3-phenoxybenzyl-(+/-)-cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropane carboxylate; NRDC 149; FMC 30980; PP 383; Agrothrin; Ammo; Arrivo; Barricade; Cymbush; Cypercare;Cyperkill; Cypersect; Demon; Dysect; Fastac; Flectron; Nurell
94-75-7	D, 2,4-	(2,4-Dichlorophenoxy)acetic acid; Chlorophenoxy Herbicide 2, 4-D	Hedonal; Trinoxol.
94-75-7	D, 2,4- (dissolved)	(2,4-Dichlorophenoxy)acetic acid	Hedonal; Trinoxol.
94-75-7	D, 2,4- (total)	(2,4-Dichlorophenoxy)acetic acid	Hedonal; Trinoxol.

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
-	D2CDD (Dioxin)		
43047-99-0	D2CDF (Furan)		
4342-03-4	Dacarbazine	5-(3,3-dimethyl-1-triazenyl)-1H-imidazole-4-carboxamide	5 (or 4)-(dimethyltriazeno)imidazole-4(or 5)-carboxamide; DIC; DTIC; NSC-45388; Dacatic; DTIC-Dome; Deticene
50-76-0	Dactinomycin	Actinomycin D	actinomycin -[thr-val-pro-sar-meval]; meractinomycin; actinomycin AIV; actinomycin IV; actinomycin C1; actinomycin I1; atinomycin X1; NSC 3053; Cosmegen
75-99-0	Dalapon	2,2-Dichloropropanoic acid	alpha,alpha-dichloropropionic acid
1596-84-5	Daminozide	Butanedioic acid mono(2,2-dimethylhydrazide);	N-(dimethylamino)succinamic acid; succinic acid 2,2-dimethylhydrazide; B-9; B-995; Alar; B-Nine; Kylar
117-10-2	Danthron	1,8-Dihydroxy-9,10-anthracenedione; 1,8-dihydroxyanthraquinone	chrysazin; dantron; Altan; Antrapurol; DiaquoneDorbane; Duolax; Istin; Istizin; Modane
94-75-7	DB, 2,4-	4-(2,4-dichlorophenoxy)butanoic acid	4-(2,4-dichlorophenoxy)butyric acidButyrac; Legumex D
1861-32-1	DCPA	2,3,5,6-Tetrachloro-1,4-benzenedicarboxylic acid dimethyl ester; 2,3,5,6-tetrachloroterephthalic acid dimethyl ester	dimethyl 2,3,5,6-tetrachloroterephthalate; chlorthal-methyl; Dacthal; Rid
72-54-8	DDD	1,1'-(2,2-Dichloroethylidene)bis[4-chlorobenzene]	1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane; tetrachlorodophenylethane; TDE; dichlorodiphenyldichloroethane; DDD; p,p'-DDD; p,p'-TDE; Rhothane; 4,4-DDD
53-19-0	DDD, o,p'-		
-	DDDs (sum)		o,p'-DDD + p,p'-DDD
72-55-9	DDE		4,4'-DDE; p,p'-DDE
3424-82-6	DDE, o,p'-		
-	DDEs (sum)		o,p'-DDE + p,p'-DDE
-	DDT and metabolites		DDT+ DDE+ DDD
789-02-6	DDT, o,p'-		
50-29-3	DDT, p,p'	1,1'-(2,2,2-Trichloroethylidene)bis[4-chlorobenzene]; 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane;	alpha,alpha-bis(p-chlorophenyl)-ß,ß,ß-trichlorethane; dichlorodiphenyltrichloroethane; chlorophenothane; clofenotane; dicophane; pentachlorin; p,p'-DDT; 4,4'-DDT; Agritan; Gesapon; Gesarex; GesarolNeocid
-	DDTs		p,p-DDT + o,p-DDT + p,p-DDE + o,p-DDE + p,p-DDD + o,p-DDD, and any metabolite or degradation product
-	DDTs (sum)		o,p-DDT + p,p-DDT
-	DDTs (total dissolved)		p,p-DDT + o,p-DDT + p,p-DDE + o,p-DDE + p,p-DDD + o,p-DDD

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
-	DDTs (total)		p,p-DDT + o,p-DDT + p,p-DDE + o,p-DDE + p,p-DDD + o,p-DDD
1163-19-5	Decabromodiphenyl oxide		
13560-89-9	Dechlorane Plus		
52918-63-5	Deltamethrin	3-(2,2-Dibromoethenyl)-2,2-dimethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl)methyl ester	(S)-alpha-cyano-3-phenoxybenzyl-(1R)-cis-3-(2,2-dibromovinyl)-2,2-dimethylcyclopropane carboxylate; decamethrin; esbecythrin; FMC 45498; NRDC 161; RU 22974; Butox; Decis; K-Othrine
52918-63-5	Deltamethrin (dissolved)	3-(2,2-Dibromoethenyl)-2,2-dimethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl)methyl ester	(S)-alpha-cyano-3-phenoxybenzyl-(1R)-cis-3-(2,2-dibromovinyl)-2,2-dimethylcyclopropane carboxylate; decamethrin; esbecythrin; FMC 45498; NRDC 161; RU 22974; Butox; Decis; K-Othrine
52918-63-5	Deltamethrin (total)	3-(2,2-Dibromoethenyl)-2,2-dimethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl)methyl ester	(S)-alpha-cyano-3-phenoxybenzyl-(1R)-cis-3-(2,2-dibromovinyl)-2,2-dimethylcyclopropane carboxylate; decamethrin; esbecythrin; FMC 45498; NRDC 161; RU 22974; Butox; Decis; K-Othrine
8065-48-3	Demeton	Phosphorothioic acid O,O-diethyl O-[2-(ethylthio)ethyl] ester mixture with O,O-diethyl S-[2-(ethylthio)ethyl]phosphorothioate	mercaptophos; Bayer 8169; E-1059; Systox
8065-48-3	Demeton (dissolved)	Phosphorothioic acid O,O-diethyl O-[2-(ethylthio)ethyl] ester mixture with O,O-diethyl S-[2-(ethylthio)ethyl]phosphorothioate	mercaptophos; Bayer 8169; E-1059; Systox
8065-48-3	Demeton (total)	Phosphorothioic acid O,O-diethyl O-[2-(ethylthio)ethyl] ester mixture with O,O-diethyl S-[2-(ethylthio)ethyl]phosphorothioate	mercaptophos; Bayer 8169; E-1059; Systox
84-74-2	Di-n-butyl phthalate		
101-77-9	Diaminodiphenylmethane, p,p'-	4,4'-Methylene-bis[benzenamine]; 4,4'-methylenedianiline	
101-80-4	Diaminodipheyl ether, 4,4'-		4,4'-Oxydianiline
95-80-7	Diaminotoluene, 2,4-		
119-90-4	Dianisidine	3,3'-Dimethyoxy-[1,1'-biphenyl]-4,4'-diamine; 3,3'-dimethoxybenzidine	3,3'-dimethoxy-4,4'-diaminobiphenyl
333-41-5	Diazinon	Phosphorothioic acid O,O-diethyl O-[6-methyl-2-(1-methylethyl)-4-pyrimidinyl] ester	thiophosphoric acid 2-isopropyl-4-methyl-6-primidyl diethyl ester; O,O-diethyl O-2-isopropyl-4-methyl-6-pyrimidyl thiophosphate; diethyl 2-isopropyl-4-methyl-6-pyrimidyl; thionophosphate; dimpylate;G-24480; Basudin; Diazol; Garden Tox; Neocidol; Sarolex;
333-41-5	Diazinon (dissolved)	Phosphorothioic acid O,O-diethyl O-[6-methyl-2-(1-methylethyl)-4-pyrimidinyl] ester	thiophosphoric acid 2-isopropyl-4-methyl-6-primidyl diethyl ester; O,O-diethyl O-2-isopropyl-4-methyl-6-pyrimidyl thiophosphate; diethyl 2-isopropyl-4-methyl-6-pyrimidyl; thionophosphate; dimpylate;G-24480; Basudin; Diazol; Garden Tox; Neocidol; Sarolex;

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
333-41-5	Diazinon (total)	Phosphorothioic acid O,O-diethyl O-[6-methyl-2-(1-methylethyl)-4-pyrimidinyl] ester	thiophosphoric acid 2-isopropyl-4-methyl-6-primidyl diethyl ester; O,O-diethyl O-2-isopropyl-4-methyl-6-pyrimidyl thiophosphate; diethyl 2-isopropyl-4-methyl-6-pyrimidyl; thionophosphate; dimpylate;G-24480; Basudin; Diazol; Garden Tox; Neocidol; Sarolex;
53-70-3	Dibenzanthracene, 1,2:5,6-	Dibenz[a,h]anthracene	
53-70-3	Dibenzanthracene, 1,2:5,6- (dissolved)	Dibenz[a,h]anthracene	
53-70-3	Dibenzanthracene, 1,2:5,6- (total)	Dibenz[a,h]anthracene	
132-64-9	Dibenzofuran		
10222-01-2	Dibromo-3-nitrilopropionamide, 2,2-		
-	Dibromo-3-nitrilopropionamide, 2,2- + Dibromoacetonitrile		
-	Dibromo-3-nitrilopropionamide, 2,2- and Dibromoacetonitrile		
3252-43-5	Dibromoacetonitrile		
583-53-9	Dibromobenzene, 1,2-		Dibromobenzene, o-
108-36-1	Dibromobenzene, 1,3-		Dibromobenzene, m-
106-37-6	Dibromobenzene, 1,4-		Dibromobenzene, p-
124-48-1	Dibromochloromethane		
96-12-8	Dibromochloropropane	1,2-Dibromo-3-chloropropane	3-chloro-1,2-dibromopropane; DBCP; OS1897; Fumazone; Nemafume; Nemagon
594-18-3	Dibromodichloromethane		
74-95-3	Dibromomethane		
1918-00-9	Dicamba	3,6-Dichloro-2-methoxybenzoic acid; 3,6-dichloro-o-anisic acid	2-methoxy-3,6-dichlorobenzoic acid; dianat; Velsicol 58-CS-11; Banvel D; Mediben
1194-65-6	Dichlobenil	2,6-Dichlorobenzonitrile	H-133; Niagara 5006; Casoron; Casoron-133
117-80-6	Dichlone	2,3-Dichloro-1,4-naphthalenedione; 2,3-dichloro-1,4-naphthoquinone	USR 604; Phygon; Phygon Paste; Phygon XL
1476-11-5	Dichloro-2-butene, 1,4- (cis)		
110-57-6	Dichloro-2-butene, 1,4- (trans)		
1570-65-6	Dichloro-6-methylphenol, 2,4-		
79-43-6	Dichloroacetic Acid		Bichloracetic acid; dichlorethanoic acid; DCA

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
3018-12-0	Dichloroacetonitrile		
541-73-1	Dichlorobenzene, m-	1,3-Dichlorobenzene	
95-50-1	Dichlorobenzene, o-	1,2-Dichlorobenzene	ortho-dichlorodibenzene
106-46-7	Dichlorobenzene, p-	1,4-Dichlorobenzene	Paracide; PDB; Paradichlorobenzene; Para-zene; Di-chloricide; Paramoth; 1,4-Dichlorobenzne
106-46-7	Dichlorobenzene, p- (total)	1,4-Dichlorobenzene	Paracide; PDB; Paradichlorobenzene; Para-zene; Di-chloricide; Paramoth; 1,4-Dichlorobenzne
25321-22-6	Dichlorobenzenes		
25321-22-6	Dichlorobenzenes (dissolved)		
25321-22-6	Dichlorobenzenes (total)		
91-94-1	Dichlorobenzidine, 3,3'-	3,3-Dichloro-(1,1'-biphenyl)-4,4'-diamine	3,3'-dichloro-4,4'-biphenyldiamine; DCB
91-94-1	Dichlorobenzidine, 3,3'- (dissolved)	3,3-Dichloro-(1,1'-biphenyl)-4,4'-diamine	3,3'-dichloro-4,4'-biphenyldiamine; DCB
91-94-1	Dichlorobenzidine, 3,3'- (total)	3,3-Dichloro-(1,1'-biphenyl)-4,4'-diamine	3,3'-dichloro-4,4'-biphenyldiamine; DCB
-	Dichlorobenzidines		
328-84-7	Dichlorobenzotrifluoride, 3,4-		
75-27-4	Dichlorobromomethane		
75-71-8	Dichlorodifluoromethane		Difluorodichloromethane; Arcton 12; Freon 12; Frigen 12; Genetron 12; Halon; Isotron 2
111-44-4	Dichloroethyl Ether, sym-	1,1'-Oxybis[2-chloroethane]	bis(2-chloroethyl) ether; ß,ß'-dichloroethyl ether; DCEE; Chlorex
156-59-2	Dichloroethylene, 1,2- (cis)		cis-1,2-dichloroethene
156-60-5	Dichloroethylene, 1,2- (trans)		trans-1,2-dichloroethene
25323-30-3	Dichloroethylenes		
75-43-4	Dichlorofluoromethane		
108-60-1	Dichloroisopropyl Ether, Bis-2,		
542-88-1	Dichloromethyl Ether, sym-	Oxybis[chloromethane]; bis(chloromethyl) ether	BCME
579-24-9	Dichlorophenol, 2,3-		
120-83-2	Dichlorophenol, 2,4-		
583-78-8	Dichlorophenol, 2,5-		
87-65-0	Dichlorophenol, 2,6-		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
95-77-2	Dichlorophenol, 3,4-		
591-35-5	Dichlorophenol, 3,5-		
-	Dichlorophenols		
-	Dichlorophenols (dissolved)		
-	Dichlorophenols (total)		
26638-19-7	Dichloropropane		
142-28-9	Dichloropropane, 1,3-		
594-20-7	Dichloropropane, 2,2-		
26952-23-8	Dichloropropene		
563-58-6	Dichloropropene, 1,1-		
542-75-6	Dichloropropene, 1,3-		alpha,gamma-Dichloropropylene; 1,3-dichloropropylene; gamma-chloroallyl chloride; Telone II
542-75-6	Dichloropropene, 1,3- (dissolved)		alpha,gamma-Dichloropropylene; 1,3-dichloropropylene; gamma-chloroallyl chloride; Telone II
542-75-6	Dichloropropene, 1,3- (total)		alpha,gamma-Dichloropropylene; 1,3-dichloropropylene; gamma-chloroallyl chloride; Telone II
32768-54-0	Dichlorotoluene, 2,3-		
95-73-8	Dichlorotoluene, 2,4-		
19398-61-9	Dichlorotoluene, 2,5-		
118-69-4	Dichlorotoluene, 2,6-		
95-75-0	Dichlorotoluene, 3,4-		
25186-47-4	Dichlorotoluene, 3,5-		
120-36-5	Dichlorprop	2-(2,4-Dichlorophenoxy)propanoic acid; 2-(2,4-dichlorophenoxy)propionic acid	dichloroprop; Cornox RK; Hedonal DP
62-73-7	Dichlorvos	Phosphoric acid 2,2-dichloroethenyl dimethyl ester; phosphoric acid 2,2-dichlorovinyl dimethyl ester	O,O-dimethyl O-(2,2-dichlorovinyl) phosphate; dichlorophos; dichlorovos; DDVP; SD 1750; Astrobot; Atgard; Canogard; Dedevap; Dichlorman; Divipan; Equigard; Equigel; Estrosol; Herkol; Nogos; Nuvan;Task; Vapona; Verdisol
62-73-7	Dichlorvos (dissolved)	Phosphoric acid 2,2-dichloroethenyl dimethyl ester; phosphoric acid 2,2-dichlorovinyl dimethyl ester	O,O-dimethyl O-(2,2-dichlorovinyl) phosphate; dichlorophos; dichlorovos; DDVP; SD 1750; Astrobot; Atgard; Canogard; Dedevap; Dichlorman; Divipan; Equigard; Equigel; Estrosol; Herkol; Nogos; Nuvan;Task; Vapona; Verdisol

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
62-73-7	Dichlorvos (total)	Phosphoric acid 2,2-dichloroethenyl dimethyl ester; phosphoric acid 2,2-dichlorovinyl dimethyl ester	O,O-dimethyl O-(2,2-dichlorovinyl) phosphate; dichlorophos; dichlorovos; DDVP; SD 1750; Astrobot; Atgard; Canogard; Dedevap; Dichlorman; Divipan; Equigard; Equigel; Estrosol; Herkol; Nogos; Nuvan;Task; Vapona; Verdisol
51338-27-3	Diclofop-Methyl	2-[4-(2,4-Dichlorophenoxy)-phenoxy]propanoic acid methyl ester	methyl 2-[4-(2,4-dichlorophenoxy)phenoxy]propionate; HOE 23408; Heolon; Hoegrass; I1(1)oxan
115-32-2	Dicofol	4-Chloro-alpha-(4-chlorophenyl)-alpha-(trichloromethyl)benzenemethanol; 4,4'-dichloro-alpha-(trichloromethyl)benzhydrol	1,1-bis(p-chlorophenyl)-2,2,2-trichlroethanol; di(p-chlorophenyl)trichloromethylcarbinol; DTMC; ENT 23648; FW 293;Acarin; 'Kelthane; Mitigan
7173-51-5	Didecyldimethylammonium Chloride	N-Decyl-N,N-dimethyl--1-decanaminium chloride	dimethyldidecylammonium chloride; Arquad 10; Bardac 2250/2280; BTC 1010; Dodigen 1881; Querton 210CL
69655-05-6	Dideoxyinosine	2,3'-Dideoxyinosine	DDI; ddIno; NSC 612049
60-57-1	Dieldrin	(1aalpha,2ß,2aalpha,3ß,6ß,6aalpha,7ß,7aalpha)-3,4,5,6-9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-2,7:3,6-dimethanonaphth[2,3-b]oxirene;1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8a-octahydro-endo,exo-1,4:5,8-dimethanonaphthalene	
84-66-2	Diethyl Phthalate		
111-46-6	Diethylene Glycol	2,2'-Oxybisethanol	2,2'-oxydiethanol
56-53-1	Diethylstilbestrol	4,4'-(1,2-Diethyl-1,2-ethenediyl)bisphenol; alpha, alpha'-diethylstilbenediol	stilbestrol; stilboestrol; 3,4-bis(p-hydroxyphenyl)-3-hexene; 4,4'-dihydroxy-alpha, beta-diethylstilbene; DES; Antigestil; Bio-des; Bufon; Cyren A; Distilbene; Domestrol; Estrobene; Estrosyn; FonatolGrafestrol; Hi-Bestrol; Makarol; Micrest; Milestrol; Neo
76-12-0	Difluoro-1,1,2,2-tetrachloroethane, 1,2-		
101-90-6	Diglycidyl Resorcinol Ether		DGRE
94-58-6	Dihydrosafrole		
577-55-9	Diisopropylbenzene, 1,2-		
99-62-7	Diisopropylbenzene, 1,3-		
100-18-5	Diisopropylbenzene, 1,4-		
60-51-5	Dimethoate	Phosphorodithioic acid O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester; phosphorodithioic acid O,O-dimethyl ester, ester with 2-mercapto-N-methylacetamide	O,O-dimethyl S-methylcarbamoylmethyl phosphorodithioate; American Cyanamid 12880; Cygon; Fostion MM; Perfekthion; Rogor; Roxion
122-09-8	Dimethyl Phenethylamine, alpha, alpha-		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
131-11-3	Dimethyl Phthalate	1,2-Benzenedicarboxylic acid dimethyl ester; phthalic acid dimethyl ester	methyl phthalate; dimethyl 1,2-benzenedicarboxylate; DMP; Palatinol M; Fermine; Avolin; Mipax
57-97-6	Dimethyl-1,2-benzanthracene, 9,10-	7,12-Dimethylbenz[a]anthracene	1,4-dimethyl-2,3-benzphenanthrene
60-11-7	Dimethylaminoazobenzene, p-	N,N-Dimethyl-4-(phenylazo)benzenamine	butter yellow; methyl yellow; C.I. Solvent Yellow 2; C.I. 11020
87-59-2	Dimethylaniline, 2,3-		
95-68-1	Dimethylaniline, 2,4-		
95-78-3	Dimethylaniline, 2,5-		
87-62-7	Dimethylaniline, 2,6-		
95-64-7	Dimethylaniline, 3,4-		
108-69-0	Dimethylaniline, 3,5-		
121-69-7	Dimethylaniline, N,N-		
119-93-7	Dimethylbenzidine, 3,3'-		
538-39-6	Dimethylbibenzyl, 4,4'-		
79-44-7	Dimethylcarbamoyl Chloride		
4957-14-6	Dimethyldiphenylmethane, 4,4'-		
68-12-2	Dimethylformamide		
57-14-7	Dimethylhydrazine, 1,1-		unsym-Dimethylhyrazine; asym-dimethylhydrazine; N,N-dimethylhydrazine; UDMH; Dimazine
540-73-8	Dimethylhydrazine, 1,2-		N,N'-Dimethylhydrazine; sym-dimethylhydrazine; SDMH
22967-92-6	Dimethylmercury	Dimethyl Mercury	methyl mercury
575-41-7	Dimethylnaphthalene, 1,3-		
581-42-0	Dimethylnaphthalene, 2,6-		
105-67-9	Dimethylphenol, 2,4-		
576-26-1	Dimethylphenol, 2,6-		
95-65-8	Dimethylphenol, 3,4-		
99-65-0	Dinitrobenzene, m-		Dinitrobenzidine, 1,3-
528-29-0	Dinitrobenzene, o-		Dinitrobenzidine, 1,2-
100-25-4	Dinitrobenzene, p-		Dinitrobenzidine, 1,4-

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
534-52-1	Dinitrocresol	2-Methyl-4,6-dinitrophenol; 4,6-dinitro-o-cresol	3,5-dinitro-2-hydroxytoluene; 3,5-dinitro-o-cresol; DN; DNC; DNOC; Antinonnin; Detal; Dinitrol; Elgetol; K III; K IV; Ditrosol; Prokarbol; Effusan; Lipan; Selinon; Sinox; Dekrysil4,6-Dinitro-2-methylphenol
534-52-1	Dinitrocresol (dissolved)	2-Methyl-4,6-dinitrophenol; 4,6-dinitro-o-cresol	3,5-dinitro-2-hydroxytoluene; 3,5-dinitro-o-cresol; DN; DNC; DNOC; Antinonnin; Detal; Dinitrol; Elgetol; K III; K IV; Ditrosol; Prokarbol; Effusan; Lipan; Selinon; Sinox; Dekrysil
534-52-1	Dinitrocresol (total)	2-Methyl-4,6-dinitrophenol; 4,6-dinitro-o-cresol	3,5-dinitro-2-hydroxytoluene; 3,5-dinitro-o-cresol; DN; DNC; DNOC; Antinonnin; Detal; Dinitrol; Elgetol; K III; K IV; Ditrosol; Prokarbol; Effusan; Lipan; Selinon; Sinox; Dekrysil
534-52-1	Dinitrocresol, 2,4-	2,4-dinitro-o-cresol	
25550-58-7	Dinitrophenol		
51-28-5	Dinitrophenol, 2,4-		alpha-Dinitrophenol; Aldifen
534-52-1	Dinitrophenols		
25321-14-6	Dinitrotoluene		
602-01-7	Dinitrotoluene, 2,3-		
121-14-2	Dinitrotoluene, 2,4-		
619-15-8	Dinitrotoluene, 2,5-		
606-20-2	Dinitrotoluene, 2,6-		
610-39-9	Dinitrotoluene, 3,4-		
618-85-9	Dinitrotoluene, 3,5-		
-	Dinitrotoluenes		
88-85-7	Dinoseb	2-(1-Methylpropyl)-4,6-dinitrophenol; 2-sec-butyl-4,6-dinitrophenol	DNBP; ENT 1122; WSX-8365; Chemox PE; Dow General; Premerge; Subitex; Caldon; Basanite
88-85-7	Dinoseb (dissolved)	2-(1-Methylpropyl)-4,6-dinitrophenol; 2-sec-butyl-4,6-dinitrophenol	DNBP; ENT 1122; WSX-8365; Chemox PE; Dow General; Premerge; Subitex; Caldon; Basanite
88-85-7	Dinoseb (total)	2-(1-Methylpropyl)-4,6-dinitrophenol; 2-sec-butyl-4,6-dinitrophenol	DNBP; ENT 1122; WSX-8365; Chemox PE; Dow General; Premerge; Subitex; Caldon; Basanite
123-91-1	Dioxane		1,4-Diethylene dioxide
123-91-1	Dioxane, 1,4-		
957-51-7	Diphenamid	N,N-dimethyl-alpha-phenylbenzeneacetamide	N,N-dimethyl-2,2-diphenylacetamideN,N-dimethyl-alpha, alpha-diphenylacetamide; 2,2-diphenyl-N,N-dimethylacetamide; L 34314; Dymid; Enide

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
122-39-4	Diphenylamine		
122-66-7	Diphenylhydrazine		
530-50-7	Diphenylhydrazine, 1,1-		
122-66-7	Diphenylhydrazine, 1,2-		
85-00-7	Diquat	6,7-Dihydrodipyrido[1,2-a:2',1'-c]pyrazinediium	1,1'-ethylene-2,2'-dipyridylium
1937-37-7	Direct Black 38 (technical grade)	2,7-Naphthalenedisulfonic acid, 4-amino-3-((4'-((2,4-diaminophenyl)azo)(1,1'-biphenyl)-4-yl) azo)-5-hydroxy-6-(phenylazo)-, disodium salt	
2602-46-2	Direct Blue 6 (technical grade)	2,7-Naphthalenedisulfonic acid, 3,3'-((4,4'-biphenylylene)bis(azo))bis(5-amino-4-hydroxy-, tetrasodium salt	
16071-86-6	Direct Brown 95 (technical grade)	Copper, (5-((4'-((2,5-dihydroxy-4-((2-hydroxy-5-sulfophenyl)azo)phenyl)azo)(1,1'-b iphenyl)- 4-yl)azo)-2-hydroxybenzoato(2-))-, disodium salt	
2475-45-8	Disperse Blue 1	9,10-Anthracenedione, 1,4,5,8-tetraamino-	
7782-44-7	Dissolved Oxygen		O
298-04-4	Disulfoton	Phosphorodithioic acid O,O-diethyl S-[2-(ethylthio)ethyl] ester	O,O-diethyl-S-ethylmercaptoethyl dithiophosphate; thiodemeton; dithiodemeton; BAY 19639; ENT 23347; Dithiosystox; Di-Syston; Frumin AL; Frumin G; Solvirex
298-04-4	Disulfoton (dissolved)	Phosphorodithioic acid O,O-diethyl S-[2-(ethylthio)ethyl] ester	O,O-diethyl-S-ethylmercaptoethyl dithiophosphate; thiodemeton; dithiodemeton; BAY 19639; ENT 23347; Dithiosystox; Di-Syston; Frumin AL; Frumin G; Solvirex
298-04-4	Disulfoton (total)	Phosphorodithioic acid O,O-diethyl S-[2-(ethylthio)ethyl] ester	O,O-diethyl-S-ethylmercaptoethyl dithiophosphate; thiodemeton; dithiodemeton; BAY 19639; ENT 23347; Dithiosystox; Di-Syston; Frumin AL; Frumin G; Solvirex
330-54-1	Diuron	N'-(3,4-Dichlorophenyl)-N,N-dimethylurea	1,1-dimethyl-3-(3,4-dichlorophenyl)urea; Diurex; Karmex; Telvar; Urox D
-	Dodecylguanidine Acetate and Dodecylguanidine Hydrochloride		
479-18-5	Dyphylline		
60-00-4	Edetic Acid	N,N'-1,2-Ethanediylbis[N-(carboxymethyl)glycine]; (ethylenedinitrilo)tetraacetic acid	ethylenediaminetetraacetic acid; edathamil; EDTA; Havidote; Versene Acid
115-29-7	Endosulfan	6,7,8,9,10,10-Hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin 3-oxide; 1,4,5,6,7,7-hexachloro-5-norbornene-2,3-dimethanol cyclic sulfite	1,2,3,4,7,7-hexachlorobicyclo[2.2.1]-2-heptene-5,6-bisoxymethylene sulfite; chlorthiepin; Malix; Thiodan; Thionex

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
115-29-7	Endosulfan (total)	6,7,8,9,10,10-Hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin 3-oxide; 1,4,5,6,7,7-hexachloro-5-norbornene-2,3-dimethanol cyclic sulfite	1,2,3,4,7,7-hexachlorobicyclo[2.2.1]-2-heptene-5,6-bisoxymethylene sulfite; chlorthiepin; Malix; Thiodan; Thionex
1031-07-8	Endosulfan Sulfate		
959-98-8	Endosulfan-alpha		
-	Endosulfan-alpha + Endosulfan-alpha Sulphate		
-	Endosulfan-alpha + Endosulfan-alpha Sulphate (dissolved)		
-	Endosulfan-alpha + Endosulfan-alpha Sulphate (total)		
33213-65-9	Endosulfan-beta		
145-73-3	Endothall	7-Oxabicyclo[2.2.1]heptane-2,3-di-carboxylic acid	3,6-endoxohexahydrophthalic acid; endothal
72-20-8	Endrin	3,4,5,6,9,9,-Hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-2,7:3,6-dimethanonaphth[2,3-b]oxirene; 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydroendo,endo-1,4:5,8-dimethanonaphthalene	mendrin; nendrin; hexadrin; compound 269; experimental insecticide no. 269; ENT 17251
72-20-8	Endrin (total)	3,4,5,6,9,9,-Hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-2,7:3,6-dimethanonaphth[2,3-b]oxirene; 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydroendo,endo-1,4:5,8-dimethanonaphthalene	mendrin; nendrin; hexadrin; compound 269; experimental insecticide no. 269; ENT 17251
-	Endrin + Isodrin		
-	Endrin + Isodrin (dissolved)		
-	Endrin + Isodrin (total)		
7421-93-4	Endrin Aldehyde		
53494-70-5	Endrin Ketone		
-	Enterococci		
106-89-8	Epichlorohydrin	Chloromethyloxirane	dl-alpha-epichlorohydrin; 1-chloro-2,3-epoxypropane; alpha-chloropropylene oxide
-	Escherichia coli		
50-28-2	Estradiol	(17beta)-Estra-1,3,5(10)-triene-3,17-diol; beta-estradiol	alpha-estradiol (obsolete); cis-estradiol; 3,17-epidihydroxyestratriene; dihydrofollicular hormone; dihydrofolliculin; dihydroxyestrin; dihydrotheelin; Compudose 365; Dihydromenformon; DimenformonDiogyn; Estrace; Estraderm; Estrovite; Femestral; Gynergon;

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
55283-68-6	Ethalfluralin	N-Ethyl-N-(2-methyl-2-propenyl)-2,6-dinitro-4-(trifluoromethyl)benzenamine	N-ethyl-N-alpha,alpha,alpha-trifluoro-N-(2-methylallyl)-2,6-dinitro-p-toluidine; N-ethyl-N-methally-4-trifluoromethyl-2,6-dinitroaniline
563-12-2	Ethion	Phosphorodithioic acid S,S'-methyleneO,O,O',O'-tetraethyl ester; ethyl methylene phosphorodithioate	O,O,O',O'-tetraethyl S,S'-methylenediphosphorodithioate; bis[S-(diethoxyphosphinothioyl)mercapto]methane; diethion
141-78-6	Ethyl Acetate	Acetic acid ethyl ester	acetic ether; vinegar naphtha
64-17-5	Ethyl Alcohol	Ethanol	
75-00-3	Ethyl Chloride	Chloroethane	monochlorethane; chlorethyl; aethylis chloridum; ether chloratus; ether hydrochloric; ether muriatic; Kelene; Chelen; Anodynon; Chloryl Anesthetic; Narcotile
39295-50-6	Ethyl Parathion		
100-41-4	Ethylbenzene		
100-41-4	Ethylbenzene (dissolved)		
100-41-4	Ethylbenzene (total)		
107-07-3	Ethylene Chlorohydrin		
106-93-4	Ethylene Dibromide	1,2-Dibromoethane	sym-dibromoethane; ethylene bromide; EDB; Dowfume W 85
107-06-2	Ethylene Dichloride	1,2-Dichloroethane	sym-dichloroethane; ethylene chloride; EDC; Dutch liquid; Brocide
107-06-2	Ethylene Dichloride (dissolved)	1,2-Dichloroethane	sym-dichloroethane; ethylene chloride; EDC; Dutch liquid; Brocide
107-06-2	Ethylene Dichloride (total)	1,2-Dichloroethane	sym-dichloroethane; ethylene chloride; EDC; Dutch liquid; Brocide
107-21-1	Ethylene Glycol		1,2-ethanediol
75-21-8	Ethylene Oxide	Oxirane	Anprolene
96-45-7	Ethylene Thiourea	2-Imidazolidinethione; imidazoline-2-thiol	2-mercaptoimidazoline; ETU; Akrochem ETU-22; NA-22; Robac 22; Sanceller 22; Vulkacit NPV/C
151-56-4	Ethyleneimine		
75-34-3	Ethylidene Chloride	1,1-Dichloroethane	
-	Fecal Coliforms		
122-14-5	Fenitrothion	Phosphorothioic acid O,O-dimethyl O-(3-methyl-4-nitrophenyl) ester;	O,O-dimethyl O-4-nitro-m-tolyl phosphorothioate; O,O-dimethyl O-(3-methyl-4-nitrophenyl) phosphorothioate; O,O-dimethyl O-4-nitro-m-tolyl thiophosphate; MEP; metathion; Bayer 41831; Bayer S 5660;ENT 25715; OMS 45; AC 47300; Accothion; Cyten; Cyfen; Foloth

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
122-14-5	Fenitrothion (dissolved)	Phosphorothioic acid O,O-dimethyl O-(3-methyl-4-nitrophenyl) ester;	O,O-dimethyl O-4-nitro-m-tolyl phosphorothioate; O,O-dimethyl O-(3-methyl-4-nitrophenyl) phosphorothioate; O,O-dimethyl O-4-nitro-m-tolyl thiophosphate; MEP; metathion; Bayer 41831; Bayer S 5660;ENT 25715; OMS 45; AC 47300; Accothion; Cyten; Cyfen; Foloth
122-14-5	Fenitrothion (total)	Phosphorothioic acid O,O-dimethyl O-(3-methyl-4-nitrophenyl) ester;	O,O-dimethyl O-4-nitro-m-tolyl phosphorothioate; O,O-dimethyl O-(3-methyl-4-nitrophenyl) phosphorothioate; O,O-dimethyl O-4-nitro-m-tolyl thiophosphate; MEP; metathion; Bayer 41831; Bayer S 5660;ENT 25715; OMS 45; AC 47300; Accothion; Cyten; Cyfen; Foloth
55-38-9	Fenthion	Phosphorothioic acid O,O-dimethyl O-[3-methyl-4-(methylthio)phenyl ester	O,O-dimethyl O-(4-methylmercapto-3-methylphenyl) thionophosphate; O,O-dimethyl O-(2-methyl-4-methylthiophenyl) thiophosphate; O,O-dimethyl O-(4-methylthio-3-methylphenyl) thiophsophate, O,O-dimethylO-[4-methylthio)-m-tolyl] phosphorothioate; 4-methylmerca
55-38-9	Fenthion (dissolved)	Phosphorothioic acid O,O-dimethyl O-[3-methyl-4-(methylthio)phenyl ester	O,O-dimethyl O-(4-methylmercapto-3-methylphenyl) thionophosphate; O,O-dimethyl O-(2-methyl-4-methylthiophenyl) thiophosphate; O,O-dimethyl O-(4-methylthio-3-methylphenyl) thiophsophate, O,O-dimethylO-[4-methylthio)-m-tolyl] phosphorothioate; 4-methylmerca
55-38-9	Fenthion (total)	Phosphorothioic acid O,O-dimethyl O-[3-methyl-4-(methylthio)phenyl ester	O,O-dimethyl O-(4-methylmercapto-3-methylphenyl) thionophosphate; O,O-dimethyl O-(2-methyl-4-methylthiophenyl) thiophosphate; O,O-dimethyl O-(4-methylthio-3-methylphenyl) thiophsophate, O,O-dimethylO-[4-methylthio)-m-tolyl] phosphorothioate; 4-methylmerca
14484-64-1	Ferbam	Tris(dimethylcarbamodithioato-S,S')-iron; tris(dimethyldithiocarbamato)iron	dimethyldithiocarbamic acid, iron salt; ferric dimethyldithiocarbamate; Carbamate; Ferbeck; Fermate; Ferradow; Karbam Black
2164-17-2	Fluometuron		
206-44-0	Fluoranthene		1,2-Benzacenaphthene
206-44-0	Fluoranthene (dissolved)		1,2-Benzacenaphthene
206-44-0	Fluoranthene (total)		1,2-Benzacenaphthene
86-73-7	Fluorene	9H-Fluorene	o-Biphenylenemethane; diphenylenemethane; 2,2'-methylenebiphenyl
53-96-3	Fluorenylacetamide, N-2-	N-9H-Fluoren-2-yl-acetamide	2-acetylaminofluorene; AAF; 2-FAA
16984-48-8	Fluoride		
16984-48-8	Fluoride (total)		
-	Foaming Agents		
133-07-3	Folpet	2-[(Trichloromethyl)thio]-1H-isoindole-1,3(2H)-dione; N-(trichloromethylthio)phthalimide	N-(trichloromethylmercapto)phthalimide; Phaltan
944-22-9	Fonofos	Ethylphosphonodithioic acid O-ethyl S-phenyl ester	O-ethyl S-phenyl ethylphosphonothiolothionate; N-2790; Dyfonate

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
50-00-0	Formaldehyde		Methanal; oxomethane; oxymethylene; methylene oxide; formic aldehyde; methyl aldehyde
50-00-0	Formaldehyde (gas)		Methanal; oxomethane; oxymethylene; methylene oxide; formic aldehyde; methyl aldehyde
-	Furans (total)		
60568-05-0	Furmecyclox		
-	Gas Pressure (total)		
1071-83-6	Glyphosate	N-(Phosphonomethyl)glycine	MON-0573
93-14-1	Guaifenesin		
16568-02-8	Gyromitrin	Formic acid, ethylidenemethylhydrazide	Acetaldehyde methylformylhydrazone
	H6CDD (Dioxin)		
-	H6CDF (Furan)		
-	H7CDD (Dioxin)		
-	H7CDF (Furan)		
-	Haloethers		halogenated ether
-	Halomethanes		
-	Hardness		
-	Hardness (total dissolved)		
2784-94-3	HC Blue 1	Ethanol, 2,2'-((4-(methylamino)-3-nitrophenyl)imino)di-	
352822-46-9	HCDD, 1,2,3,4,6,7,8-		1,2,3,4,6,7,8-H7CDD
39227-28-6	HCDD, 1,2,3,4,7,8-		1,2,3,4,7,8-H6CDD
57653-85-7	HCDD, 1,2,3,6,7,8-		1,2,3,6,7,8-H6CDD
19408-74-3	HCDD, 1,2,3,7,8,9-		1,2,3,6,7,8,9-H6CDD
67562-39-4	HCDF, 1,2,3,4,6,7,8-		1,2,3,4,6,7,8-H7CDF
58200-70-7	HCDF, 1,2,3,4,7,8,9-		1,2,3,4,7,8,9-H7CDF
70648-26-9	HCDF, 1,2,3,4,7,8-		1,2,3,4,7,8-H6CDF
577117-44-9	HCDF, 1,2,3,6,7,8-		1,2,3,6,7,8-H6CDF
72918-21-9	HCDF, 1,2,3,7,8,9-		1,2,3,7,8,9-H6CDF

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
60851-34-5	HCDF, 2,3,4,6,7,8-		2,3,4,6,7,8-H6CDF
76-44-8	Heptachlor	1H-1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene	E 3314; Velsicol 104; Drinox; Heptamul
-	Heptachlor + Heptachlor Epoxide		
-	Heptachlor + Heptachlor Epoxide (dissolved)		
-	Heptachlor + Heptachlor Epoxide (total)		
1024-57-3	Heptachlor Epoxide		
118-74-1	Hexachlorobenzene		Perchlorobenzene; Anticarie; Bunt-cure; Bunt-no-more; Julin's carbon chloride; HCB
118-74-1	Hexachlorobenzene (dissolved)		Perchlorobenzene; Anticarie; Bunt-cure; Bunt-no-more; Julin's carbon chloride; HCB
118-74-1	Hexachlorobenzene (total)		Perchlorobenzene; Anticarie; Bunt-cure; Bunt-no-more; Julin's carbon chloride; HCB
118-74-1	Hexachlorobenzene-Alpha		Perchlorobenzene; Anticarie; Bunt-cure; Bunt-no-more; Julin's carbon chloride; HCB
118-74-1	Hexachlorobenzenes		
118-74-1	Hexachlorobenzenes (dissolved)		
118-74-1	Hexachlorobenzenes (total)		
-	Hexachlorobiphenyl		
87-68-3	Hexachlorobutadiene		
87-68-3	Hexachlorobutadiene (dissolved)		
87-68-3	Hexachlorobutadiene (total)		
608-73-1	Hexachlorocyclohexane (all isomers)		BHC (all), HCH (all)
319-84-6	Hexachlorocyclohexane-Alpha		alpha-BHC, alpha-HCH; alpha-benzene hexachloride
319-85-7	Hexachlorocyclohexane-Beta		beta-BHC, beta-HCH; beta-benzene hexachloride
319-86-8	Hexachlorocyclohexane-Delta		delta-BHC, delta-HCH
6108-10-7	Hexachlorocyclohexane-Epsilon		
319-86-8	Hexachlorocyclohexane-Technical		Technical-BHC, Technical-HCH
77-47-4	Hexachlorocyclopentadiene		
-	Hexachlorodibenzodioxin		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
67-72-1	Hexachloroethane		Carbon hexachloride; perchloroethane
67-72-1	Hexachloroethane (dissolved)		Carbon hexachloride; perchloroethane
67-72-1	Hexachloroethane (total)		Carbon hexachloride; perchloroethane
70-30-4	Hexachlorophene		
1888-71-7	Hexachloropropene		
112-39-0	Hexadecanoic Acid Methyl Ester	Methyl palmitate	
110-54-3	Hexane, n-		
591-78-6	Hexanone, 2-		
51235-04-2	Hexazinone	3-Cyclohexyl-6-(dimethylamino)-1-methyl-1,3,5-triazine-2,4-(1H,3H)-dione	DPCX 3674; Velpar
302-01-2	Hydrazine		Hydrazine anhydrous
10034-93-2	Hydrazine Sulfate		Hydrazinium sulfate; hydrazonium sulfate
-	Hydrocarbons (total aqueous)		
-	Hydrocarbons, Aliphatic (total)		
-	Hydrocarbons, Aromatic (total)		
-	Hydrocarbons, Petroleum		
7647-01-0	Hydrochloric Acid		Muriatic acid
7664-39-3	Hydrogen Fluoride	Hydrofluoric acid gas	fluohydric acid gas; anhydr hydrofluoric acid
7783-06-4	Hydrogen Sulfide		Selenium hydride
123-31-9	Hydroquinone	1,4-Benzenediol	p-dihydroxybenzene; hydroquinol; quinol; Aida Black and White bleaching Cream; Eldoquin; Eldopaque; Quinnone; Tecquinol
25973-55-1	Hydroxy-3,5-di-tert-pentylphenyl)-benzotriazole, 2-(2-		
2809-21-4	Hydroxyethylidene-1,1-diphosphonic acid, 1-		
193-39-5	Indeno(1,2,3-cd)pyrene		
193-39-5	Indeno(1,2,3-cd)pyrene (dissolved)		
193-39-5	Indeno(1,2,3-cd)pyrene (total)		
-	Iodine 125		
7553-56-2	Iodine 131		I

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
55406-53-60	Iodo-2-Propynyl Butyl Carbamate, 3-		IPBC
7439-89-6	Iron		Fe
7439-89-6	Iron (total)		Fe
29761-21-5	Isodecyldiphenyl Phosphate		
465-73-6	Isodrin		
78-59-1	Isophorone		
33820-53-0	Isopropalin	4-(1-Mehtylethyl)-2,6-dinitro-N,N-dipropylbenzenamine; 2,6-dinitro-N,N-dipropylcumidine	4-isopropyl-2,6-dinitro-N,N-dipropylaniline; EL-179; Paarlan
67-63-0	Isopropyl Alcohol	2-Propanol	isopropanol; secondary propyl alcohol; dimethyl carbinol; petrohol
108-10-1	Isopropylacetone	4-methyl-2-pentanone	methylisobutylketone; methyl isobutyl ketone; hexone
527-84-4	Isopropyltoluene, 2-		
535-77-3	Isopropyltoluene, 3-		
99-87-6	Isopropyltoluene, 4-		
34123-59-6	Isoproturon	N,N-Dimethyl-N'-[4-(1-methylethyl)phenyl]urea; 3-p-cumenyl-1,1-dimethylurea	N-(4-isopropylphenyl)-N',N'-dimethylurea; I.P.U; Hoe 16410; CGA 18731; Arelon; Graminon; Tolkan
-	Isothiazolones (total)		Isothiazolinones
303-34-4	Lasiocarpine	2-Methyl-2-butenoic acid 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester	
7439-92-1	Lead		Pb
7439-92-1	Lead (dissolved)		Pb
7439-92-1	Lead (total)		Pb
301-04-2	Lead Acetate		Neatral lead acetate;normal lead acetate; sugar of lead; salt of Saturn
1335-32-6	Lead Subacetate		Lead monosubacetate; monobasic lead acetate
58-89-9	Lindane	1alpha,2alpha,3ß,4alpha,5alpha,6ß-Hexachlorocylcohexane	gamma-hexachlorocyclohexane; gamma-HCH; gamma-benzene hexachloride; gamma benzene hexachloride; gamma hexachlor; ENT 7796; Aparasin; Aphtitria; Esoderm; gamma-BHC; Gammalin; Gamene; Gamiso; GammexaneLindafor; Lendatox; Lorexane; Quellada; Streunex; Tri-6;

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
58-89-9	Lindane (dissolved)	1alpha,2alpha,3ß,4alpha,5alpha,6ß-Hexachlorocylcohexane	gamma-hexachlorocyclohexane; gamma-HCH; gamma-benzene hexachloride; gamma benzene hexachloride; gamma hexachlor; ENT 7796; Aparasin; Aphtitria; Esoderm; gamma-BHC; Gammalin; Gamene; Gamiso; GammexaneLindafor; Lendatox; Lorexane; Quellada; Streunex; Tri-6;
58-89-9	Lindane (total)	1alpha,2alpha,3ß,4alpha,5alpha,6ß-Hexachlorocylcohexane	gamma-HCH; gamma-benzene hexachloride; gamma benzene hexachloride; gamma hexachlor; ENT 7796; Aparasin; Aphtitria; Esoderm; gamma-BHC; Gammalin; Gamene; Gamiso; Gammexane; Gexane; Jacutin; Kwell;Lindafor; Lendatox; Lorexane; Quellada; Streunex; Tri-6; Vit
-	Linear Alkyl Benzene Sulfonates		
330-55-2	Linuron	N'-(3,4-Dichlorophenyl)-N-methoxy-N-methylurea	methoxydiuron; du Pont Herbicide 326; Hoe 2810; Afalon; Linurex; Lorox
330-55-2	Linuron (dissolved)	N'-(3,4-Dichlorophenyl)-N-methoxy-N-methylurea	methoxydiuron; du Pont Herbicide 326; Hoe 2810; Afalon; Linurex; Lorox
330-55-2	Linuron (total)	N'-(3,4-Dichlorophenyl)-N-methoxy-N-methylurea	methoxydiuron; du Pont Herbicide 326; Hoe 2810; Afalon; Linurex; Lorox
7439-93-2	Lithium		Li
7439-93-2	Lithium (total)		Li
39227-53-7	M1CDD (Dioxin)		
	M1CDF (Furan)		
7439-95-4	Magnesium		Mg
7439-95-4	Magnesium (dissolved)		Mg
121-75-5	Malathion	[(Dimethoxyphosphinothioyl)thio]butanedioic acid diethyl ester; mercaptosuccinic acid diethyl ester; S-ester with O,O-dimethyl phosphorothioate	S-(1,2-dicarbethoxyethyl) O,O-dimethyldithiophosphate; O,O-dimethyl dithiophosphate of diethyl mercaptosuccinate; insecticide no. 4049; carbofos; malathon (obsolete); mercaptothion; phosphothion;ENT 17034; Cythion; Derbac-M; Malamar 50; Malaspray; Organod
121-75-5	Malathion (dissolved)	[(Dimethoxyphosphinothioyl)thio]butanedioic acid diethyl ester; mercaptosuccinic acid diethyl ester; S-ester with O,O-dimethyl phosphorothioate	S-(1,2-dicarbethoxyethyl) O,O-dimethyldithiophosphate; O,O-dimethyl dithiophosphate of diethyl mercaptosuccinate; insecticide no. 4049; carbofos; malathon (obsolete); mercaptothion; phosphothion;ENT 17034; Cythion; Derbac-M; Malamar 50; Malaspray; Organod
121-75-5	Malathion (total)	[(Dimethoxyphosphinothioyl)thio]butanedioic acid diethyl ester; mercaptosuccinic acid diethyl ester; S-ester with O,O-dimethyl phosphorothioate	S-(1,2-dicarbethoxyethyl) O,O-dimethyldithiophosphate; O,O-dimethyl dithiophosphate of diethyl mercaptosuccinate; insecticide no. 4049; carbofos; malathon (obsolete); mercaptothion; phosphothion;ENT 17034; Cythion; Derbac-M; Malamar 50; Malaspray; Organod
108-31-6	Maleic Anhydride	2,5-Furandione	cis-butenedioic anhydride; toxilic anhydride

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
8018-01-7	Mancozeb		
12427-38-2	Maneb	[[1,2-Ethanediylbis[carbamodithioato]]-(2-)]manganese; [ethylenebis(dithiocarbamato)]manganese	ethylenebis[dithiocarbamic acid] manganous salt; manganous ethylenebis[dithiocarbamate]; Manzate; Diethane M-22; Nespor
12427-38-2	Maneb (dissolved)	[[1,2-Ethanediylbis[carbamodithioato]]-(2-)]manganese; [ethylenebis(dithiocarbamato)]manganese	ethylenebis[dithiocarbamic acid] manganous salt; manganous ethylenebis[dithiocarbamate]; Manzate; Diethane M-22; Nespor
12427-38-2	Maneb (total)	[[1,2-Ethanediylbis[carbamodithioato]]-(2-)]manganese; [ethylenebis(dithiocarbamato)]manganese	ethylenebis[dithiocarbamic acid] manganous salt; manganous ethylenebis[dithiocarbamate]; Manzate; Diethane M-22; Nespor
7439-96-5	Manganese		Mn
7439-96-5	Manganese (total)		Mn
94-74-6	MCPA	(4-Chloro-2-methylphenoxy)acetic acid	(4-chloro-o-toloxy)acetic acid; 2-methyl-4-chlorophenoxyacetic acid; MCP; Agritox; Agroxone; Cornox; Methoxone
94-74-6	MCPA (dissolved)	(4-Chloro-2-methylphenoxy)acetic acid	(4-chloro-o-toloxy)acetic acid; 2-methyl-4-chlorophenoxyacetic acid; MCP; Agritox; Agroxone; Cornox; Methoxone
94-74-6	MCPA (total)	(4-Chloro-2-methylphenoxy)acetic acid	(4-chloro-o-toloxy)acetic acid; 2-methyl-4-chlorophenoxyacetic acid; MCP; Agritox; Agroxone; Cornox; Methoxone
93-65-2	Mecoprop	(+/-)-2-(4-Chloro-2-methylphenoxy)-propanoic acid; (+/-)-2-[(4-chloro-o-tolyl)oxy]propionic acid	mechlorprop; MCPP; CMPP; RD 4593; Astix CMPP; Iso-Cornox; Compitox; Compitox Plus; Proponex-Plus
93-65-2	Mecoprop (dissolved)	(+/-)-2-(4-Chloro-2-methylphenoxy)-propanoic acid; (+/-)-2-[(4-chloro-o-tolyl)oxy]propionic acid	mechlorprop; MCPP; CMPP; RD 4593; Astix CMPP; Iso-Cornox; Compitox; Compitox Plus; Proponex-Plus
93-65-2	Mecoprop (total)	(+/-)-2-(4-Chloro-2-methylphenoxy)-propanoic acid; (+/-)-2-[(4-chloro-o-tolyl)oxy]propionic acid	mechlorprop; MCPP; CMPP; RD 4593; Astix CMPP; Iso-Cornox; Compitox; Compitox Plus; Proponex-Plus
148-82-3	Melphalan	4-[Bis2-chloroethyl)amino]-L-phenylalanine	p-di(2- chloroethyl)amino-L-phenylalanine; SarcoclorinL-phenylalanine mustard; alanine nitrogen mustard; L-PAM; melfalan; L-sarcolysine; NSC-8806; CB 3025
149-30-4	Mercaptobenzothiazole		
7439-97-6	Mercury		Hydrargyrum; liquid silver; quicksilver; Hg
7439-97-6	Mercury (dissolved)		Hydrargyrum; liquid silver; quicksilver; Hg
7439-97-6	Mercury (total)		Hydrargyrum; liquid silver; quicksilver; Hg
79-41-4	Methacrylic Acid		
126-98-7	Methacrylonitrile		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
137-42-8	Metham Sodium	Methylcarbamodithioic acid sodium salt; methyldithiocarbamic acid sodium salt	sodium methyldithiocarbamate; N-methylaminodithioformic acid sodium salt; sodium N-methylaminodithioformate; N-methylaminomethanethionothiolic acid sodium salt;sodium N-methylaminomethanethionothiolate; sodium metham; metam sodium; sodium metam; SMDC; car
137-42-8	Metham Sodium (dissolved)	Methylcarbamodithioic acid sodium salt; methyldithiocarbamic acid sodium salt	sodium methyldithiocarbamate; N-methylaminodithioformic acid sodium salt; sodium N-methylaminodithioformate; N-methylaminomethanethionothiolic acid sodium salt;sodium N-methylaminomethanethionothiolate; sodium metham; metam sodium; sodium metam; SMDC; car
137-42-8	Metham Sodium (total)	Methylcarbamodithioic acid sodium salt; methyldithiocarbamic acid sodium salt	sodium methyldithiocarbamate; N-methylaminodithioformic acid sodium salt; sodium N-methylaminodithioformate; N-methylaminomethanethionothiolic acid sodium salt;sodium N-methylaminomethanethionothiolate; sodium metham; metam sodium; sodium metam; SMDC; car
67-56-1	Methanol		Methyl alcohol; carbinol; wood spirit; wood alcohol
16752-77-5	Methomyl		
615-05-4	Methoxy-m-phenylenediamine sulfate, 4-		2,4-Diaminoanisole sulfate
615-05-4	Methoxy-m-phenylenediamine, 4-	4-Methoxy-1,3-benzenediamine	2,4-diaminoanisole; 2,4-DAA; 4 MMPD; C.I. 76050; C.I. Oxidation Base 12
72-43-5	Methoxychlor	1,1'-(2,2,2-Trichloroethylidene)-bis[4-methoxybenzene]	1,1,1-trichloro-2,2-bis(p-methoxyphenyl)ethane; 2,2-di-p-anisyl-1,1,1-trichloroethane; DMDT; methoxy-DDT; Marlate
72-43-5	Methoxychlor (total)	1,1'-(2,2,2-Trichloroethylidene)-bis[4-methoxybenzene]	1,1,1-trichloro-2,2-bis(p-methoxyphenyl)ethane; 2,2-di-p-anisyl-1,1,1-trichloroethane; DMDT; methoxy-DDT; Marlate
4013-34-7	Methoxyethyl Benzene, 1-		
90-05-1	Methoxyphenol, 2-	guaiacol	
129-15-7	Methyl -1-nitroanthraquinone, 2-		
74-83-9	Methyl Bromide	Bromomethane	monobromomethane; Embafume
74-87-3	Methyl Chloride	Chloromethane	
78-93-3	Methyl Ethyl Ketone	2-Butanone	ethyl methylketone; MEK; 2-oxobutane
74-88-4	Methyl Iodide		
80-62-6	Methyl Methacrylate		
66-27-3	Methyl Methanesulfonate	Methanesulfonic acid methyl ester	methyl methanesulfonic acid; as-dimethyl sulfite; methyl mesylate; MMS

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
298-00-0	Methyl Parathion	Phosphorothioic acid O,O-dimethyl O-(4-nitrophenyl) ester	O,O-dimethyl O-p-nitrophenyl phosphorothioate; O,O-dimethyl O-p-nitrophenyl thiophosphate; dimethyl parathion; parathion-methyl; metaphos; E 601; ENT-17292; Dalf (obsolete); Folidol-M; Metacide;Metron; Nitrox 80; Penncap M
298-00-0	Methyl Parathion (dissolved)	Phosphorothioic acid O,O-dimethyl O-(4-nitrophenyl) ester	O,O-dimethyl O-p-nitrophenyl phosphorothioate; O,O-dimethyl O-p-nitrophenyl thiophosphate; dimethyl parathion; parathion-methyl; metaphos; E 601; ENT-17292; Dalf (obsolete); Folidol-M; Metacide;Metron; Nitrox 80; Penncap M
298-00-0	Methyl Parathion (total)	Phosphorothioic acid O,O-dimethyl O-(4-nitrophenyl) ester	O,O-dimethyl O-p-nitrophenyl phosphorothioate; O,O-dimethyl O-p-nitrophenyl thiophosphate; dimethyl parathion; parathion-methyl; metaphos; E 601; ENT-17292; Dalf (obsolete); Folidol-M; Metacide;Metron; Nitrox 80; Penncap M
-	Methyl Phenanthrene, 1-		
-	Methyl Phenanthrene, 2-		
-	Methyl-4-chlorophenol, 2-	4-chloro-o-cresol; 4-chloro-2-methylphenol; 4-monochlorocatechol	
-	Methyl-6-chlorophenol, 3-		
70-25-7	Methyl-N'-nitro-N-nitrosoguanidine, N-		N-Methyl-N-nitroso-N'-nitroguanidine; MNNG
1634-04-4	Methyl-t-Butyl Ether	2-Methoxy-2-methyl-propane	tert-butyl methyl ether; methyl tertiary butyl etherMTBE
74-89-5	Methylamine	Methanamine	monomethylamine; aminomethane
100-61-8	Methylaniline, N-		Monomethylaniline
-	Methylbenz(a)anthracene		
-	Methylbenz(a)anthracenes		
56-49-5	Methylcholanthrene, 3-	1,2-Dihydro-3-methyl-benz[j]aceanthrylene	20-methylcholanthrene; 3-MECA; 3-MC
101-14-4	Methylene bis(2-chloroaniline), 4,4'-	4,4'-Methylenebis(2-chlorobenzenamine)	4,4'-diamino-3,3'-dichloro-diphenylmethane; di-(4-aminio-3-chlorophenyl)methane; methylenebis(o-chloroaniline); MOCA; DACPM
1807-55-2	Methylene bis(2-methylaniline), 4,4'-		
75-09-2	Methylene Chloride	Dichloromethane	methylene dichloride; methylene bichloride
6317-18-6	Methylene Dithiocyanate		
1807-55-2	Methylene-bis-(N-methyl)-aniline, 4,4'		
13552-44-8	Methylenedianiline dihydrochloride, 4,4'-	Aniline, 4,4'-methylenedi-, dihydrochloride	
31600-69-8	Methylethoxy)-1-butanol, 4-(1-		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
126-39-6	Methylethyl-1,3-dioxolane, 2-		
90-12-0	Methylnaphthalene, 1-		
91-57-6	Methylnaphthalene, 2-		
-	Methylnaphthalenes		methylated napthalenes
2381-21-7	Methylpyrene, 1-		
-	Methylpyrene, 2-		
611-15-4	Methylstyrene, 2-		
100-80-1	Methylstyrene, 3-		
622-97-9	Methylstyrene, 4-		
98-83-9	Methylstyrene, alpha-		
56-04-2	Methylthiouracil	2,3-Dihydro-6-methyl-2-thioxo-4(1H)-pyrimidinone; 6-methyl-2-thiouracil	4-methyl-2-thiouracil: MTU; Alkiron: Antibason; Basecil; Basethyrin; Methiacil; Methiocil; Methicil; Muracil; Prostrumyl; Strumacil; Thimecil; Thyreostat I
51218-45-2	Metolachlor	2-Chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)acetamide	2-chloro-6'-ethyl-N-(2-methoxy-1-methylethyl)acet-o-toluidide; alpha-chloro-2'-ethyl-6'-methyl-N-(1-methyl-2-methoxyethyl)-acetanilide; metelilachlor; CGA 24705; Dual
21087-64-9	Metribuzin	4-Amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazin-5(4H)-one; 4-amino-6-tert-butyl-3-(methylthio)-as-triazin-5(4H)-one	Bay 94337; Lexone; Sencor; Sencoral
26718-65-0	Mevinphos	3-[(dimethoxyphosphinyl)oxy]-2-butenoic acid methyl ester; 3-hydroxycrotonic acid methyl ester dimethyl phosphate	1-methoxycarbonyl-1-propen-2-yl dimethyl phosphate; methyl 3-(dimethoxyphosphinyloxy)crotonate; O,O-dimethyl 1-carbomethoxy-1-propen-2-yl phosphate; 2-carbomethoxy-1-methylvinyl dimethyl phosphate;ENT 22374; OS-2046; Phosdrin. (E)-isomer = CAS 338-45-4;
26718-65-0	Mevinphos (dissolved)	3-[(dimethoxyphosphinyl)oxy]-2-butenoic acid methyl ester; 3-hydroxycrotonic acid methyl ester dimethyl phosphate	1-methoxycarbonyl-1-propen-2-yl dimethyl phosphate; methyl 3-(dimethoxyphosphinyloxy)crotonate; O,O-dimethyl 1-carbomethoxy-1-propen-2-yl phosphate; 2-carbomethoxy-1-methylvinyl dimethyl phosphate;ENT 22374; OS-2046; Phosdrin. (E)-isomer = CAS 338-45-4;
26718-65-0	Mevinphos (total)	3-[(dimethoxyphosphinyl)oxy]-2-butenoic acid methyl ester; 3-hydroxycrotonic acid methyl ester dimethyl phosphate	1-methoxycarbonyl-1-propen-2-yl dimethyl phosphate; methyl 3-(dimethoxyphosphinyloxy)crotonate; O,O-dimethyl 1-carbomethoxy-1-propen-2-yl phosphate; 2-carbomethoxy-1-methylvinyl dimethyl phosphate;ENT 22374; OS-2046; Phosdrin. (E)-isomer = CAS 338-45-4;
101-61-1	Michler's Base	4,4'-Methylenebis(N,N-dimethylbenzenamine); 4,4'-methylenebis(N,N-dimethylaniline)	bis(p-dimethylaminophenyl)methane; 4,4'-tetramethyldiaminodiphenylmethane; tetra-base

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
90-94-8	Michler's Ketone	Bis[4-(dimethylanimo)phenyl]methanone; 4,4'-bis(dimethylamino)benzophenone	tetramethyldiamionobenzophenone
8012-95-1	Mineral Oil		
2385-85-5	Mirex	1,1a,2,2,3,3a,4,5,5,5a,5b,6-Dodecachloro-octahydro-1,3,4-metheno-1H-cyclobuta[cd]pentalene	perchloropentacyclodecane; hexachloropentadiene dimer; CG-1283; ENT 25719; Dechlorane
2212-67-1	Molinate		
7439-98-7	Molybdenum		Mo
7439-98-7	Molybdenum (total)		Mo
7439-98-7	Molybdenum 99		
-	Monochlorophenols		
-	Monochlorophenols (dissolved)		
-	Monochlorophenols (total)		
-	Monohydric Phenol		
110-91-8	Morpholine		Tetrahydro-2H-1,4-oxazine; tetrahydro-1,4-oxazine; diethylene oximide; diethylene imidoxide
88671-89-0	Myclobutanil	alpha-Butyl-alpha-(4-chlorophenyl)-1H-1,2,4-triazole-1-propanenitrile	2-(4-chlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)hexanenitrile; RH-3866; Nova; Rally; Systhane
621-64-7	N-Nitrosodi-N-Propylamine		
930-55-2	N-Nitrosopyrrolidine	1-Nitrosopyrrolidine	NPYR; NO_PYR
142-59-6	Nabam		
91-20-3	Naphthalene		Naphthalin; naphthene; tar camphor
91-59-8	Naphthylamine, 2-	2-Naphthalelamine	2-amino-naphthalene; beta-naphthylamine
7440-02-0	Nickel		Ni
7440-02-0	Nickel (dissolved)		Ni
7440-02-0	Nickel (total)		Ni
4726-14-1	Nitralin		
-	Nitrate		
-	Nitrate + Nitrite		
14797-55-8	Nitrates		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
-	Nitrates (total)		
7697-37-2	Nitric Acid		Aquafortis; Salpetersaure (german)
139-13-9	Nitrilotriacetic Acid	N,N-Bis(carboxymethyl)glycine	triglycollamic acid; alpha,alpha',alpha"-trimethylaminetricarboxylic acid; tri(carboxymethyl)amine; triglycine; NTA
139-13-9	Nitrilotriacetic Acid (dissolved)	N,N-Bis(carboxymethyl)glycine	triglycollamic acid; alpha,alpha',alpha"-trimethylaminetricarboxylic acid; tri(carboxymethyl)amine; triglycine; NTA
139-13-9	Nitrilotriacetic Acid (total)	N,N-Bis(carboxymethyl)glycine	triglycollamic acid; alpha,alpha',alpha"-trimethylaminetricarboxylic acid; tri(carboxymethyl)amine; triglycine; NTA
-	Nitrite		
99-55-8	Nitro-o-toluidine, 5-		
602-87-9	Nitroacenaphthene, 5-		
88-74-4	Nitroaniline, 2-		
99-09-2	Nitroaniline, 3-		
100-01-6	Nitroaniline, 4-		
98-95-3	Nitrobenzene		Nitrobenzol
59-87-0	Nitrofurazone	2-[5-Nitro-2-furanyl)methylene]-hydrazinecarboxamide; 5-nitro-2-furaldehyde semicarbazone	Amifur; Furacin; Chemofuran; Furesol; Nifuzon; Nitrofural; Nitrozone; Furacinetten; Furacoccid; Furazol W; Mammex; Furaplast; Coxistat; Aldomycin; Nefco; Vabrocid
7727-37-9	Nitrogen		N
-	Nitrogen (total Kjeldahl)		TKN
7727-37-9	Nitrogen (total)		N
55-63-0	Nitroglycerin	1,2,3-Propanetriol trinatrate	glyceryl trinitrate; glycerol nitric acid triester; nitroglycerol; trinitroglycerol; glonoin; trinitrin; blasting gelatin; blasting oil; S.N.G.; Adesitrin; Angibid; Angiolingual; Anginine; Angorin;Aquo-Trinitrosan; Cardamist; Coro-Nitro; Corditrine; Depon
88-75-5	Nitrophenol, o-		2-nitrophenol
100-02-7	Nitrophenol, p-		4-nitrophenol
-	Nitrophenols		
-	Nitrosamines		
1116-54-7	Nitrosoamine diethanol, N-		
621-64-7	Nitrosodi-n-propylamine, N-		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
924-16-3	Nitrosodibutylamine, N-		
55-18-5	Nitrosodiethylamine, N-	N-Ethyl-N-nirtosoethanamine	diethylnitrosamine; DEN; DENA; NDEA
62-75-9	Nitrosodimethylamine, N-	N-Methyl-N-nirtosomethanamine	dimethylnitrosamine; DMN; DMNA
86-30-6	Nitrosodiphenylamine, N-		
10595-95-6	Nitrosomethylethylamine		
621-64-7	Nitrosopyrrolidine, N-	1-Nitrosopyrrolidine	NPYR; NO-PYR
99-08-1	Nitrotoluene, m-	Methylnitrobenzene, m-	Nitrotoluene, 3-; methylnitrobenzene, 3-
88-72-2	Nitrotoluene, o-	Methylnitrobenzene, o-	Nitrotoluene, 2-; methylnitrobenzene, 2-
99-99-0	Nitrotoluene, p-	Methylnitrobenzene, p-	Nitrotoluene, 4-; methylnitrobenzene, 4-
-	Non-filterable residue		
25154-52-3	Nonyl Phenol		
-	Nutrients		
-	O8CDD (Dioxin)		
-	O8CDF (Furan)		
3268-87-9	OCDD		O8CDD
39001-02-0	OCDF		O8CDF
29082-74-4	Octachlorostyrene		
117-84-0	Octyl Phthalate, N-		Di-N-octyl phthalate
-	Odour		
-	Oil and grease		
-	Organic contaminant (principal)		
23135-22-0	Oxamyl	2-(Dimethylamino)-N-[[(methylamino)-carbonyl]oxy]-2-oxoethanimidothioic acid methyl ester; N',N'-dimethyl-N-[(methylcarbamoyl)oxy]-1-thiooxamimidic acid methyl ester	N,N-dimethyl-alpha-methylcarbamoyloxyimino-alpha-(methylthio)acetamide; methyl 1-(dimethylcarbamoyl)-N-(methylcarbamoyloxy)thioformimidate; thioxamyl; DPX 1410; Vydate
23135-22-0	Oxamyl (dissolved)	2-(Dimethylamino)-N-[[(methylamino)-carbonyl]oxy]-2-oxoethanimidothioic acid methyl ester; N',N'-dimethyl-N-[(methylcarbamoyl)oxy]-1-thiooxamimidic acid methyl ester	N,N-dimethyl-alpha-methylcarbamoyloxyimino-alpha-(methylthio)acetamide; methyl 1-(dimethylcarbamoyl)-N-(methylcarbamoyloxy)thioformimidate; thioxamyl; DPX 1410; Vydate

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
23135-22-0	Oxamyl (total)	2-(Dimethylamino)-N-[[(methylamino)-carbonyl]oxy]-2-oxoethanimidothioic acid methyl ester; N',N'-dimethyl-N-[(methylcarbamoyl)oxy]-1-thiooxamimidic acid methyl ester	N,N-dimethyl-alpha-methylcarbamoyloxyimino-alpha-(methylthio)acetamide; methyl 1-(dimethylcarbamoyl)-N-(methylcarbamoyloxy)thioformimidate; thioxamyl; DPX 1410; Vydate
-	P5CDD (Dioxin)		
-	P5CDF (Furan)		
-	PAHs		
-	PAHs (total)		Total Polycyclic Aromatic Hydrocarbons
-	PAHs, High Molecular Weight (total)		Total High Molecular Weight Polycyclic Aromatic Hydrocarbons
-	PAHs, Low Molecular Weight (total)		Total Low Molecular Weight Polycyclic Aromatic Hydrocarbons
57-10-3	Palmitic Acid	Hexadecanoic acid	hexadecylic acid; cetylic acid
4685-14-7	Paraquat	1,1'-Dimethyl-4,4'-bipyridinium	N,N'-dimethyl-gamma,gamma'-dipyridylium; methyl viologen (2+)
56-38-2	Parathion	Phosphorothioic acid O,O-diethyl O-(4-nitrophenyl) ester	O,O-diethyl O-p-nitrophenyl phosphorothioate; diethyl-p-nitrophenyl monothiophosphate; DNTP; S.N.P.; E 605; AC 3422; ENT 15108; Alkron; Alleron; Aphamite; Etilon; Folidol; Fosferno; Niran; Paraphos;Rhodiatox; Thiophos
56-38-2	Parathion (dissolved)	Phosphorothioic acid O,O-diethyl O-(4-nitrophenyl) ester	O,O-diethyl O-p-nitrophenyl phosphorothioate; diethyl-p-nitrophenyl monothiophosphate; DNTP; S.N.P.; E 605; AC 3422; ENT 15108; Alkron; Alleron; Aphamite; Etilon; Folidol; Fosferno; Niran; Paraphos;Rhodiatox; Thiophos
56-38-2	Parathion (total)	Phosphorothioic acid O,O-diethyl O-(4-nitrophenyl) ester	O,O-diethyl O-p-nitrophenyl phosphorothioate; diethyl-p-nitrophenyl monothiophosphate; DNTP; S.N.P.; E 605; AC 3422; ENT 15108; Alkron; Alleron; Aphamite; Etilon; Folidol; Fosferno; Niran; Paraphos;Rhodiatox; Thiophos
-	Parathion + Methyl Parathion		
37680-73-2	PCB 101		2,2',4,5,5' PCB (IUPAC Numbering System)
37680-73-2	PCB 101 (dissolved)		2,2',4,5,5' PCB (IUPAC Numbering System)
37680-73-2	PCB 101 (total)		2,2',4,5,5' PCB (IUPAC Numbering System)
32598-14-4	PCB 105		2,3,3',4,4' PCB (IUPAC Numbering System)
31508-00-6	PCB 118		2,3',4,4',5 PCB (IUPAC Numbering System)
31508-00-6	PCB 118 (dissolved)		2,3',4,4',5 PCB (IUPAC Numbering System)
31508-00-6	PCB 118 (total)		2,3',4,4',5 PCB (IUPAC Numbering System)

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
57465-28-8	PCB 126		3,3',4,4',5 PCB (IUPAC Numbering System)
35065-28-2	PCB 138		2,2',3,4,4',5' PCB (IUPAC Numbering System)
35065-28-2	PCB 138 (dissolved)		2,2',3,4,4',5' PCB (IUPAC Numbering System)
35065-28-2	PCB 138 (total)		2,2',3,4,4',5' PCB (IUPAC Numbering System)
35065-27-1	PCB 153		2,2',4,4',5,5' PCB (IUPAC Numbering System)
35065-27-1	PCB 153 (dissolved)		2,2',4,4',5,5' PCB (IUPAC Numbering System)
35065-27-1	PCB 153 (total)		2,2',4,4',5,5' PCB (IUPAC Numbering System)
32774-16-6	PCB 169		3,3',4,4',5,5' PCB (IUPAC Numbering System)
35065-29-3	PCB 180		2,2',3,4,4',5,5' PCB (IUPAC Numbering System)
35065-29-3	PCB 180 (dissolved)		2,2',3,4,4',5,5' PCB (IUPAC Numbering System)
35065-29-3	PCB 180 (total)		2,2',3,4,4',5,5' PCB (IUPAC Numbering System)
7012-37-5	PCB 28		2,4,4' PCB (IUPAC Numbering System)
7012-37-5	PCB 28 (dissolved)		2,4,4' PCB (IUPAC Numbering System)
7012-37-5	PCB 28 (total)		2,4,4' PCB (IUPAC Numbering System)
35673-99-3	PCB 52		2,2',5,5' PCB (IUPAC Numbering System)
35673-99-3	PCB 52 (dissolved)		2,2',5,5' PCB (IUPAC Numbering System)
35673-99-3	PCB 52 (total)		2,2',5,5' PCB (IUPAC Numbering System)
32598-13-3	PCB 77		3,3',4,4' PCB (IUPAC Numbering System)
32598-13-3	PCBs		PCBs; chlorinated biphenyls; Polychlorinated Biphenyls; chlorobiphenyls; Aroclor; Clophen; Fenclor; Kanechlor; Phenoclor; Pyralene; Santotherm
1336-36-3	PCBs (total)		
40321-76-4	PCDD, 1,2,3,7,8-		1,2,3,7,8-P5CDD
57117-41-6	PCDF, 1,2,3,7,8-		1,2,3,7,8-P5CDF
57117-31-4	PCDF, 2,3,4,7,8-		2,3,4,7,8-P5CDF
-	PCPs		polychorinated Phenols
40487-42-1	Pendimethalin		
608-93-5	Pentachlorobenzene		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
608-93-5	Pentachlorobenzenes		
608-93-5	Pentachlorobenzenes (dissolved)		
608-93-5	Pentachlorobenzenes (total)		
-	Pentachlorobutadiene		
25329-35-5	Pentachlorocyclopentane	1,3-Cyclopentadiene, 1,2,3,4,5-pentachloro-	
76-01-7	Pentachloroethane		Pentalin
87-86-5	Pentachlorophenol		Penta; PCP; penchlorol; Santophen 20
87-86-5	Pentachlorophenol (dissolved)		Penta; PCP; penchlorol; Santophen 20
87-86-5	Pentachlorophenol (total)		Penta; PCP; penchlorol; Santophen 20
87-86-5	Pentachlorophenol, 2,3,4,5,6-		
87-86-5	Pentachlorophenols		
87-86-5	Pentachlorophenols (dissolved)		
87-86-5	Pentachlorophenols (total)		
52645-53-1	Permethrin	3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid (3-phenoxyphenyl)methyl ester	3-(phenoxyphenyl)methyl (+/-)-cis,trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate; m-phenoxybenzyl (+/-)cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate; FMC 33297NIA 33297; NRDC 143; PP557; SBP 1513; S 3151; Ambush; C
52645-53-1	Permethrin (dissolved)		
52645-53-1	Permethrin (total)		
-	Pesticides		
-	Pesticides (total)		
-	pH		
85-01-8	Phenanthrene		
85-01-8	Phenanthrene (dissolved)		
85-01-8	Phenanthrene (total)		
108-95-2	Phenol		Carbolic acid; phenic acid; phenylic acid, phenyl hydroxide; hydroxybenzene; oxybenzene
108-95-2	Phenol (dissolved)		Carbolic acid; phenic acid; phenylic acid, phenyl hydroxide; hydroxybenzene; oxybenzene

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
108-95-2	Phenol (total)		Carbolic acid; phenic acid; phenylic acid, phenyl hydroxide; hydroxybenzene; oxybenzene
-	Phenolics		
-	Phenols		
-	Phenols (mono and dihydric)		
-	Phenols (total chlorinated)		monochlorophenols, dichlorophenols, trichlorophenols, tetrachlorophenols, pentachlorophenols
-	Phenols (total unchlorinated)		
-	Phenols (total)		
-	Phenoxy Herbicides		
101-84-8	Phenyl Ether	1,1-Oxybisbenzene	diphenyl ether; diphenyl oxide
766-90-5	Phenyl-1-propene, 1- (cis)		
873-66-5	Phenyl-1-propene, 1- (trans)		
637-50-3	Phenyl-1-propene, 3-		
95-54-5	Phenylenediamine, 1,2-		
108-45-2	Phenylenediamine, 1,3-		
106-50-3	Phenylenediamine, 1,4-		
100-63-0	Phenylhydrazine		
14838-15-4	Phenylpropanolamine		
298-02-2	Phorate	Phosphorodithioic acid O,O-diethyl S-[(ethylthio)methyl] ester	O,O-diethyl S-(ethylthio)methyl phosphorodithioate; O,O-diethyl S-ethylmercaptomethyl dithiophosphate; American Cyanamid 3911; EI 3911; ENT 24042; Thimet
-	Phosphate		
7723-14-0	Phosphorus (elemental)		P
7723-14-0	Phosphorus (total)		P
14816-18-3	Phoxim	4-Ethoxy-7-phenyl-3,5-dioxa-6-aza-4-phosphaoct-6-ene-8-nitrile 4-sulfide; phenylglyoxylonitrile oxime O,O-diethyl phosphorothioate	O,O-diethyl O-(alpha-cyanobenzylideneamino)phosphorothioate; alpha-[[(diethoxyphosphinothioyl)oxy]imino]benzeneacetonitrile; Bay 5621; Bay 77488; Baythion; Sebacil; Volation
14816-18-3	Phoxim (dissolved)	4-Ethoxy-7-phenyl-3,5-dioxa-6-aza-4-phosphaoct-6-ene-8-nitrile 4-sulfide; phenylglyoxylonitrile oxime O,O-diethyl phosphorothioate	O,O-diethyl O-(alpha-cyanobenzylideneamino)phosphorothioate; alpha-[[(diethoxyphosphinothioyl)oxy]imino]benzeneacetonitrile; Bay 5621; Bay 77488; Baythion; Sebacil; Volation

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
14816-18-3	Phoxim (total)	4-Ethoxy-7-phenyl-3,5-dioxa-6-aza-4-phosphaoct-6-ene-8-nitrile 4-sulfide; phenylglyoxylonitrile oxime O,O-diethyl phosphorothioate	O,O-diethyl O-(alpha-cyanobenzylideneamino)phosphorothioate; alpha-[[(diethoxyphosphinothioyl)oxy]imino]benzeneacetonitrile; Bay 5621; Bay 77488; Baythion; Sebacil; Volation
-	Phthalate Esters		
-	Phthalates (total)		
88-99-3	Phthalic Acid	1,2-Benzenedicarboxylic acid	
85-44-9	Phthalic Anhydride	1,3-Isobenzofuandione	
1918-02-1	Picloram	4-Amino-3,5,6-trichloro-2-pyridinecarboxylic acid; 4-amino-3,5,6-trichloropicolinic acid	Tordon
7758-01-2	Potassium Bromate		BrKO3
1610-18-0	Prometon	6-Methoxy-N,N'-bis(1-methylethyl)-1,3,5-triazine-2,4-diamine; 2,4-bis(isopropylamino)-6-methoxy-s-triazine	2-methoxy-4,6-bis(isopropylamino)-s-triazine; methoxypropazine; prometone; G 31435; Gesafram; Primatol; Pramitol
7287-19-6	Prometryn	N,N'-Bis(1-methylethyl)-6-methylthio-1,3,5-triazine-2,4-diamine; 2,4-bis(isopropylamino)-6-(methylthio)-s-triazine	2-methylthio-4,6-bis(isopropylamino)-s-triazine;G 34161; Gesagard; Caparol
1918-16-7	Propachlor	2-Chloro-N-(1-methylethyl)-N-phenylacetamide; 2-chloro-N-isopropylacetanilide	N-isopropyl-alpha-chloroacetanilide; CP 31393; Bexton; Prolex; Ramrod
1918-16-7	Propachlor (dissolved)	2-Chloro-N-(1-methylethyl)-N-phenylacetamide; 2-chloro-N-isopropylacetanilide	N-isopropyl-alpha-chloroacetanilide; CP 31393; Bexton; Prolex; Ramrod
1918-16-7	Propachlor (total)	2-Chloro-N-(1-methylethyl)-N-phenylacetamide; 2-chloro-N-isopropylacetanilide	N-isopropyl-alpha-chloroacetanilide; CP 31393; Bexton; Prolex; Ramrod
709-98-8	Propanil		
139-40-2	Propazine		
122-42-9	Propham		
114-26-1	Propoxur	2-(1-Methylethoxy)phenol methylcarbamate; o-isopropoxyphenyl N-methylcarbamate	aprocarb; BAY 39007; BAY 9010; Baygon; Bifex; Blattanex; InvisiGard; Propyon; Suncide; Sendran; Unden
103-65-1	Propylbenzene, n-		
78-87-5	Propylene Dichloride	1,2-Dichloropropane	
57-55-6	Propylene Glycol	1,2-Propanedial	methyl glycol; 1,2-dihydroxypropane
78-99-9	Propylidene Chloride	Dichloropropane, 1,1-	
23950-58-5	Propyzamide	3,5-Dichloro-N-(1,1-dimethyl-2-propynyl)benzamide	pronamid; RH 315; Kerb
95-63-6	Pseudocumene	1,2,4-Trimethylbenzene	pseudocumol; asymmetrical trimethylbenzene

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
-	Pseudomonas aeruginosa		
13457-18-6	Pyrazophos	2-[(Diethoxyphosphinothioyl)oxy]-5-methylpyrazolo[1,5-a]pyrimidine-6-carboxylic acid ethyl ester; 2-hydroxy-5-methylpyrazolo[1,5-a]pyrimidine-6-carboxylic acid ethyl ester, O-ester with O,O-diethyl phosphorthioate	HOE 2873; Afugan; Curamil
13457-18-6	Pyrazophos (dissolved)	2-[(Diethoxyphosphinothioyl)oxy]-5-methylpyrazolo[1,5-a]pyrimidine-6-carboxylic acid ethyl ester; 2-hydroxy-5-methylpyrazolo[1,5-a]pyrimidine-6-carboxylic acid ethyl ester, O-ester with O,O-diethyl phosphorthioate	HOE 2873; Afugan; Curamil
13457-18-6	Pyrazophos (total)	2-[(Diethoxyphosphinothioyl)oxy]-5-methylpyrazolo[1,5-a]pyrimidine-6-carboxylic acid ethyl ester; 2-hydroxy-5-methylpyrazolo[1,5-a]pyrimidine-6-carboxylic acid ethyl ester, O-ester with O,O-diethyl phosphorthioate	HOE 2873; Afugan; Curamil
129-00-0	Pyrene		Benzo[def]phenanthrene
129-00-0	Pyrene (dissolved)		Benzo[def]phenanthrene
129-00-0	Pyrene (total)		Benzo[def]phenanthrene
55512-33-9	Pyridate	O-(6-Chloro-3-phenyl-4-pyridazinyl)-carbonothioic acid S-octyl ester	fenpyrate; CL 11.344; Lentagran
110-86-1	Pyridine		
91-22-5	Quinoline		Leucoline; chinoleine; 1-benzazine; benzo[b]pyridine
82-68-8	Quintozine	Pentachloronitrobenzene	PCNB; terrachlor; PKhNB; Avicol; Botrilex; Brassicol; Folosan; Terraclor; Tilcarex; Tritisan
-	Radioactivity		
-	Radioactivity-Alpha (gross)		
-	Radioactivity-Beta (gross)		
7440-14-4	Radium		Ra
-	Radium 224		
13982-63-3	Radium 226		Ra; at. wt 226 (mass number of most stable isotope); at. no. 88; valence 2Natural isotopes: 223, actinium X; 224, thorium X; 226; 228, mesothorium I.
-	Radium 226 (+228)		Ra; at. wt 226 (mass number of most stable isotope); at. no. 88; valence 2
15262-20-1	Radium 228		Ra
14859-67-7	Radon-222		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
-	Residue (non-filterable)		
-	Resin Acids		
483-65-8	Retene	1-Methyl-7-(1-methylethyl)phenanthrene	
-	Salinity		
-	Salinity (change)		
7782-49-2	Selenium		Se
7782-49-2	Selenium (dissolved)		Se
-	Selenium (IV)		
7782-49-2	Selenium (total)		Se
-	Selenium (VI)		
74051-80-2	Sethoxydim	2-[1-(Ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one	BAS 9052; NP 55; Poast
7440-22-4	Silver		Ag
7440-22-4	Silver (dissolved)		Ag
7440-22-4	Silver (total)		Ag
93-72-1	Silvex	2-(2,4,5-Trichlorophenoxy)propionic acid	fenoprop; 2,4,5-TC; Miller Nu Set (Hormone Spray)
93-72-1	Silvex (total)	2-(2,4,5-Trichlorophenoxy)propionic acid	fenoprop; 2,4,5-TC; Miller Nu Set (Hormone Spray)
122-34-9	Simazine	6-Chloro-N,N'-diethyl-1,3,5-triazine-2,4-diamine; 2-chloro-4,6-bis(ethylamino)-s-triazine	2,4-bis(ethylamino)-6-chloro-s-triazine; G-27692; Gesatop; Primatol S; Princep; Simanex
122-34-9	Simazine (dissolved)	6-Chloro-N,N'-diethyl-1,3,5-triazine-2,4-diamine; 2-chloro-4,6-bis(ethylamino)-s-triazine	2,4-bis(ethylamino)-6-chloro-s-triazine; G-27692; Gesatop; Primatol S; Princep; Simanex
122-34-9	Simazine (total)	6-Chloro-N,N'-diethyl-1,3,5-triazine-2,4-diamine; 2-chloro-4,6-bis(ethylamino)-s-triazine	2,4-bis(ethylamino)-6-chloro-s-triazine; G-27692; Gesatop; Primatol S; Princep; Simanex
7440-23-5	Sodium		Natrium; Na
26628-22-8	Sodium Azide		Sodamide
1310-73-2	Sodium Hydroxide		Caustic soda; soda lye; sodium hydrate
-	Solids (Floatable or Settleable)		
-	Solids (settleable)		
-	Specific Conductance		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
7440-24-6	Strontium		Sr
10098-97-2	Strontium 90		Sr
82-71-3	Styphnic Acid	2,4,6-Trinitro-1,3-benzenediol; 2,4,6-trinitroresorcinol	2,4-dihydroxy-1,3,5-trinitrobenzene
100-42-5	Styrene	Ethenylbenzene	styrol; styrolene; cinnamene; cinnamol; phenylethylene; vinylbenzene
96-09-3	Styrene Oxide	Benzene, (epoxyethyl)-	
-	Sulphate		Sulfate
-	Sulphate (dissolved)		Sulfate (dissolved)
-	Sulphate (total)		Sulfate (total)
-	Sulphide		Sulfide
-	Sulphide (total)		Sulfide (total)
-	Sulphides (total)		Sulfides (total)
-	Sulphite		Sulfite
-	Sulphites		Sulfites
-	Surface-active Substances		
-	Suspended Solids		
-	Suspended Solids (total)		
93-76-5	T, 2,4,5-	(2,4,5-Trichlorophenoxy)acetic acid	Esterone 245; Trioxone; Weedone
-	T3CDD (Dioxin)		
-	T3CDF (Furan)		
1746-01-6	T4CDD, 2,3,7,8-	2,3,7,8-Tetrachlorodibenzo[b,e][1,4]dioxin; 2,3,7,8-tetrachlorodibenzo-p-dioxin; TCDD	2,3,6,7-tetrachlorodibenzodioxin; dioxin; TCDBD
-	T4CDD, 2,3,7,8- (total equivalent)		
-	T4CDD, 2,3,7,8- + T4CDF, 2,3,7,8-		
51207-31-9	T4CDF, 2,3,7,8-		2,3,7,8-T4CDF
-	Taste		
34014-18-1	Tebuthiuron	N-[5-(1,1-Dimethylethyl)-1,3,4-thiadiazol-2-yl)-N,N'-dimethylurea; 1-(5-tert-butyl-1,3,4-thiadiazol-2-yl)-1,3-dimethylurea	EL-103; Graslan; Spike; Perflan

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
3383-96-8	Temephos	O,O'-(Thiodi-4,1-phenylene)phosphorothioic acid O,O,O',O'-tetramethyl ester	O,O'-(thiodi-4,1-phenylene)bis(O,O'-dimethylphosphorothioate); O,O,O',O'-tetramethyl O,O'-thiodi-p-phenylene phosphorothioate; phosphorothioic acid O,O-dimethyl ester O,O-diester with4,4'-thiodiphenol; ENT 27165; AC 52160; Abate; Biothion
-	Temperature		
-	Temperature (change)		
5902-51-2	Terbacil		
13071-79-9	Terbufos	Phosphorodithioic acid S-[[(1,1-dimethylethyl)thio]methyl] O,O-diethyl ester; phosphorodithioic acid S-[(tert-butylthio)methyl] O,O-diethyl ester	AC 92100; Counter
886-50-0	Terbutryn		
95-94-3	Tetrachlorobenzene		
634-66-2	Tetrachlorobenzene, 1,2,3,4-		
634-90-2	Tetrachlorobenzene, 1,2,3,5-		
95-94-3	Tetrachlorobenzene, 1,2,4,5-		
-	Tetrachlorobenzenes		
-	Tetrachlorobenzenes (dissolved)		
-	Tetrachlorobenzenes (total)		
-	Tetrachlorobutadiene		
79-34-5	Tetrachloroethane	1,1,2,2-Tetrachloroethane	sym-tetrachloroethane; acetylene tetrachloride; Cellon; Bonoform
79-34-5	Tetrachloroethane (dissolved)	1,1,2,2-Tetrachloroethane	sym-tetrachloroethane; acetylene tetrachloride; Cellon; Bonoform
79-34-5	Tetrachloroethane (total)	1,1,2,2-Tetrachloroethane	sym-tetrachloroethane; acetylene tetrachloride; Cellon; Bonoform
630-20-6	Tetrachloroethane, 1,1,1,2-		
-	Tetrachloroethanes		
127-18-4	Tetrachloroethylene	Tetrachloroethene	perchloroethylene; ethylene tetrachloride; tetrachloroethylene; Nema; Tetracap; Tetropil; Perclene; Ankilostin; Didakene
4901-51-3	Tetrachlorophenol, 2,3,4,5-		
58-90-2	Tetrachlorophenol, 2,3,4,6-		
935-95-5	Tetrachlorophenol, 2,3,5,6-		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
-	Tetrachlorophenols		
2136-79-0	Tetrachloroterephthalic acid		
5216-25-1	Tetrachlorotoluene, alpha, alpha, alpha, 4-		
109-99-9	Tetrahydrofuran		diethylylene oxide; tetrametylene oxide
488-23-3	Tetramethylbenzene, 1,2,3,4-		
527-53-7	Tetramethylbenzene, 1,2,3,5-		
95-93-2	Tetramethylbenzene, 1,2,4,5-		
7440-28-0	Thallium		Tl
58-55-9	Theophylline		
62-55-5	Thioacetamide	Ethanethioamide	
28249-77-6	Thiobencarb	Carbamic acid, diethylthio-, S-(p-chlorobenzyl) ester	
540-72-7	Thiocyanate Sodium		Sodium sulfocyanate; sodium rhodanide; sodium thiocyanate
-	Thiocyanates		
62-56-6	Thiourea	Thiocarbamide	
137-26-8	Thiram	Tetramethylthioperoxydicarbonic diamide; bis(dimethylthiocarbamoyl) disulfide	bis(dimethylthiocarbamyl) disulfide; tetramethylthiuram disulfide; TMTD; ENT 987; SQ 1489; NSC 1771; Thiurad; Thiosan; Thylate; Tiuramyl; Thiuramyl; Puralin; Fernasan; Nomersan; Rezifilm; Pomarsol;Tersan; Tuads; Tulisan; Arasan
137-26-8	Thiram (dissolved)	Tetramethylthioperoxydicarbonic diamide; bis(dimethylthiocarbamoyl) disulfide	bis(dimethylthiocarbamyl) disulfide; tetramethylthiuram disulfide; TMTD; ENT 987; SQ 1489; NSC 1771; Thiurad; Thiosan; Thylate; Tiuramyl; Thiuramyl; Puralin; Fernasan; Nomersan; Rezifilm; Pomarsol;Tersan; Tuads; Tulisan; Arasan
137-26-8	Thiram (total)	Tetramethylthioperoxydicarbonic diamide; bis(dimethylthiocarbamoyl) disulfide	bis(dimethylthiocarbamyl) disulfide; tetramethylthiuram disulfide; TMTD; ENT 987; SQ 1489; NSC 1771; Thiurad; Thiosan; Thylate; Tiuramyl; Thiuramyl; Puralin; Fernasan; Nomersan; Rezifilm; Pomarsol;Tersan; Tuads; Tulisan; Arasan
-	Thorium 228		
-	Thorium 230		
7440-29-1	Thorium 232		
-	Thorium 234		
7440-31-5	Tin		Sn

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
7440-32-6	Titanium		Ti
7440-32-6	Titanium (total)		Ti
108-88-3	Toluene	Methylbenzene	toluol; phenylmethane; Methacide
584-84-9	Toluene 2,4- Diisocyanate		2,4-Diisocyanatotoluene; 2,4-tolylene diisocyanate; TDI; Nacconate 100
95-80-7	Toluene-2,4-diamine		
95-70-5	Toluene-2,5-diamine		
823-40-5	Toluene-2,6-diamine		
636-21-5	Toluidine hydrochloride, o-		
95-53-4	Toluidine, o-	2-methylbenzamine, 2-aminotoluene, 2-methylaniline	
29385-43-1	Tolytriazole		
-	Total Dissolved Solids		
-	Total Organic Carbon		TOC
-	Total Volatile Solids		
8001-35-2	Toxaphene		Camphechlor; polychlorcamphene; chlorinated camphene; polychlorocamphene; Hercules 3956; Alltox; Strobane-T; Geniphene; Motox; Penphene; Phenacide; Phenatox; Toxakil
8001-35-2	Toxaphene (total)		Camphechlor; polychlorcamphene; chlorinated camphene; polychlorocamphene; Hercules 3956; Alltox; Strobane-T; Geniphene; Motox; Penphene; Phenacide; Phenatox; Toxakil
18869-73-3	Triacetyldiphenolisatin	1-Acetyl-3,3-bis[4-(acetyloxy)phenyl]-1,3-dihydro-2H-indol-2-one	1-acetyl-3,3-bis(p--hydroxyphenyl)oxindole diacetate; TDI; Isatex: Laxagen; Phenisatin; Trisatin: Unilax
2303-17-5	Triallate	Bis(1-methylethyl)carbamothioic acid S-(2,3,3-trichloro-2-propenyl)ester; diisopropylthiocarbamic acid S-(2,3,3-trichloroallyl)ester	2,3,3-trichloro-2-propene-1-thiol diisopropylcarbamate; S-2,3,3-trichloroallyl diisopropylthiocarbamate; S-(2,3,3-trichloro-2-propenyl) bis(1-methylethyl)carbamothiote; CP 23426; Avadex BW; Far-Go
28911-01-5	Triazolam	8-Chloro-6-(2-chlorophenyl)-1-methyl-4H-[1,2,4]triazolo[4,3-a][1,4]benzodiazepine; 8-chloro-6-(o-chlorophenyl)-1-methyl-4H-s-triazolo[4,3-a][1,4]benzodiazepine	clorazolam; U-33,030; Halcion; Novidorm; Songar
24017-47-8	Triazophos	O,O-diethyl O-(1-phenyl-1H-1,2,4-triazol-3-yl) phosphorothioate	
24017-47-8	Triazophos (dissolved)	O,O-diethyl O-(1-phenyl-1H-1,2,4-triazol-3-yl) phosphorothioate	

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
24017-47-8	Triazophos (total)	O,O-diethyl O-(1-phenyl-1H-1,2,4-triazol-3-yl) phosphorothioate	
615-54-3	Tribromobenzene, 1,2,4-		
56573-85-4	Tributyltin		
-	Tributyltin Compounds		
-	Tributyltin Compounds (dissolved)		
-	Tributyltin Compounds (total)		
56-35-9	Tributyltin Oxide		
52-68-6	Trichlorfon	(2,2,2-Trichloro-1-hydroxyethyl)-phosphonic acid dimethyl ester	O,O-dimethyl-1-hydroxy-2,2,2-trichloroethylphosphonate; O,O-dimethyl 2,2,2-trichloro-1-hydroxyethylphosphonate; chlorofos; metrifonate; trichlorphene; Bayer L 13/59; Vermicide Bayer 2349;Combot Equine; Danex; Dipterex; Neguvon; Dyrex; Anthon; Dylox; Bilar
52-68-6	Trichlorfon (dissolved)	(2,2,2-Trichloro-1-hydroxyethyl)-phosphonic acid dimethyl ester	O,O-dimethyl-1-hydroxy-2,2,2-trichloroethylphosphonate; O,O-dimethyl 2,2,2-trichloro-1-hydroxyethylphosphonate; chlorofos; metrifonate; trichlorphene; Bayer L 13/59; Vermicide Bayer 2349;
52-68-6	Trichlorfon (total)	(2,2,2-Trichloro-1-hydroxyethyl)-phosphonic acid dimethyl ester	O,O-dimethyl-1-hydroxy-2,2,2-trichloroethylphosphonate; O,O-dimethyl 2,2,2-trichloro-1-hydroxyethylphosphonate; chlorofos; metrifonate; trichlorphene; Bayer L 13/59; Vermicide Bayer 2349;
25323-89-1	Trichlorinated Ethanes		
76-13-1	Trichloro-1,2,2-Trifluoroethane, 1,1,2-		Freon 113
354-58-5	Trichloro-2,2,2-trifluoroethane, 1,1,1-		
76-03-9	Trichloroacetic Acid		TCA
545-06-2	Trichloroacetonitrile		Trichloromethylnitrile; Tritox
634-93-5	Trichloroaniline, 2,4,6-		
87-61-6	Trichlorobenzene, 1,2,3-		vic-Trichlorobenzene
120-82-1	Trichlorobenzene, 1,2,4-		unsym-Trichlorobenzene
-	Trichlorobenzene, 1,2,5-		
108-70-3	Trichlorobenzene, 1,3,5-		sym-Trichlorobenzene
-	Trichlorobenzenes		
-	Trichlorobenzenes (dissolved)		
-	Trichlorobenzenes (total)		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
-	Trichlorobutadiene		
71-55-6	Trichloroethane, 1,1,1-		Methylchloroform; Chlorothene
71-55-6	Trichloroethane, 1,1,1- (dissolved)		Methylchloroform; Chlorothene
71-55-6	Trichloroethane, 1,1,1- (total)		Methylchloroform; Chlorothene
79-00-5	Trichloroethane, 1,1,2-		Vinyl trichloride
79-01-6	Trichloroethylene	Trichloroethene	ethinyl trichloride; Tri-Clene; Trielene; Trilene; Trichloran; Trichloren; Algylen; Trimar; Triline; Tri; Trethylene; Westrosol; Chlorylen; Gemalgene; Germalgene
79-01-6	Trichloroethylene (dissolved)	Trichloroethene	ethinyl trichloride; Tri-Clene; Trielene; Trilene; Trichloran; Trichloren; Algylen; Trimar; Triline; Tri; Trethylene; Westrosol; Chlorylen; Gemalgene; Germalgene
79-01-6	Trichloroethylene (total)	Trichloroethene	ethinyl trichloride; Tri-Clene; Trielene; Trilene; Trichloran; Trichloren; Algylen; Trimar; Triline; Tri; Trethylene; Westrosol; Chlorylen; Gemalgene; Germalgene
79-01-6	Trichloroethylene, 1,2-	1,2-Trichloroethene	
75-69-4	Trichlorofluoromethane		Trichloromonofluoromethane; Fluorotrichloromethane; Freon 11; Frigen 11; Arcton 11
15950-66-0	Trichlorophenol, 2,3,4-		
933-78-8	Trichlorophenol, 2,3,5-		
933-75-5	Trichlorophenol, 2,3,6-		
95-95-4	Trichlorophenol, 2,4,5-		Collunosol; Dowicide 2
88-06-2	Trichlorophenol, 2,4,6-		Dowicide 2S; Omal
609-19-8	Trichlorophenol, 3,4,5-		
25167-82-2	Trichlorophenols		
25167-82-2	Trichlorophenols (dissolved)		
25167-82-2	Trichlorophenols (total)		
598-77-6	Trichloropropane, 1,1,2-		
96-18-4	Trichloropropane, 1,2,3-		TCP
13116-57-9	Trichloropropene, 1,2,3- (cis)		
13116-58-0	Trichloropropene, 1,2,3- (trans)		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
7359-72-0	Trichlorotoluene, 2,3,4-		
56961-86-5	Trichlorotoluene, 2,3,5-		
2077-46-5	Trichlorotoluene, 2,3,6-		
6639-30-1	Trichlorotoluene, 2,4,5-		
23749-65-7	Trichlorotoluene, 2,4,6-		
94-99-5	Trichlorotoluene, alpha, 2,4-		
2014-83-7	Trichlorotoluene, alpha, 2,6-		
102-47-6	Trichlorotoluene, alpha, 3,4-		
88-66-4	Trichlorotoluene, alpha, alpha, 2-		
13940-94-8	Trichlorotoluene, alpha, alpha, 4-		
13121-70-5	Tricyclohexyltin	Stannane, tricyclohexylhydroxy-	
1582-09-8	Trifluralin	2,6-Dinitro-N,N-dipropyl-4-(trifluoromethyl)benzenamine;alpha,alpha,alpha-trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine	2,6-dinitro-N,N-dipropyl-alpha,alpha,alpha-trifluoro-p-toluidine; 2,6-dinitro-N,N-dipropyl-4-trifluoromethyl-aniline; N,N-dipropyl-2,6-dinitro-4-trifluoromethylaniline;L-36352; Lilly 36352; Treflan; Triflurex
1582-09-8	Trifluralin (dissolved)	2,6-Dinitro-N,N-dipropyl-4-(trifluoromethyl)benzenamine;alpha,alpha,alpha-trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine	2,6-dinitro-N,N-dipropyl-alpha,alpha,alpha-trifluoro-p-toluidine; 2,6-dinitro-N,N-dipropyl-4-trifluoromethyl-aniline; N,N-dipropyl-2,6-dinitro-4-trifluoromethylaniline;L-36352; Lilly 36352; Treflan; Triflurex
1582-09-8	Trifluralin (total)	2,6-Dinitro-N,N-dipropyl-4-(trifluoromethyl)benzenamine;alpha,alpha,alpha-trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine	2,6-dinitro-N,N-dipropyl-alpha,alpha,alpha-trifluoro-p-toluidine; 2,6-dinitro-N,N-dipropyl-4-trifluoromethyl-aniline; N,N-dipropyl-2,6-dinitro-4-trifluoromethylaniline;L-36352; Lilly 36352; Treflan; Triflurex
-	Trihalomethanes		
-	Trihalomethanes (total, sum)		
-	Trimethyl napthalene, 2,3,5-		
526-73-8	Trimethylbenzene, 1,2,3-		
108-67-8	Trimethylbenzene, 1,3,5-		
1462-84-6	Trimethylpyridine, 2,3,6-		
108-75-8	Trimethylpyridine, 2,4,6-		
-	Trinitrobenzene, 1,2,4-		
99-35-4	Trinitrobenzene, sym-	1,3,5-Trinitrobenzene	benzite
602-29-9	Trinitrotoluene, 2,3,4-		

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
18292-97-2	Trinitrotoluene, 2,3,6-		
610-25-3	Trinitrotoluene, 2,4,5-		
118-96-7	Trinitrotoluene, 2,4,6-		TNT; alpha-trinitrotoluol; sym-trinitrotoluene; 1-methyl-2,4,6-trinitrobenzene; trotyl; Tolit; Trilit
603-15-6	Trinitrotoluene, 3,4,5-		
115-86-6	Triphenyl Phosphate		
892-20-6	Triphenyltin	Stannane, triphenyl-	
-	Triphenyltin Compounds		
-	Triphenyltin Compounds (dissolved)		
-	Triphenyltin Compounds (total)		
76-87-9	Triphenyltin Hydroxide	Hydroxytriphenylstanane; hydroxytriphenyltin	fentin hydroxide; fenolovo; Duter
10028-17-8	Tritium		Triterium
-	Tritium 3		
62450-06-0	Tryptophan P-1	3-Amino-1,4-dimethyl-5H-pyrido[4,3-b]indole	
62450-07-1	Tryptophan P-2	3-Amino-1-methyl-5H-pyrido[4,3-b]indole	
-	Turbidity		
-	Turbidity (change)		
-	Turbidity (induced)		
7440-61-1	Uranium		
7440-61-1	Uranium (total)		
-	Uranium 234		
-	Uranium 235		
7440-61-1	Uranium 238		
-	Uranyl (ionized)		
51-79-6	Urethan	Carbamic acid ethyl ester; ethyl carbamate	urethane; ethyl urethan
7440-62-2	Vanadium		
7440-62-2	Vanadium (total)		
108-05-4	Vinyl Acetate	Acetic acid ethenyl ester; acetic acid vinyl ester	

Table 4. A list of chemical names, Chemical Abstract Service Registry numbers (CAS RN), and Chemical Abstract Service Names for the substances included in the Environmental Assessment Information System (continued).

CAS RN	Chemical Name	Chemical Abstract Service Name	Other Names
75-01-4	Vinyl Chloride	Chloroethylene	
75-01-4	Vinyl Chloride (total)	Chloroethylene	
75-35-4	Vinylidene Chloride	1,1-Dichloroethene; 1,1-dichloroethylene	asym-dichloroethylene
75-35-4	Vinylidene Chloride (total)	1,1-Dichloroethene; 1,1-dichloroethylene	asym-dichloroethylene
1330-20-7	Xylene	Dimethylbenzene	xylol
108-38-3	Xylene, m-		1,3-xylene
95-47-6	Xylene, o-		1,2-xylene
106-42-3	Xylene, p-		1,4-xylene
-	Xylenes		
-	Xylenes (total)		
1300-71-6	Xylenol	Dimethylphenol	
7440-66-6	Zinc		Zn
7440-66-6	Zinc (dissolved)		Zn
7440-66-6	Zinc (total)		Zn
12122-67-7	Zineb	[[1,2-Ethanediylbis[carbamodithioato]]-(2-)]zinc; [ethylenebis(dithiocarbamato)]zinc	zinc ethylenebis(dithiocarbamate); ethylenebis(dithiocarbamic acid) zinc salt; ENT 14874; Parzate; Lonacol; Dithane Z-78; Polyram Z; Tiezene
12122-67-7	Zineb (dissolved)	[[1,2-Ethanediylbis[carbamodithioato]]-(2-)]zinc; [ethylenebis(dithiocarbamato)]zinc	zinc ethylenebis(dithiocarbamate); ethylenebis(dithiocarbamic acid) zinc salt; ENT 14874; Parzate; Lonacol; Dithane Z-78; Polyram Z; Tiezene
12122-67-7	Zineb (total)	[[1,2-Ethanediylbis[carbamodithioato]]-(2-)]zinc; [ethylenebis(dithiocarbamato)]zinc	zinc ethylenebis(dithiocarbamate); ethylenebis(dithiocarbamic acid) zinc salt; ENT 14874; Parzate; Lonacol; Dithane Z-78; Polyram Z; Tiezene
137-30-4	Ziram		

Appendix 1

A Glossary of Acronyms and Terms

AETA	- Apparent Effects Threshold Approach
Appr.	- Approach used in toxocological test
BA	- Background Approach
Bq/L	- Becquerel per litre
C	- Degrees Celsius
°C	- Degrees Celsius
C_6H_5OH	- Hexanol
[Ca2+]	- Concentration of calcium 2+ ion
C/L	- Coliforms per litre
C/100mL	- Coliforms per 100 millilitres
$CaCO_3$	- Calcium carbonate
CN	- Cyanide
CoA	- Co-occurrence Analysis
Col/100mL	- Colonies per 100 millilitres
Cu	- Copper
d	- Day
dissolved	- The concentration of a substance in a filtered water sample
DO	- Dissolved Oxygen
DOE	- Department of the Environment
E	- Times 10 to the power of
e	- Exponential constant (= 2.7182818)
ELA	- Effects Level Approach
EqP	- Equilibrium Partitioning
EqPA	- Equilibrium Partitioning Approach
ERA	- Effects Range Approach
EST	- Estuary
exp	- To the power of; To the exponent of
F	- Degrees Fahrenheit
°F	- Degrees Fahrenheit
FC/100mL	- Fecal Coliforms per 100 millilitres
FCV	- Final Chronic Value
Fe (II)	- Iron (2+)
fib/day	- Fibres per day
fib/L	- Fibres per litre
FW	- Freshwater
FWPCA	- Federal Water Pollution Control Administration
g/L	- Grams per litre (g/kg)
g/wk	- Grams per week
H2S	- Hydrogen sulphide
Hg (II)	- Mercury (2+)

hr	- Hour
JTU	- Jackson Turbidity Units
Kg	- Kilogram
L	- Litre
LAS	- Linear alkyl sulfides
LC_{50}	- Lethal Concentration affecting 50 percent of the population
ln	- Natural log
m	- Metre
MAC	- Maximum Acceptable Concentration
mg/kg	- Milligrams per kilogram (ppm, mg/L or mg/g)
mg/L	- Milligrams per litre (mg/kg, mg/g or ppm)
mL	- Millilitres
Mo	- Molybdenum
MOE	- Ministry of Environment
MPN	- Mean Probable Number
mrem	- Millirem
N	- Nitrogen
NH_3	- Ammonia
NO_2	- Nitrite
NO_3	- Nitrate
NRCC	- Natural Resource Conservation Commission (Texas)
NTU	- Nephelometric Turbidity Units
OC	- Organic Carbon
PAETA	- Probable Apparent Effects Threshold Approach
pCi/L	- Picocuries per litre
PFU/10L	- Plaque Forming Units per 10 litres
pg	- Picograms
PO4	- Phosphate
ppm	- Parts per million
ppt	- Parts per trillion
Sb (III)	- Antimony (3+)
SBA	- Sediment Background Approach
SLCA	- Screening Level Concentration Approach
SO_4	- Sulphate
spp.	- Species
SQG	- Sediment Quality Guideline
SQO	- Sediment Quality Objective
SQTA	- Sediment Quality Triad Approach
SSBA	- Spiked Sediment Bioassay Approach
SW	- Saltwater

t	- Maximum permissible temperature increase measured at a dilution zone boundary
T	- Background temperature as measured at a point(s) unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge
Tier 1	- Criteria are generally based on field studies of actual wildlife species
Tier 2	- Criteria can be based on laboratory studies of more limited scope
TCU	- True Colour Units
TOC	- Total Organic Carbon
t.o.n.	- Threshold odour number
TRA	- Tissue Residue Approach
TTA	- Theoretical Toxicological Approach
mg/g	- Micrograms per gram (ppm, mg/kg or mg/L)
mg/kg	- Micrograms per kilogram (ppb or mg/L)
mg/L	- Micrograms per litre (ppb or mg/kg)
mg/m2	- Micrograms per square metre
mmhos	- Micro-reciprocal ohms
mS/cm	- Microsiemens per centimetre
USEPA	- United States Environmental Protection Agency
WBA	- Water Background Approach
WDNR	- Wisconsin Department of Natural Resources
WEA	- Weight-of-Evidence Approach
WQ	- Water Quality

Classification Definitions (by Jurisdiction)

Europe

Category A1 - Surface water. Simple physical treatment and disinfection, e.g. rapid filtration and disinfection.

Category A2 - Surface water. Normal physical treatment, chemical treatment and disinfection, e.g. pre-chlorination, coagulation, flocculation, decantation, filtration, disinfection (final chlorination).

Category A3 - Surface water. Intensive physical and chemical treatment, extended treatment and disinfection, e.g. chlorination to break-point, coagulation, flocculation,

decantation, filtration, adsorption (activated carbon), disinfection (ozone, final chlorination).

Hawaii

Class 1a - The uses to be protected in this class of water are scientific and educational purposes, protection of breeding stock and baseline references from which human caused changes can be measured, compatible recreation, aesthetic enjoyment, and other non-degrading uses which are compatible with the protection of the ecosystems associated with waters of this class.

Class 1b - The uses to be protected in this class of water are for domestic water supplies, food processing, the support and propagation of aquatic life, compatible recreation, aesthetic enjoyment. Public access to waters in this class may be restricted to protect water quality.

Class 2 - It is the objective of this class of waters that their use for recreational purposes, propagation of fish and other aquatic life, and agricultural and industrial water supply be protected.

Class AA - It is the objective of this class that these waters remain in their natural pristine state as nearly as possible with an absolute minimum of pollution of alteration of water quality from any human-cased source or actions. To the extent practicable, the wilderness character of such areas shall be permitted in this class within a defined reef area. The uses to be protected in this class of waters are oceanographic research, the support and propagation of shellfish and other marine life, conservation of coral reefs and wilderness areas, compatible recreation, and aesthetic enjoyment. The classification of any water area as Class AA shall not preclude other uses of such waters compatible with these objectives and in conformance with the criteria applicable to them.

Class A - It is the objective of this class of waters that their use for recreational purposes and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class. No new industrial or sewage discharge will be permitted within embayments.

Japan

Rivers Class AA	- Water Supply Class 1, conservation of natural environment and uses listed in A-E.
Rivers Class A	- Water Supply Class 2, Fishery Class 1, bathing and uses listed in B-E.
Rivers Class B	- Water Supply Class 3, Fishery Class 2, and uses listed in C-E.
Rivers Class C	- Fishery Class 3, Industrial Water Class 1, and uses listed in D-E.
Rivers Class D	- Industrial Water Class 2, agricultural water and uses listed in E.
Rivers Class E	- Industrial Water Class 3, and conservation of the environment.
Lakes Class AA	- Water Supply Class 1, Fishery Class 1, conservation of natural environment and uses listed in A-C .
Lakes Class A	- Water Supply Class 2 and 3, Fishery Class 2, bathing and uses listed in B-C.
Lakes Class B	- Fishery Class 3, Industrial Water Class 1, agricultural water and uses listed in C
Lakes Class C	- Industrial Water Class 2, and conservation of the environment.
Lakes Class I	- Conservation of natural environment uses listed in II-V.
Lakes Class II	- Water Supply Classes 1, 2 and 3 (except special types), Fishery Class 1, bathing and uses listed in III-V.
Lakes Class III	- Water Supply Class 3 (special types) and uses listed in IV-V.
Lakes Class IV	- Fishery Class 2 and uses listed in V
Lakes Class V	- Fishery Class 3, industrial water, agricultural water and conservation of the environment.
Coastal Waters Class AA	- Fishery Class 1, bathing, conservation of the natural environment and uses listed in B-C.
Coastal Waters Class A	- Fishery Class 2, industrial water and uses listed in C.
Coastal Waters Class B	- Conservation of the environment.
Coastal Waters Class I	- Conservation of the natural environment and uses listed in II-IV (except Fishery Classes 2 and 3).
Coastal Waters Class II	- Fishery Class 1, bathing and uses listed in III-IV (except Fishery Class 2 and 3).

Coastal Waters Class III	- Fishery Class 2 and uses listed in IV (except Fishery Class 3).
Coastal Waters Class IV	- Fishery Class 3, industrial water, and conservation of habitable environment for marine biota.
Conservation of the environment	- Conservation of scenic spots and other natural resources.
Water Supply Class 1	- Water treated by simple cleaning operation, such as filtration.
Water Supply Class 2	- Water treated by normal cleaning operation such as sedimentation and filtration.
Water Supply Class 3	- Water treated through a highly sophisticated cleaning operation including pretreatment.
Fishery Class 1	- For aquatic life such as trout and bull trout inhabiting oligosaprobic water, and those of Fishery Class 2 and Class 3.
Fishery Class 2	- For aquatic life, such as the salmon family and sweetfish inhabiting oligosaprobic water and those of Fishery Class 3.
Fishery Class 3	- For aquatic life such as carp and crucian carp inhabiting beta-mesosaprobic water.
Industrial Water Class 1	- Water given normal cleaning treatment such as sedimentation.
Industrial Water Class 2	- Water given sophisticated treatment by chemicals.
Industrial Water Class 3	- Water given special cleaning treatment.

Maine

Class AA	- Fresh surface waters. Drinking water after disinfection, fishing, recreation in and on the water and navigation and as habitat for fish and other aquatic life.
Class A	- Fresh surface waters. Drinking water after disinfection, fishing, recreation in and on the water, industrial processes and cooling water supply, hydroelectric

power generation, except as prohibited under Title 12, section 403, and navigation, and as habitat for fish and other aquatic life.

Class B - Fresh surface waters. Drinking water after disinfection, fishing, recreation in and on the water, industrial processes and cooling water supply, hydroelectric power generation, except as prohibited under Title 12, section 403, and navigation, and as habitat for fish and other aquatic life.

Class C - Fresh surface waters. Drinking water after disinfection, fishing, recreation in and on the water, industrial processes and cooling water supply, hydroelectric power generation, except as prohibited under Title 12, section 403, and navigation, and as habitat for fish and other aquatic life.

Class GPA - Lakes and ponds. Drinking water after disinfection, fishing, recreation in and on the water, industrial processes and cooling water supply, hydroelectric power generation and navigation, and as habitat for fish and other aquatic life.

Class SA - Estuarine and marine waters. Recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish and navigation, and as habitat for fish and other estuarine and marine life.

Class SB - Estuarine and marine waters. Recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation and navigation and as habitat for fish and other estuarine and marine life.

Class SC - Estuarine and marine waters. Fishing, aquaculture, propagation and restricted harvesting of shellfish, industrial processes and cooling water supply, hydroelectric power generation and navigation and as habitat for fish and other estuarine and marine life.

Class GW-A - Public water supplies.
Class GW-B - All other uses other than public water supplies.

Maryland

Use I - Water Contact Recreation, and Protection of Aquatic Life. This use designation includes waters which are suitable for water contact sports; play and leisure time activities where individuals may come in direct contact with the surface water; fishing; the growth and propagation of fish (other than trout), other aquatic life, and wildlife; agricultural water supply; and industrial water supply.

Use II - Shellfish Harvesting Waters. This use designation include waters where shellfish are propagated, stored, or gathered for marketing purposes, and there are actual or potential areas for the harvesting of oysters, soft-shell clams, hard-shell clams, and brackish water clams.

Use III - Natural Trout Waters. This use designation includes waters which have the potential for or are suitable for the growth and propagation of trout and capable of supporting self-sustaining trout populations and their associated food organisms.

Use IIIp - Natural Trout Waters and Public Water Supply. This use designation includes all uses identified for Use III waters, and use as a public water supply.

Use IV - Recreational Trout Waters. This use designation includes cold or warm waters which have the potential for or are capable of holding or supporting adult trout for put-and-take fishing, and managed as a special fishery by periodic stocking and seasonal catching.

Massachusetts

Class A - Freshwater. These waters are designated as a source of public water supply. To the extent compatible with this use they shall be an excellent habitat for fish, other aquatic life and wildlife, and suitable for primary and secondary contact recreation. These waters shall have excellent aesthetic value. These waters are designated for protection as Outstanding Resource Waters under 314 CMR 4.04(3).

Class B - Freshwater. These waters are designated as a habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. Where designated they shall be suitable as a source of public water supply with appropriate treatment. They shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value.

Class C - These waters are designated as a habitat for fish, other aquatic life and wildlife, and for secondary contact recreation. These waters shall be suitable for the irrigation of crops used for consumption after cooking and for compatible industrial cooling and process uses. These waters shall have good aesthetic value.

Class SA - Freshwater. These waters are designated as an excellent habitat for fish, other aquatic life and wildlife and for primary and secondary contact recreation. In approved areas they shall be suitable for shellfish harvesting without depuration (Restricted Shellfish Areas). These waters shall have excellent aesthetic value.

Class SB - Coastal and Marine. These waters are designated as a habitat for fish, other aquatic life and wildlife and for primary and secondary contact recreation. In approved areas they shall be suitable for shellfish harvesting without depuration (Open Shellfish Areas). These waters shall have consistently good aesthetic value.

Class SC - Coastal and Marine. These waters are designated as a habitat for fish, other aquatic life and wildlife and for secondary contact recreation. They shall also be suitable for certain industrial cooling and process uses. These waters shall have good aesthetic value.

Montana

Class A-1 - Suitable for drinking, culinary and food processing purposes after conventional treatment for removal of naturally present impurities. Water quality must be suitable for bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

Class B-1 - Suitable for drinking, culinary and food processing purposes after conventional treatment; bathing, swimming and recreation; growth and propagation of

salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

Class B-2 - Suitable for drinking, culinary and food processing purposes after conventional treatment; bathing, swimming and recreation; growth and marginal propagation of salmonid fishes and associate aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

Class B-3 - Suitable for drinking, culinary and food processing purposes after conventional treatment; bathing, swimming and recreation; growth and propagation of non-salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

Class C-1 - Suitable for bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

Class C-2 - Suitable for bathing, swimming and recreation; growth and marginal propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

Class C-3 - Suitable for bathing, swimming and recreation; growth and propagation of non-salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

New Hampshire

Class A - Those waters that are legislatively classified as Class A waters pursuant to RSA 485-A:8, I, II and III.

Class B - Those waters that are legislatively classified as Class A waters pursuant to RSA 485-A:8, I, II and III.

Rhode Island

Class A - Freshwater. These waters are designated as a source of public drinking water supply, for primary and secondary contact recreational activities and for fish and wildlife habitat. They shall be suitable for compatible industrial processes and cooling, hydropower, aquaculture uses, navigation, and irrigation and other agricultural uses. These waters shall have good aesthetic value.

Class B - Freshwater. These waters are designated for fish and wildlife habitat and primary and secondary contact recreational activities. They shall be suitable for compatible industrial processes and cooling, hydropower, aquaculture uses, navigation, and irrigation and other agricultural uses. These waters shall have good aesthetic value.

Class B1 - Freshwater. These waters are designated for primary and secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for compatible industrial processes and cooling, hydropower, aquacultural uses, navigation, and irrigation and other agricultural uses. These waters shall have good aesthetic value. Primary contact recreational activities may be impacted due to pathogens from approved wastewater discharges, however, all Class B criteria must be met.

Class C - Freshwater. These waters are designated for secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for compatible industrial processes and cooling, hydropower, aquaculture uses, navigation, and irrigation and other agricultural uses. These waters shall have good aesthetic value.

Class SA - Saltwater. These waters are designated for shellfish harvesting for direct human consumption, primary and secondary contact recreational activities, and fish and wildlife habitat. They shall be suitable for aquacultural uses, navigation and industrial cooling. These waters shall have good aesthetic value.

Class SB - Saltwater. These waters are designated for primary and secondary contact recreational activities; shellfish harvesting for controlled relay and depuration; and fish and wildlife habitat. They shall be suitable for aquacultural uses, navigation, and industrial cooling. These waters shall have good aesthetic value.

Class SB1 - Saltwater. These waters are designated for primary and secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for aquaculture use, navigation, and industrial cooling. These waters shall have good aesthetic value. Primary contact recreational activities may be impacted due to pathogens from approved wastewater discharges. However, all Class SB criteria must be met.

Class SC - Saltwater. These waters are designated for secondary contact recreational activities, and fish and wildlife habitat. They shall be suitable for aquacultural uses, navigation, and industrial cooling. These waters shall have good aesthetic value.

Class GAA - Groundwater. Those groundwater resources which the Director has designated to be suitable for public drinking water use without treatment and which are located within the following areas: Groundwater reservoirs and portions of their recharge areas, Wellhead protection areas, and Groundwater dependent areas.

Class GA - Groundwater. Those groundwater resource which the Director has desisted to be suitable for public or private drinking water without treatment and which are not described in class GAA

Washington

Class AA - Extraordinary. Water quality of this class shall markedly and uniformly exceed the requirements for all or substantially all uses. Characteristic uses shall include, but not be limited to, the following:

i) Water supply (domestic, industrial, agricultural);
ii) Stock watering;
iii) Fish and shellfish;
- Salmonid migration, rearing, spawning, and harvesting,
- Other fish migration, rearing, spawning, and harvesting,
- Clam, oyster, and mussel rearing, spawning, and harvesting,
- Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) Rearing, spawning, and harvesting,

iv) Wildlife habitat;
v) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment); and,
vi) Commerce and navigation.

Class A - Excellent. Water quality of this class shall meet or exceed the requirements for all or substantially all uses. Characteristic uses shall include, but not be limited to, the following:

i) Water supply (domestic, industrial, agricultural);
ii) Stock watering;
iii) Fish and shellfish;
- Salmonid migration, rearing, spawning, and harvesting,
- Other fish migration, rearing, spawning, and harvesting,
- Clam, oyster, and mussel rearing, spawning, and harvesting,
- Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting,

iv) Wildlife habitat;
v) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment); and,
vi) Commerce and navigation.

Class B - Good. Water quality of this class shall meet or exceed the requirements for most uses. Characteristic uses shall include, but not be limited to, the following:

i) Water supply (industrial and agricultural);
ii) Stock watering;
iii) Fish and shellfish;
- Salmonid migration, rearing, and harvesting,
- Other fish migration, rearing, spawning, and harvesting,
- Clam, oyster, and mussel rearing and spawning,
- Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting,

iv) Wildlife habitat;
v) Recreation (secondary contact recreation, sport fishing, boating, and aesthetic enjoyment); and,
vi) Commerce and navigation.

Class C - Fair. Water quality of this class shall meet or exceed the requirements of selected and essential uses. Characteristic uses shall include, but not be limited to, the following:

i) Water supply (industrial);
ii) Fish (salmonid and other fish migration);
ii) Recreation (secondary contact recreation, sport fishing, boating, and aesthetic enjoyment); and,
iv) Commerce and navigation.

Lake Class - Water quality of this class shall meet or exceed the requirements for all or substantially all uses. Characteristic uses shall include, but not be limited to, the following:

i) Water supply (domestic, industrial, agricultural);
ii) Stock watering;
iii) Fish and shellfish;
- Salmonid migration, rearing, spawning, and harvesting,
- Other fish migration, rearing, spawning, and harvesting,
- Clam and mussel rearing, spawning, and harvesting,
- Crayfish rearing, spawning, and harvesting,

iv) Wildlife habitat; and,
v) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment).

Appendix 2 - 1

A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies)

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	FW	0.15	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Acenaphthene	FW	20	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	1200	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
Acetylene Dichloride (trans)	FW	700	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	700	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
Acetamide	FW	5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Acetone	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Acetophenone	FW	3000	µg/L		Guideline	Massachusetts	Anastas 1998
Acrolein	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	320	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	360	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
Acrylamide	FW	0.05	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	Narrative			Standard; Little to no significant carcinogenic effect; Limit of acrylamide allowed to be used in treatment process	United States	USEPA 1997b
Acrylic Acid	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Acrylonitrile	FW	0.07	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.35	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	GW	5	µg/L		Guidance value	New York State	NYSDEC 1998
AF-2;[2-(2-furyl)-3(5-nitro-2 furyl) acrylamide	FW	1.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Alachlor	FW	0.5	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.5	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	1	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	2	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	2	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	2	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	2	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	FW	2	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	GW	2	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	3.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	5	µg/L	TTA	Objective; Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
Aldicarb	GW	0.35	µg/L		Standard; As part of sum of Aldicarb and Methomyl	New York State	NYSDEC 1998
	FW	3	µg/L		Regulation; Maximum Contaminant Level; For community water and non-transient, non-community water	United States	USEPA 1997b
	FW	3	µg/L		Guideline	Massachusetts	Anastas 1998
	GW	5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	7	µg/L		Standard	New York State	NYSDEC 1998
	FW	9	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	9	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	10	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	GW	10	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Aldicarb (total)	FW	9	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	9	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Aldicarb + Methomyl	GW	0.35	µg/L		Standard	New York State	NYSDEC 1998
Aldicarb Sulfone	FW	2	µg/L		Guidance value; Interim	New York State	NYSDEC 1998
	FW	2	µg/L		Regulation; Maximum Contaminant Level; For community water and non-transient, non-community water	United States	USEPA 1997b
	FW	2	µg/L		Guideline	Massachusetts	Anastas 1998
	GW	2	µg/L		Guidance value; Interim	New York State	NYSDEC 1998
Aldicarb Sulfoxide	FW	4	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	4	µg/L		Regulation; Maximum Contaminant Level; For community water and non-transient, non-community water	United States	USEPA 1997b

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Aldicarb Sulfoxide (cont.)	FW	4	µg/L		Guideline	Massachusetts	Anastas 1998
	GW	4	µg/L		Guidance value	New York State	NYSDEC 1998
Aldrin	FW	0.00007	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.02	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	0.05	µg/L		Standard; Action Level; Limit of Quantification	California	CDWR 1997
	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Aldrin + Dieldrin	GW	0.003	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	0.03	µg/L		Guideline value	International	WHO 1984
	FW	0.7	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	0.7	µg/L		Objective; Maximum	Manitoba	Williamson 1988
	FW	0.7	µg/L		Maximum acceptable	Ontario	Environment Ontario 1983
	FW	0.7	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	0.7	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
Alkyl Dimethyl Benzyl Ammonium Chloride	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Alkyl Diphenyl Oxide Sulfonates	FW	50	µg/L		Guidance value; Refers to each sulfonate individually	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value; Refers to each sulfonate individually	New York State	NYSDEC 1998
Allyl Chloride	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	15	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Aluminum	FW	50	µg/L		Guide level	Europe	CEC 1988
	FW	50–200	µg/L		Secondary Standard	Massachusetts	Anastas 1998
	FW	200	µg/L		Standard; Secondary Maximum Contaminant Level (aesthetic value)	California	CDWR 1997
	FW	200	µg/L		Maximum admissible concentration	Europe	CEC 1988
	FW	200	µg/L		Guideline value for aesthetic quality	International	WHO 1984
	FW	500	µg/L		Maximum permissible concentration	USSR	Stofen 1973
	FW	1000	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
Aluminum (dissolved)	FW	200	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
Aluminum (total)	FW	200	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ametryn	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
Amino-2-methylanthraquinone, 1-	FW	2.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Amino-9-ethylcarbazole hydrochloride, 3-	FW	4.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Amino-9H-pyrodo[2,3-b]indole, A-alpha-C, 2-	FW	1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Aminoanthraquinone, 2-	FW	10	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Aminoazotoluene, o-	FW	0.1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Aminomethylene Phosphonic Acid Salts	FW	50	µg/L		Guidance value; Applies to each salt individually	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value; Applies to each salt individually	New York State	NYSDEC 1998
Aminopyridines	FW	1	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	1	µg/L		Guidance value	New York State	NYSDEC 1998
Aminotoluene, 3-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Aminotoluene, 4-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Amitrole	FW	0.35	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Ammonia	FW	0.05	mg/L		Guide level for Category A1; As Ammonia NH4	Europe	CEC 1988
	FW	1	mg/L		Guide level for Category A2; As Ammonia NH4	Europe	CEC 1988
	FW	1.5	mg/L		Imperative for Category A2; As Ammonia NH4	Europe	CEC 1988
	FW	2	mg/L		Guide level for Category A3; As Ammonia NH4	Europe	CEC 1988
	FW	4	mg/L		Imperative for Category A3; As N	Europe	CEC 1988
Ammonia (total)	FW	2	mg/L		Standard; As N	New York State	NYSDEC 1998
	GW	2	mg/L		Standard; As N	New York State	NYSDEC 1998

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ammonia (total-N unionized)	FW	0.01	mg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Ammonium	FW	50	µg/L		Guide level	Europe	CEC 1988
	FW	500	µg/L		Maximum admissible concentration	Europe	CEC 1988
Aniline	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	50	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Anisidine hydrochloride, o-	FW	3.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Anisidine, o-	FW	2.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Anthracene	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Antimony	FW	3	µg/L		Standard	New York State	NYSDEC 1998
	GW	3	µg/L		Standard	New York State	NYSDEC 1998
	GW	3	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	5	µg/L		Criterion; Interim; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	6	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	6	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	6	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	6	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	6	µg/L		Guideline; Interim Maximum Acceptable Concentration; Faucets should be thoroughly flushed before consumption or analysis	Canada	Health Canada 1998
	FW	6	µg/L	TTA	Proposed Criterion; Interim maximum	British Columbia	BCMOELP 1998
	GW	6	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Aramite	FW	10	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Aroclors	FW	2	µg/L		Regulation; Maximum Contaminant Level; For community water and non-transient, non-community water	United States	USEPA 1997b
Arsenic	FW	5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	25	µg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	25	µg/L	TTA	Criterion; Maximum Interim	British Columbia	BCMOELP 1998
	FW	25	µg/L	TTA	Objective; Interim Maximum Acceptable Concentration	Ontario	OMEE 1994

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Arsenic (cont.)	GW	25	µg/L		Standard	New York State	NYSDEC 1998
	GW	25	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	50	µg/L		Criterion; Maximum	Oregon	ODEQ 1996
	FW	50	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	50	µg/L		Standard	New York State	NYSDEC 1998
	FW	50	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	50	µg/L		Criterion; For ambient surface waters	Maryland	MDOE 1997
	FW	50	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	50	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	GW	50	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Arsenic (total)	FW	50	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	GW	50	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Aryltriazoles	FW	50	µg/L		Guidance value; Applies to each aryltriazole individually	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value; Applies to each aryltriazole individually	New York State	NYSDEC 1998
Asbestos	FW	100	fib/day		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	GW	3500000	fib/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	7000000	fib/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	7000000	fib/L		Standard; Fibres longer than 10 µm	New York State	NYSDEC 1998
	FW	7000000	fib/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	7000000	fib/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	7000000	fib/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	7000000	fib/L		Criterion; Maximum; For the ingestion of water and aquatic organisms; Fibers > 10 µm	Quebec	MDEQ 1996
	GW	7000000	fib/L		Standard; Fibres longer than 10 µm	New York State	NYSDEC 1998
	GW	7000000	fib/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Atrazine	GW	1.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	3	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	3	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	3	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	3	µg/L		Regulation; Maximum Contaminant Level; For community water and non-transient, non-community water	United States	USEPA 1997b
	FW	3	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	3	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Atrazine (cont.)	FW	5	µg/L		Guideline; Interim maximum for atrazine and metabolites	British Columbia	BCMOELP 1998
	FW	5	µg/L		Criterion; Maximum; Interim; For the ingestion of water and aquatic organisms; Atrazine + metabolites	Quebec	MDEQ 1996
	GW	7.5	µg/L		Standard	New York State	NYSDEC 1998
	FW	60	µg/L	TTA	Objective; Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
Atrazine (total)	FW	5	µg/L		Guideline; Interim Maximum Acceptable Concentration; (and metabolites)	Canada	Health Canada 1998
Auramine	FW	0.4	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Azaserine	FW	0.03	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Azathioprine	FW	0.2	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Azinphos-methyl	FW	0.07	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	GW	4.4	µg/L		Standard	New York State	NYSDEC 1998
	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	20	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	20	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	20	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	20	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Azobenzene	FW	0.5	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	FW	3	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Barium	FW	1	mg/L		Criterion; Maximum	Oregon	ODEQ 1996
	FW	1	mg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	1	mg/L		Standard	New York State	NYSDEC 1998
	FW	1	mg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	1	mg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	1	mg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	1	mg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	1	mg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	1	mg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	GW	1	mg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	GW	1	mg/L		Standard	New York State	NYSDEC 1998
	GW	1	mg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Barium (cont.)	FW	2	mg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	2	mg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	2	mg/L		Criterion; For ambient surface waters	Maryland	MDOE 1997
	FW	2	mg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	2	mg/L	TTA	Proposed Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	2	mg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Barium (total)	FW	1	mg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	GW	1	mg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Bendiocarb	FW	40	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	40	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	40	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	40	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Benfluralin	FW	35	µg/L		Standard	New York State	NYSDEC 1998
Bentazon	FW	18	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	30	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	300	µg/L		Guideline	International	WHO 1998
	FW	400.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Benzanthracene, 1,2-	FW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
Benzene	FW	1	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	1	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	GW	1	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	2.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	3.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	5	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	5	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	5	µg/L		Criterion; For ambient surface waters	Maryland	MDOE 1997
	FW	5	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	5	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	5	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	5	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	5	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Benzene (cont.)	GW	5	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	10	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	20	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
Benzene (total)	GW	5	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Benzidine	FW	0.0005	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	0.02	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.1	µg/L		Criterion	Colorado	USEPA 1988a
	FW	0.1	µg/L		Criterion	Maryland	USEPA 1988a
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Benzisothiazole	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Benzo(a)pyrene	FW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.01	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	0.01	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	0.01	µg/L	TTA	Recommended; Maximum	British Columbia	BCMOELP 1998
	FW	0.01	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	0.03	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	GW	0.1	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.2	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	0.2	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	0.2	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	0.2	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	0.2	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.7	µg/L		Guideline value; For excess risk of 10E-05	International	WHO 1998
Benzo(k)fluoranthene	FW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
Benzofluoranthene, 3,4-	FW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
Benzyl Chloride	FW	2	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Benzyl Violet 4B	FW	15	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Beryllium	FW	0.0004	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	0.05	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	GW	2	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	3	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	3	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	4	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	4	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	4	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	4	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	4	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Beryllium Oxide	FW	0.05	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Beryllium Sulfate	FW	0.0001	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Biological Oxygen Demand	FW	1	mg/L		Standard; Rivers Class AA	Japan	JWQB 1998
	FW	2	mg/L		Standard; Rivers Class A	Japan	JWQB 1998
	FW	3	mg/L		Standard; Rivers Class B	Japan	JWQB 1998
	FW	3	mg/L		Guide level for Category A1, at 20 C without nitrification	Europe	CEC 1988
	FW	5	mg/L		Guide level for Category A2, at 20 C without nitrification	Europe	CEC 1988
	FW	7	mg/L		Guide level for Category A3, at 20 C without nitrification	Europe	CEC 1988
Biphenyl, 1,1'-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Biphenylamine, p-	FW	0.015	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	5	µg/L		Standard	New York State	NYSDEC 1998
Bis(2-chloroethoxy)methane	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Bis(2-chloroisopropyl) Ether	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Bis(2-ethylhexl) Adipate	FW	20	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
Bis(2-ethylhexl) Adipate (cont.)	GW	20	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
	FW	80	µg/L		Criterion	Quebec	MDEQ 1996
	GW	200	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	400	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	400	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	400	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	400	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	400	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Bis(2-ethylhexyl) Phthalate	GW	3	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	4	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	5	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	5	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	6	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	6	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	6	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	6	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	40	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Bis(2-Methoxyethyl) benzene	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Boric Acid, Borates And Metaborates	FW	125	µg/L		Guidance value; Applies as boron equivalents	New York State	NYSDEC 1998
	GW	125	µg/L		Guidance value; Applies as boron equivalents	New York State	NYSDEC 1998
Boron	FW	0.5	mg/L		Provisional Guideline	International	WHO 1998
	FW	1	mg/L		Interim Guideline; Action Level	California	CDWR 1997
	GW	1	mg/L		Standard	New York State	NYSDEC 1998
	FW	5	mg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	5	mg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	5	mg/L	TTA	Objective; Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	5	mg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic	Quebec	MDEQ 1996
Boron (total)	FW	1	mg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Bromacil	GW	4.4	µg/L		Standard	New York State	NYSDEC 1998
	FW	600.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Bromide	FW	2000	µg/L		Guidance value	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
	GW	2000	µg/L		Guidance value	New York State	NYSDEC 1998
Bromobenzene	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Bromochloromethane	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Bromodichloromethane	FW	2.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Bromoform	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Bromoxynil	FW	5	µg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	5	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	FW	5	µg/L	TTA	Objective; Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	5	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	25	µg/L		Health guidance level for ground water; Proposed	Ontario	Environment Ontario 1985
	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Butachlor	GW	3.5	µg/L		Standard	New York State	NYSDEC 1998
Butadiene, 1,3-	FW	0.2	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Butenal, (cis) 2-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Butenal, (trans) 2-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Butenenitrile, (cis) 2-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Butenenitrile, (trans) 2-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Butoxyethoxyethanol	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Butoxypropanol	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Butyl Isopropyl Phthalate	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Butyl Phthalate, N-	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
Butylate	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
Butylated Hydroxyanisole	FW	2000	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Butylbenzene, 2-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Butylbenzene, 3-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Butylbenzene, n-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Butylbenzyl Phthalate	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	150.0	µg/L		Criterion	Oklahoma	USEPA 1988a
Butyrolactone, beta-	FW	0.35	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
C & D Red No.9	FW	50	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
C.I. Basic Red 9 monohydrochloride	FW	1.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Cadmium	FW	0.0025	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens; For inhalation	California	CDWR 1997
	GW	0.4	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	GW	2.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	5	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	5	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	5	µg/L		Criterion; For ambient surface waters; Hardness and pH dependent	Maryland	MDOE 1997
	FW	5	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	5	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	5	µg/L		Maximum acceptable	Ontario	Environment Ontario 1983
	FW	5	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	5	µg/L		Lifetime health advisory for a 70 kg adult, assuming 20% of exposure to the substance is from drinking water and adjusting for additional uncertainty if the substance is a potential carcinogen	United States	USEPA 1987a
	FW	5	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 10 kg child, assuming consumption of 1 litre of	United States	USEPA 1987a
	FW	5	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	FW	5	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	10	µg/L		Criterion; Maximum	Oregon	ODEQ 1996
	FW	10	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	10	µg/L		Maximum permissible concentration	USSR	Stofen 1973
	GW	10	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	FW	18	µg/L		Lifetime health advisory for a 70 kg adult, assuming all exposure to the substance is from drinking water	United States	USEPA 1987a
	FW	18	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 70 kg adult assuming consumption of 2 litres of	United States	USEPA 1987a
	FW	43	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	43	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
Cadmium (total)	FW	1	µg/L		Guide level for all categories	Europe	CEC 1988
	FW	5	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	5	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Cadmium (total; cont.)	FW	5	µg/L		Maximum admissible concentration	Europe	CEC 1988
	FW	5	µg/L		Guideline value	International	WHO 1984
	FW	5	µg/L		Objective; Maximum	Manitoba	Williamson 1988
	GW	10	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Captafol	FW	2.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Captan	GW	18	µg/L		Standard	New York State	NYSDEC 1998
	FW	150	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	350	µg/L		Interim Guideline; Action Level	California	CDWR 1997
Carbaryl	GW	29	µg/L		Standard	New York State	NYSDEC 1998
	FW	60.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	60	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	FW	90	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	90	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	90	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	90	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Carbendazim	FW	200.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Carbofuran	GW	3	µg/L		Action step level 2, if met or exceeded prompts notification of the Bureau of Public Water Supply Protection and initiation of a response as per action step level 1	New York State	NYSDH 1985
	FW	7	µg/L		Guideline	International	WHO 1998
	FW	15	µg/L		Standard	New York State	NYSDEC 1998
	GW	15	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	15	µg/L		Action step level 1, if met or exceeded prompts the use of that water source to be discontinued and initiates other appropriate action steps	New York State	NYSDH 1985
	FW	18	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	GW	20	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	36	µg/L		A recommended maximum contaminant level health goal, the level at which no adverse effects can be expected to occur	United States	AWWA 1985b
	FW	36	µg/L		Lifetime health advisory for a 70 kg adult, assuming 20% of exposure to the substance is from drinking water and adjusting for additional uncertainty if the substance is a potential carcinogen	United States	USEPA 1987a
	FW	40	µg/L		Rule; Maximum	Hawaii	HDOH 1997

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Carbofuran (cont.)	FW	40	µg/L		Regulation; Maximum Contaminant Level; For community water and non-transient, non-community water	United States	USEPA 1997b
	FW	40	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	40	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	GW	50	µg/L		Health guidance level for ground water; Proposed	Ontario	Environment Ontario 1985
	FW	50	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 10 kg child assuming consumption of 1litre of	United States	USEPA 1987a
	FW	50	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	50	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	90	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	90	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	90	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	90	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	180	µg/L		Lifetime health advisory for a 70 kg adult, assuming all exposure to the substance is from drinking water	United States	USEPA 1987a
	FW	180	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 70 kg adult assuming consumption of 2 litres of	United States	USEPA 1987a
Carbon Tetrachloride	FW	0.4	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	2.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	GW	2.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	3.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	5	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	5	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	5	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	5	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	5	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	5	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	5	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Carbon Tetrachloride (total)	GW	5	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Carbophenothion	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Carbophenothion (cont.)	FW	7.0	µg/L		Interim Guideline; Action Level	California	CDWR 1997
Carboxin	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
Cesium 134	FW	7	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Cesium 137	FW	10	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Chemical Oxygen Demand	FW-Lakes	1	mg/L		Standard; Lakes Class AA	Japan	JWQB 1998
	FW-Lakes	3	mg/L		Standard; Lakes Class A	Japan	JWQB 1998
	FW	30	mg/L		Guide level for Category A3	Europe	CEC 1988
Chloral Hydrate	FW	10	µg/L		Criterion; Interim	Quebec	MDEQ 1996
Chloramben	FW	50	µg/L		Guidance value; Includes related forms that convert to the organic acid upon acidification to a pH of 2 or less; And esters of the organic acid	New York State	NYSDEC 1998
	GW	50	µg/L		Standard; Includes related forms that convert to the organic acid upon acidification to a pH of 2 or less; And esters of the organic acid	New York State	NYSDEC 1998
Chlorambucil	FW	0.001	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Chloramines	FW	3000	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	3000	µg/L		Criterion; Interim; Maximum	Quebec	MDEQ 1996
Chloranil	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chlordane	FW	0	µg/L		A recommended maximum contaminant level health goal, the level at which no adverse effects can be expected to occur	United States	AWWA 1985b
	FW	0.00046	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; Risk level of 10E-06	United States	USEPA 1986
	FW	0.0005	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	0.0001	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.008	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
	GW	0.01	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	0.05	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chlordane (cont.)	GW	0.05	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.1	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	GW	0.1	µg/L		Water quality standard	New York State	NYSDEC (undated)
	FW	0.25	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	0.3	µg/L		Guideline value	International	WHO 1984
	GW	1	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	2	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	2	µg/L		Regulation; Maximum Contaminant Level; For community water and non-transient, non-community water	United States	USEPA 1997b
	FW	2	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	2	µg/L		Drinking water equivalent level; The medium-specific exposure which is interpreted to be protective for health effects not involving carcinogenicity over a lifetime exposure, limit based on 10E-06 cancer risk	United States	USEPA 1987a
	GW	2	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	3	µg/L		Emergency limits for long-term consumption, (over a period of days, months, years) proposed	United States	AWWA 1983
	FW	6.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	7	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	7	µg/L		Objective; Maximum; Total isomers	Manitoba	Williamson 1988
	FW	7	µg/L		Maximum acceptable; Total isomers	Ontario	Environment Ontario 1983
	FW	7	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	60	µg/L		Emergency limits for short-term consumption, up to 3 days, proposed	United States	AWWA 1983
	FW	63	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	63	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
Chlordecone	FW	0.02	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Chlorendic acid	FW	4	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Chloride	FW	25	mg/L		Guide level	Europe	CEC 1988
	FW	200	mg/L		Standard; Maximum; Includes culinary use	Alaska	ADEC 1998a
	FW	200	mg/L		Guide levels for all categories	Europe	CEC 1988
	FW	<=250	mg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	250	mg/L		Standard; For taste, odour or aesthetic quality	Virginia	COV 1997
	FW	250	mg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chloride (cont.)	FW	250	mg/L		Standard; Secondary Maximum Contaminant Level (aesthetic value); Recommended Upper Short Term	California	CDWR 1997
	FW	250	mg/L		Secondary Standard	Massachusetts	Anastas 1998
	FW	250	mg/L		Guideline value for aesthetic quality; Organoleptic effects	International	WHO 1984
	FW	250	mg/L		Objective; Maximum; Aesthetics	Manitoba	Williamson 1988
	FW	250	mg/L		Maximum desirable concentration; Related to aesthetic quality	Ontario	Environment Ontario 1983
	FW	250	mg/L		Secondary maximum contaminant level; Is not legally enforceable, aesthetic limit	United States	AWWA 1988
	GW	250	mg/L		Standard	New York State	NYSDEC 1998
	FW	400	mg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Chloride (dissolved)	FW	<=250	mg/L		Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
Chloride (total)	GW	250	mg/L		Guidance Level	Oregon	ODEQ 1997
Chlorides	FW	250	mg/L		Standard; Proposed Maximum	Alaska	ADEC 1998b
Chlorinated Paraffins	FW	4	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Chlorites	FW	200	µg/L		Criterion; Interim	Quebec	MDEQ 1996
Chloro-1,1,1-trifluoropropane, 3-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chloro-2-methylpropene, 1-	FW	10	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Chloro-2-methylpropene, 3-	FW	2.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Chloro-2-toluidine, p-	FW	1.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Chloroaniline, m-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chloroaniline, o-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chloroaniline, p-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chlorobenzene	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	20	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	<=30	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	<=30	µg/L		Objective; Aesthetic	British Columbia	BCMOELP 1998
	GW	50	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	70	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	80	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	80	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	80	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	100	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	100	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	100	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	100	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	500	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
Chlorobenzilate	FW	3.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Chlorobenzotrifluoride, 4-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chlorobutane, 1-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chlorodibromomethane	FW	3.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Chloroform	FW	0.19	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW	3.12	µg/L		Chronic suggested no-adverse response level used for potential carcinogens where exposure is > 7 days, 10E-06 cancer risk	United States	AWWA 1985aa
	FW	5	µg/L		Guideline; Applies to non-chlorinated supplies	Massachusetts	Anastas 1998
	FW	7	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	7	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	10	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	100	µg/L		Maximum contaminant level	United States	AWWA 1985aa
	GW	100	µg/L		Water quality standard	New York State	NYSDEC (undated)
	FW	200	µg/L		Guideline value	International	WHO 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chloro-m-cresol, 4-	FW	3000	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
Chloromethyl Methyl Ether	FW	0.15	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens; Technical grade	California	CDWR 1997
	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chloronitrobenzene, m-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chloronitrobenzene, o-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chloronitrobenzene, p-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chloro-ortho-phenylenediamine, 4-	FW	20	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Chloro-o-toluidine, 4-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chloro-o-toluidine, 5-	FW	0.7	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chlorophenol	FW	1	µg/L		Criterion	Colorado	USEPA 1988a
Chlorophenol, 2-	FW	0.1	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	0.1	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	0.1	µg/L		Criterion	Louisiana	USEPA 1988a
Chlorophenol, 3-	FW	0.1	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	0.1	µg/L		Criterion	Louisiana	USEPA 1988a
Chlorophenol, 4-	FW	0.1	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	0.1	µg/L		Criterion	Louisiana	USEPA 1988a
Chlorophenols	FW	0.1	µg/L		Odour threshold concentration; For aesthetic quality	International	WHO 1984

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chlorophenoxy Herbicide 2,4,5-TP	GW	0.26	µg/L		Standard	New York State	NYSDEC 1998
	FW	9	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	10	µg/L		Standard	New York State	NYSDEC 1998
Chlorophyll a	FW-Lakes	2–2.5	µg/L		Criterion; Summer Average for lakes	British Columbia	BCMOELP 1998
Chloropicrin	FW	37	µg/L		Interim Guideline; Action Level; Taste and odour threshold	California	CDWR 1997
	FW	50	µg/L		Interim Guideline; Action Level	California	CDWR 1997
Chloroprene	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chlorothalonil	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	100	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Chlorotoluene, 3-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Chlorotoluene, o-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	45	µg/L		Interim Guideline; Action Level	California	CDWR 1997
Chlorotoluene, p-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	45	µg/L		Interim Guideline; Action Level	California	CDWR 1997
Chlorotoluron	FW	30	µg/L		Criterion	Quebec	MDEQ 1996
Chlorozotocin	FW	0.0015	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Chlorprophan	FW	350	µg/L		Interim Guideline; Action Level	California	CDWR 1997
Chlorpyrifos	FW	2.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	90	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	90	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	90	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	90	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chromium	FW	50	µg/L		Standard	New York State	NYSDEC 1998
	FW	50	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	50	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	50	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	50	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	50	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
	FW	100	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	100	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	100	µg/L		Criterion; For ambient surface waters	Maryland	MDOE 1997
Chromium (III)	FW	50	µg/L		Criterion; Maximum	Oregon	ODEQ 1996
Chromium (total)	FW	50	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	50	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	50	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	GW	50	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
	GW	50	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	100	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	100	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Chromium (VI)	FW	0.0005	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens; For inhalation	California	CDWR 1997
	FW	50	µg/L		Criterion; Maximum	Oregon	ODEQ 1996
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
	FW	100	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
Chrysene	FW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
Cinnamyl Anthranilate	FW	100	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Coke oven emissions	FW	0.15	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Coliforms (total)	GW	0	C/100mL		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	GW	<1	C/100mL		Interim Standard; Maximum	Oregon	ODEQ 1997
	GW	2	C/100mL		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Coliforms (total; cont.)	FW	5.0	%		Rule; Maximum % occurrence for at least forty samples per month	Hawaii	HDOH 1997
	FW	10	MPN/100mL		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	10	C/100mL		Guideline; See reference for more detail	Canada	Health Canada 1998
	FW	10	C/100mL		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW-Lakes	50	MPN/100mL		Standard; Rivers Class AA; Lakes Class AA	Japan	JWQB 1998
	FW	100	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 500 MPN/100mL; Class A	Rhode Island	RIDEM 1997
	FW-Lakes	1000	MPN/100mL		Standard; Rivers Class A; Lakes Class A	Japan	JWQB 1998
	FW	<5000	C/100mL		Interim Guideline; 90% of samples	Alberta	AEP 1997
	FW	5000	MPN/100mL		Standard; Rivers Class B	Japan	JWQB 1998
	FW	Narrative			Rule; When fewer than forty samples per month are collected no more than one sample collected during a month shall be total coliform positive	Hawaii	HDOH 1997
	FW	Narrative			Standard; Little to no significant health risk; With no more than 5% of the samples collected in 1 month can have 1 positive sample	United States	USEPA 1997b
Colour	FW	<=15	TCU		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	<=15	TCU		Guideline; Aesthetic Objective for True colour	British Columbia	BCMOELP 1998
	FW	15	colour units		Standard; Secondary Maximum Contaminant Level (aesthetic value)	California	CDWR 1997
	FW	15	colour units		Secondary Standard	Massachusetts	Anastas 1998
	FW	15	colour units		Standard; Maximum; Or the natural condition	Alaska	ADEC 1998a
	GW	15	colour units		Guidance Level	Oregon	ODEQ 1997
Colour (change)	FW	30	colour units		Interim Guideline; Maximum change above natural value	Alberta	AEP 1997
Conductivity	FW	400	µS/cm		Guide level; At 20 C, corresponds to mineralization of water	Europe	CEC 1988
	FW	700	µS/cm		Guideline; Maximum for specific conductivity	British Columbia	BCMOELP 1998
	FW	1000	µS/cm		Guide level, at 20 C, for all categories	Europe	CEC 1988
Copper	FW	200	µg/L		Standard	New York State	NYSDEC 1998
	GW	200	µg/L		Standard	New York State	NYSDEC 1998
	FW	<=1000	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	1000	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	1000	µg/L		Standard; Secondary Maximum Contaminant Level (aesthetic value)	California	CDWR 1997
	FW	1000	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	1000	µg/L		Secondary Standard	Massachusetts	Anastas 1998
	FW	1000	µg/L		Maximum desirable concentration; Related to aesthetic quality	Ontario	Environment Ontario 1983

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Copper (cont.)	FW	1000	µg/L		Secondary maximum contaminant level; Is not legally enforceable, aesthetic limit	United States	AWWA 1988
	GW	1000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	1300	µg/L		Standard; Action Level	Massachusetts	Anastas 1998
	FW	1300	µg/L		A recommended maximum contaminant level health goal, the level at which no adverse effects can be expected to occur	United States	AWWA 1985b
	FW	1300	µg/L	TTA	Proposed Criterion; Maximum Contaminant Level	United States	USEPA 1993
	FW	2000	µg/L		Provisional Guideline; Based on acute gastrointestinal effects	International	WHO 1998
Copper (total)	FW	20	µg/L		Guide level for Category A1	Europe	CEC 1988
	FW	50	µg/L		Guide level for Category A2	Europe	CEC 1988
	FW	50	µg/L		Imperative for Category A1	Europe	CEC 1988
	FW	100	µg/L		Maximum admissible concentration; Above 3000 µg/L astringent taste, discolouration and corrosion may occur	Europe	CEC 1988
	FW	500	µg/L	TTA	Criterion; Maximum for raw water	British Columbia	BCMOELP 1998
	FW	1000	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	1000	µg/L		Guide level for Category A3	Europe	CEC 1988
	FW	1000	µg/L		Guideline value for aesthetic quality	International	WHO 1984
	FW	1000	µg/L		Objective; Maximum; Aesthetics	Manitoba	Williamson 1988
	GW	1000	µg/L		Guidance Level	Oregon	ODEQ 1997
Corrosivity	FW	Narrative			Standard; Secondary Maximum Contaminant Level (aesthetic value); Non-corrosive	California	CDWR 1997
	FW	Narrative			Secondary Standard; Non-corrosive	Massachusetts	Anastas 1998
Cresidine, p-	FW	2.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Cumene	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Cupferron	FW	1.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Cyanazine	FW	0.6	µg/L		Guideline	International	WHO 1998
	FW	10	µg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	10	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	FW	10	µg/L	TTA	Objective; Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	10	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Cyanide	GW	5	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	100	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	GW	100	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	200	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	200	µg/L		Rule; Maximum as free cyanide	Hawaii	HDOH 1997
	FW	200	µg/L		Standard	New York State	NYSDEC 1998
	FW	200	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	200	µg/L		Goal; Maximum Contaminant Level; As free cyanide	United States	USEPA 1997b
	FW	200	µg/L		Criterion; For ambient surface waters	Maryland	MDOE 1997
	FW	200	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	200	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	200	µg/L	TTA	Criterion; Maximum; Includes strong-acid dissociable cyanide and	British Columbia	BCMOELP 1998
	FW	200	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	200	µg/L		Water Quality Objective; Maximum; Strong-acid dissociable cyanide and thiocyanate	Similkameen River Basin, BC	Zeman 1990
	FW	200	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	200	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	GW	200	µg/L		Standard	New York State	NYSDEC 1998
	GW	200	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Cyanides	FW	800	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
Cyanogen bromide	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Cyanogen Chloride	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	70	µg/L		Criterion	Quebec	MDEQ 1996
Cyclophosphamide	FW	0.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens; Anhydrous form	California	CDWR 1997
	FW	0.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens; Hydrated form	California	CDWR 1997
D, 2,4-	FW	4.4	µg/L		Suggested no-adverse effect level	United States	NAS&NAE 1972
	GW	4.4	µg/L		Water quality standard	New York State	NYSDEC (undated)
	FW	30	µg/L		Guideline value	International	WHO 1998
	GW	35	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
D, 2,4- (cont.)	FW	50	µg/L		Standard	New York State	NYSDEC 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
	FW	70	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	70	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	70	µg/L		Regulation; Maximum Contaminant Level; For community water and non-transient, non-community water	United States	USEPA 1997b
	FW	70	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	70	µg/L		A recommended maximum contaminant level health goal, the level at which no adverse effects can be expected to occur	United States	AWWA 1985b
	FW	70	µg/L		Lifetime health advisory for a 70 kg adult, assuming 20% of exposure to the substance is from drinking water and adjusting for additional uncertainty if the substance is a potential carcinogen	United States	USEPA 1987a
	GW	70	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	100.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	100	µg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	100	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	FW	100	µg/L		Objective; Maximum	Manitoba	Williamson 1988
	FW	100	µg/L		Maximum acceptable	Ontario	Environment Ontario 1983
	FW	100	µg/L	TTA	Objective; Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	100	µg/L		Emergency limits for long-term consumption, (over a period of days, months, years) proposed	United States	AWWA 1983
	FW	100	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	FW	100	µg/L		Maximum contaminant level	United States	AWWA 1988
	FW	100	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	100	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	GW	100	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	300	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	350	µg/L		Lifetime health advisory for a 70 kg adult, assuming all exposure to the substance is from drinking water	United States	USEPA 1987a
	FW	1100	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	GW	1250	µg/L		Health guidance level for ground water; Proposed	Ontario	Environment Ontario 1985
	FW	2000	µg/L		Emergency limits for short-term consumption, up to 3 days, proposed	United States	AWWA 1983
D, 2,4- (total)	GW	100	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
D2CDD (Dioxin)	FW	0.015	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
D2CDF (Furan)	FW	0.15	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
Dacarbazine	FW	0.005	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Dactinomycin	FW	0.00004	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Dalapon	FW	50	µg/L		Guidance value; Includes related forms that convert to the organic acid upon acidification to a pH of 2 or less; And esters of the organic acid	New York State	NYSDEC 1998
	GW	50	µg/L		Standard; Includes related forms that convert to the organic acid upon acidification to a pH of 2 or less; And esters of the organic acid	New York State	NYSDEC 1998
	GW	100	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	200	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	200	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	200	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	200	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	200	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Daminozide	FW	20	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Danthron	FW	4.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
DB, 2,4-	FW	90	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
DCPA	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
DDD	FW	0.3	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.3	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
DDE	FW	0.2	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.2	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
DDT	FW	0.000024	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; Risk level of 10E-06	United States	USEPA 1986
	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	0.2	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.2	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	3.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
DDT and metabolites	FW	1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	30	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
DDTs	FW	0.00	µg/L		Standard; Upper value; Raw water source; Value is zero	District of Columbia	USEPA 1988d
DDTs (sum)	FW	0.00006	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.0008	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.083	µg/L		Chronic suggested no-adverse response level used for potential carcinogens where exposure is > 7 days, 10E-06 cancer risk	United States	AWWA 1985a
	FW	1	µg/L		Guideline value	International	WHO 1984
	FW	30	µg/L		Maximum Acceptable Concentration; Total isomers	Canada	H&WC 1989
	FW	30	µg/L		Objective; Maximum; Total isomers	Manitoba	Williamson 1988
	FW	30	µg/L		Maximum acceptable; Total isomers	Ontario	Environment Ontario 1983
	FW	42	µg/L		Emergency limits for long-term consumption, over a period of days, months, years, proposed	United States	AWWA 1983
	FW	100	µg/L		Maximum permissible concentration	USSR	Stofen 1973
	FW	1400	µg/L		Emergency limits for short-term consumption, up to 3 days, proposed	United States	AWWA 1983
Dechlorane Plus	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Demeton	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Diaminodiphenylmethane, p,p'-	FW	0.2	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Diaminodipheyl ether, 4,4'-	FW	2.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Diaminotoluene, 2,4-	FW	0.1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Diazinon	GW	0.7	µg/L		Standard	New York State	NYSDEC 1998

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Diazinon (cont.)	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	14	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	FW	20	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	20	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	20	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	20	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Dibenzanthracene, 1,2:5,6- (total)	FW	0.1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Dibromo-3-nitrilopropionamide, 2,2-	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Dibromoacetonitrile	FW	100	µg/L		Criterion; Interim; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Dibromobenzene, 1,2-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dibromobenzene, 1,3-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dibromobenzene, 1,4-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dibromochloromethane	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Dibromochloropropane	FW	0.04	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.05	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	0.1	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	GW	0.1	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.2	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	0.2	µg/L		Regulation; Maximum Contaminant Level; For community water and non-transient, non-community water	United States	USEPA 1997b
	FW	0.2	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	0.2	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dibromodichloromethane	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dibromomethane	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dicamba	GW	0.440	µg/L		Water quality standard	New York State	NYSDEC (undated)
	FW	0.44	µg/L		Suggested no-adverse effect level	United States	NAS&NAE 1972
	GW	0.44	µg/L		Standard	New York State	NYSDEC 1998
	FW	9	µg/L		Lifetime health advisory for a 70 kg adult, assuming 20% of exposure to the substance is from drinking water and adjusting for additional uncertainty if the substance is a potential carcinogen	United States	USEPA 1987b
	FW	13	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 10 kg child assuming consumption of 1litre of	United States	USEPA 1987b
	FW	46	µg/L		Lifetime health advisory for a 70 kg adult, assuming all exposure to the substance is from drinking water	United States	USEPA 1987b
	FW	50	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 70 kg adult assuming consumption of 2 litres of	United States	USEPA 1987b
	FW	120	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	120	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	FW	120	µg/L		Maximum Acceptable Concentration	Canada	H&WC 1989
	FW	120	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	120	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	300.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	300	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987b
	FW	300	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987b
Dichloro-2-butene, 1,4- (cis)	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichloro-2-butene, 1,4- (trans)	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichloroacetic Acid	FW	50	µg/L		Criterion; Interim	Quebec	MDEQ 1996
Dichloroacetonitrile	FW	90	µg/L		Criterion; Interim	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichlorobenzene, m-	FW	<=1	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	3	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	3	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	5	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	20	µg/L		Interim Guideline; Action Level; Taste and Odour Threshold for single or sum of isomers	California	CDWR 1997
	FW	130	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	GW	300	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	600	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	600	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Dichlorobenzene, o-	FW	<=3	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	<=3	µg/L		Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	3	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	3	µg/L		Objective; Aesthetic Objective	Ontario	OMEE 1994
	GW	3	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	10	µg/L		Interim Guideline; Action Level; Taste and Odour Threshold for single or sum of isomers	California	CDWR 1997
	FW	130	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	FW	200	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	200	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	200	µg/L	TTA	Objective; Maximum Acceptable Concentration	Ontario	OMEE 1994
	GW	300	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	600	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	600	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	600	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	600	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	600	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	600	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Dichlorobenzene, p-	FW	<=1	µg/L		Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	1	µg/L		Objective; Aesthetic Objective	Ontario	OMEE 1994
	FW	3	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	3	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	5	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	5	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	5	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichlorobenzene, p- (cont.)	FW	10	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	GW	37.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	75	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	75	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	75	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	75	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Dichlorobenzene, p- (total)	GW	75	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Dichlorobenzidine, 3,3'-	FW	0.3	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichlorobenzotrifluoride, 3,4-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichlorobromomethane	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Dichlorodifluoromethane	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	1000	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	FW	1400	µg/L		Guideline	Massachusetts	Anastas 1998
Dichloroethyl Ether, sym-	FW	0.03	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.15	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	GW	1.0	µg/L		Standard	New York State	NYSDEC 1998
Dichloroethylene, 1,2- (cis)	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	6	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	GW	35	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	50	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	70	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	70	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	70	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	70	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	70	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichloroethylene, 1,2- (trans)	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	10	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	50	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	50	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	100	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	100	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	100	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	100	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	100	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Dichlorofluoromethane	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichloromethyl Ether, sym-	FW	0.01	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichlorophenol, 2,3-	FW	0.04	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	0.04	µg/L		Criterion	Louisiana	USEPA 1988a
Dichlorophenol, 2,4-	FW	<=0.3	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	0.3	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	0.3	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	0.3	µg/L	TTA	Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	0.3	µg/L		Criterion	Louisiana	USEPA 1988a
	FW	0.3	µg/L		Criterion	New York State	USEPA 1988a
	FW	0.3	µg/L		Aesthetic Objective	Ontario	OMEE 1994
	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	900	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	900	µg/L	TTA	Criterion; Toxicity; Maximum	British Columbia	BCMOELP 1998
	FW	900	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	3090	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
Dichlorophenol, 2,5-	FW	0.5	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichlorophenol, 2,5- (cont.)	FW	0.5	µg/L		Criterion	Louisiana	USEPA 1988a
Dichlorophenol, 2,6-	FW	0.2	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	0.2	µg/L		Criterion	Louisiana	USEPA 1988a
Dichlorophenol, 3,4-	FW	0.3	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	0.3	µg/L		Criterion	Louisiana	USEPA 1988a
Dichlorophenols	FW	0.3	µg/L		Criterion; Aesthetic	British Columbia	BCMOELP 1998
Dichloropropane, 1,3-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichloropropane, 2,2-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichloropropene, 1,1-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichloropropene, 1,3-	FW	0.4	µg/L		Standard; Tumour causing substance; Applies to sum of cis- and trans-	New York State	NYSDEC 1998
	GW	0.4	µg/L		Standard; Tumour causing substance; Applies to sum of cis- and trans-	New York State	NYSDEC 1998
	FW	0.5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	0.5	µg/L		Guideline	Massachusetts	Anastas 1998
	FW	25	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Dichlorotoluene, 2,3-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichlorotoluene, 2,4-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichlorotoluene, 2,5-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichlorotoluene, 2,6-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichlorotoluene, 3,4-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichlorotoluene, 3,5-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dichlorprop	FW	100	µg/L		Criterion	Quebec	MDEQ 1996
Dichlorvos	FW	1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	20.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Diclofop-Methyl	FW	3.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	9	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	9	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	9	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	9	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Dicofol	FW	100.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Dieldrin	FW	0.00007	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	0.000071	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; Risk level of 10E-06	United States	USEPA 1986
	FW	0.00008	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.00384	µg/L		Chronic suggested no-adverse response level used for potential carcinogens where exposure is > 7 days, 10E-06 cancer risk	United States	AWWA 1985a
	FW	0.004	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.004	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.006	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.02	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	0.05	µg/L		Interim Guideline; Action Level; Limit of quantification	California	CDWR 1997
	FW	0.5	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 10 kg child assuming consumption of 1litre of	United States	USEPA 1987b
	FW	0.5	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987b
	FW	0.5	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987b
	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dieldrin (cont.)	FW	1.75	µg/L		Lifetime health advisory for a 70 kg adult, assuming all exposure to the substance is from drinking water	United States	USEPA 1987b
	FW	17	µg/L		Emergency limits for long-term consumption, (over a period of days, months, years) proposed	United States	AWWA 1983
	FW	50	µg/L		Emergency limits for short-term consumption, up to 3 days, proposed	United States	AWWA 1983
Diethyl Phthalate	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Diethylstilbestrol	FW	0.001	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Difluoro-1,1,2,2-tetrachloroethane, 1,2-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Diglycidyl Resorcinol Ether	FW	0.2	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Dihydrosafrole	FW	10	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Diisopropylbenzene, 1,2-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Diisopropylbenzene, 1,3-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Diisopropylbenzene, 1,4-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dimethoate	FW	20	µg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	20	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	FW	20	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	20	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	100.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	140	µg/L		Interim Guideline; Action Level	California	CDWR 1997
Dimethyl Phenethylamine, alpha, alpha-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dimethyl Phthalate	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Dimethyl-1,2-benzanthracene, 9,10-	FW	0.0015	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Dimethylaminoazobenzene, p-	FW	0.1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Dimethylaniline, 2,3-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dimethylaniline, 2,4-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dimethylaniline, 2,5-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dimethylaniline, 2,6-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dimethylaniline, 3,4-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dimethylaniline, 3,5-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dimethylaniline, N,N-	FW	1	µg/L		Standard	New York State	NYSDEC 1998
	GW	1	µg/L		Standard	New York State	NYSDEC 1998
Dimethylbenzidine, 3,3'-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dimethylbibenzyl, 4,4'-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dimethylcarbamoyl Chloride	FW	0.025	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Dimethyldiphenylmethane, 4,4'-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dimethylformamide	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Dimethylhydrazine, 1,2-	FW	0.0005	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Dimethylphenol, 2,4-	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	200	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	400.0	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	400	µg/L		Interim Guideline; Action Level; Taste and odour threshold	California	CDWR 1997
	FW	400	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
Dinitrobenzene, m-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dinitrophenol, 2,4-	FW	10	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	10	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	70	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
Dinitrotoluene, 2,3-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dinitrotoluene, 2,4-	FW	1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dinitrotoluene, 2,5-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dinitrotoluene, 2,6-	FW	0.07	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dinitrotoluene, 3,4-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Dinitrotoluene, 3,5-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dinoseb	GW	3.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	7	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	7	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	7	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	7	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	7	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	10	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	10	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	10	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	10	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Dioxane, 1,4-	FW	50	µg/L		Guideline	Massachusetts	Anastas 1998
Diphenamid	FW	40	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
Diphenylamine	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Diphenylhydrazine, 1,2-	FW	0.05	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.4	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Diquat	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	10	µg/L		Provisional Guideline	International	WHO 1998
	GW	10	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	20	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	20	µg/L		Standard; Applies to concentration of diquat ion whether free or as an undissociated salt	New York State	NYSDEC 1998
	FW	20	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	20	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	20	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	20	µg/L		Standard; Applies to concentration of diquat ion whether free or as an undissociated salt	New York State	NYSDEC 1998
	GW	20	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	70	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	70	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	70	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Diquat (cont.)	FW	70	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Direct Black 38 (technical grade)	FW	0.045	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Direct Blue 6 (technical grade)	FW	0.045	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Direct Brown 95 (technical grade)	FW	0.005	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Disperse Blue 1	FW	100	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Dissolved Oxygen	FW	4	mg/L		Standard; Minimum; Not including water from lakes or reservoirs in which supplies are taken from below the thermocline or to groundwater	Alaska	ADEC 1998a
	FW	5	mg/L		Criterion; Instantaneous Minimum; Warm and cold water; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW	5	mg/L		Criterion; Use IIIp waters; Minimum at any time	Maryland	MDOE 1997
	FW	5	mg/L		Standard; Rivers Class B	Japan	JWQB 1998
	FW	6	mg/L		Criterion; Use IIIp waters; Minimum daily average	Maryland	MDOE 1997
	FW	6	mg/L		Standard; For Class A; Minimum unless background is lower;	Massachusetts	COM 1996
	FW	7.5	mg/L		Standard; Rivers Class AA and A; Lakes Class AA and A	Japan	JWQB 1998
	FW	8	mg/L		Standard; Minimum; Class A (excellent)	Washington	Washington State 1997
	FW	9.5	mg/L		Standard; Minimum; Class AA (extraordinary)	Washington	Washington State 1997
	FW	>30	%		Guide level for Category A3	Europe	CEC 1988
	FW	>50	%		Guide level for Category A2	Europe	CEC 1988
	FW	60	%		Criterion; Minimum Saturation; Based on a daily average; Warm water; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW	>70	%		Guide level for Category A1	Europe	CEC 1988
	FW	75	%		Criterion; Minimum Saturation; Based on a daily average; Cold water; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW-Lakes	Narrative			Standard; No measurable decrease from natural conditions; Lake Class	Washington	Washington State 1997
Disulfoton	FW	6.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Diuron	FW	40.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	150	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	150	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	150	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	150	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dodecylguanidine Acetate and	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Dodecylguanidine Hydrochloride	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Dyphylline	FW	50	µg/L		Standard	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Edetic Acid	FW	200	µg/L		Criterion; Interim	Quebec	MDEQ 1996
	FW	600	µg/L		Guideline; Applies to the free acid	International	WHO 1998
Endosulfan	FW	40.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	75.0	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
Endothall	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	100	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	100	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	100	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	100	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	100	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	600.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Endrin	GW	0.004	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	0.2	µg/L		Criterion; Maximum	Oregon	ODEQ 1996
	FW	0.2	µg/L		Standard	New York State	NYSDEC 1998
	GW	0.2	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	FW	1.0	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	GW	1	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	2	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	2	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	2	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	2	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW	2	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	2	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Endrin (total)	GW	0.2	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Endrin Aldehyde	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Endrin Ketone	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Enterococci	FW	0	Colonies/100mL		Criterion; Raw drinking water that will not be treated	British Columbia	BCMOELP 1998
	FW	<=3	Colonies/100mL		Criterion; 90th Percentile; Raw drinking water that will receive disinfection only	British Columbia	BCMOELP 1998
	FW	<=25	Colonies/100mL		Criterion; 90th Percentile; Raw drinking water that will receive partial treatment	British Columbia	BCMOELP 1998
Epichlorohydrin	FW	0.4	µg/L		Criterion; Interim; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	4.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	Narrative			Standard; Little to no significant carcinogenic or other heath risk; Limited amount added to drinking water; See reference for more detail	United States	USEPA 1997b
Escherichia coli	FW	0	Colonies/100mL		Criterion; Raw drinking water; No treatment	British Columbia	BCMOELP 1998
	FW	<=10	Colonies/100mL		Criterion; 90th Percentile; Raw drinking water; Disinfection only	British Columbia	BCMOELP 1998
	FW	<100	Colonies/100mL		Criterion; 90th Percentile; Raw drinking water; Partial treatment	British Columbia	BCMOELP 1998
Estradiol	FW	0.01	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Ethalfluralin	GW	3750	µg/L		Health guidance level for ground water; Proposed	Ontario	Environment Ontario 1985
Ethion	FW	6.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	35	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	FW	50	µg/L		Health guidance level for ground water; Proposed	Ontario	Environment Ontario 1985
Ethyl Chloride	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Ethylbenzene	FW	<=2.4	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	<=2.4	µg/L		Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	350	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	700	µg/L		Rule; Maximum	Hawaii	HDOH 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ethylbenzene (cont.)	FW	700	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	700	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	700	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	700	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	700	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Ethylene Chlorohydrin	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Ethylene Dibromide	FW	0.0006	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.0006	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.02	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	0.025	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.04	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	0.05	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	0.05	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	GW	0.05	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens; For oral consumption and ingestion	California	CDWR 1997
	FW	0.4–15	µg/L		Provisional Guideline; For excess risk of 10E-05	International	WHO 1998
	FW	1.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens; For inhalation	California	CDWR 1997
Ethylene Dichloride	FW	0.5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	0.6	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.6	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	2.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	5.0	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	FW	5	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	5	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	5	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	5	µg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	5	µg/L	TTA	Criterion; Interim maximum	British Columbia	BCMOELP 1998
	FW	5	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	GW	5	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ethylene Dichloride (total)	GW	5	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Ethylene Glycol	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	14000	µg/L		Guideline	Massachusetts	Anastas 1998
Ethylene Oxide	FW	0.05	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.05	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	FW	1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	10	µg/L		Proposition 65 Regulatory Level; 1/1000 of the No Observable Effect Level as a reproductive toxicant	California	CDWR 1997
Ethylene Thiourea	FW	10	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Ethyleneimine	FW	0.005	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Ethylidene Chloride	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	50	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	70	µg/L		Guideline	Massachusetts	Anastas 1998
Fecal Coliforms	FW	0	FC/100mL		Guideline; See reference for more detail	Canada	Health Canada 1998
	FW	0	FC/100mL		Criterion; For non-treated water	British Columbia	BCMOELP 1998
	GW	1	FC/100mL		Standard; Maximum; Using the fecal coliform MFT (or <3/100mL; Using the fecal coliform MPN); Includes culinary	Alaska	ADEC 1998a
	FW	<=10	FC/100mL		Criterion; 90th Percentile; For disinfected water	British Columbia	BCMOELP 1998
	FW	20	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 200 MPN/100mL; Class A	Rhode Island	RIDEM 1997
	FW	20	FC/100mL		Standard; For Class A; At any time, and 10% of all samples; Maximum = 100 FC/100mL	Massachusetts	COM 1996
	FW	20	FC/100mL		Standard; Maximum 30-day average; With no more than 10% of the samples exceeding 40/100mL; Includes culinary uses	Alaska	ADEC 1998a
	FW	50	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Class AA (extraordinary)	Washington	Washington State 1997
	FW-Lakes	50	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Lake Class	Washington	Washington State 1997
	FW	<=100	FC/100mL		Criterion; 90th Percentile; For partially treated water	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fecal Coliforms (cont.)	FW	100	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100mL; Class A (excellent)	Washington	Washington State 1997
	FW	200	FC/100mL		Criterion; 30-day average; Log mean; Use IIIp waters	Maryland	MDOE 1997
	FW	400	FC/100mL		Criterion; 10% of samples during 30-days; Use IIIp waters	Maryland	MDOE 1997
	FW	<1000	FC/100mL		Interim Guideline; 90% of samples	Alberta	AEP 1997
	FW	1000	FC/100mL		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	Narrative			Guideline; No sample should contain any fecal coliforms in 100 mL; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	Narrative			Standard; Little to no significant health risk; All samples must be free from these bacteria	United States	USEPA 1997b
Fenitrothion	FW	20.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Ferbam	GW	4.2	µg/L		Standard	New York State	NYSDEC 1998
Fluometuron	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
Fluoranthene	FW	42	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Fluorenylacetamide, N-2-	FW	0.1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Fluoride	GW	1.4	mg/L		Criterion; Maximum for average annual maximum daily air temperature from 26.2 to 32.6 °C; Domestic water supplies	Idaho	IDH&W 1998
	FW	1.4–2.4	mg/L		Standard; Primary Maximum Contaminant Level; Depends on annual average of maximum daily air temperatures	California	CDWR 1997
	FW	1.5	mg/L		Standard	New York State	NYSDEC 1998
	FW	1.5	mg/L		Guideline; Maximum Acceptable Concentration; 800-1000 µg/L suggested adjustment for dental cavities	Canada	Health Canada 1998
	FW	1.5	mg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	GW	1.5	mg/L		Standard	New York State	NYSDEC 1998
	GW	1.6	mg/L		Criterion; Maximum for average annual maximum daily air temperature from 21.5 to 26.1 °C; Domestic water supplies	Idaho	IDH&W 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fluoride (cont.)	GW	1.8	mg/L		Criterion; Maximum for average annual maximum daily air temperature from 17.7 to 21.4 °C; Domestic water supplies	Idaho	IDH&W 1998
	FW	2	mg/L		Secondary Standard	Massachusetts	Anastas 1998
	GW	2	mg/L		Criterion; Maximum for average annual maximum daily air temperature from 14.7 to 17.6 °C; Domestic water supplies	Idaho	IDH&W 1998
	GW	2	mg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	GW	2.2	mg/L		Criterion; Maximum for average annual maximum daily air temperature from 12.1 to 14.6 °C; Domestic water supplies	Idaho	IDH&W 1998
	FW	<2.4	mg/L		Rule; Maximum at < 12.0 °C for air; Value a function of air temperature (See reference)	Hawaii	HDOH 1997
	GW	2.4	mg/L		Criterion; Maximum for average annual maximum daily air temperature up to 12.0 °C; Domestic water supplies	Idaho	IDH&W 1998
	FW	4	mg/L		Regulation; Maximum Contaminant Level; For community water systems and non-transient, non-community water systems	United States	USEPA 1997b
	FW	4	mg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	4	mg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Fluoride (total)	FW	1	mg/L		Criterion; 30-day average	British Columbia	BCMOELP 1998
	FW	1.5	mg/L		Criterion; Maximum	British Columbia	BCMOELP 1998
	GW	4	mg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Fluorine	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Foaming Agents	GW	50	µg/L		Standard; Possible present or anticipated use; As Methylene Blue active substances	Virginia	COV 1997
	FW	500	µg/L		Standard; For taste, odour or aesthetic quality; Measured as methylene blue active substances	Virginia	COV 1997
	FW	500	µg/L		Standard; Secondary Maximum Contaminant Level (aesthetic value)	California	CDWR 1997
	FW	500	µg/L		Secondary Standard	Massachusetts	Anastas 1998
	GW	500	µg/L		Guidance Level	Oregon	ODEQ 1997
Folpet	GW	50	µg/L		Standard	New York State	NYSDEC 1998
	FW	100	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Formaldehyde	FW	30	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	FW	900	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Formaldehyde (gas)	FW	20	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Furans (total)	FW	200	µg/L		Maximum permissible concentration	USSR	Stofen 1973
Furmecyclox	FW	10	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Glyphosate	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	200.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	280	µg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	280	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	FW	280	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	280	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	350	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	500	µg/L	TTA	Guideline	United States	USEPA 1982a,1982b
	FW	700	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	700	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	700	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	700	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	700	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Guaifenesin	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Gyromitrin	FW	0.035	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
H6CDD (Dioxin)	FW	0.00015	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
H6CDF (Furan)	FW	0.00015	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
H7CDD (Dioxin)	FW	0.0015	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
H7CDF (Furan)	FW	0.0015	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
Hardness	FW	60	mg/L		Ca or equivalent cations, minimum required concentration	Europe	CEC 1988
	FW	200	mg/L		Objective; Maximum; As CaCO3; Aesthetics	Manitoba	Williamson 1988
	FW	500	mg/L		Guideline; For raw waters subjected to coarse screening; As CaCO3	Australia	ANZECC 1992
	FW	500	mg/L		Guideline value for aesthetic quality; As CaCO3	International	WHO 1984
Hardness (total dissolved)	FW	80 –100	mg/L		Guideline; Acceptable CaCO3 level	British Columbia	BCMOELP 1998
	FW	>200	mg/L		Guideline; Poor CaCO3 level, but can be tolerated	British Columbia	BCMOELP 1998
	FW	>500	mg/L		Guideline; Normally unacceptable CaCO3 level	British Columbia	BCMOELP 1998
HC Blue 1	FW	5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Heptachlor	FW	0.0003	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	0.0004	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	0.01	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	0.2	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
	GW	0.2	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.4	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	0.4	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	0.4	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	0.4	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	3.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Heptachlor + Heptachlor Epoxide	FW	3	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	3	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
Heptachlor Epoxide	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	0.01	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	0.03	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.03	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.04	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Heptachlor Epoxide (cont.)	GW	0.1	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.2	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	0.2	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	0.2	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	0.2	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Hexachlorobenzene	FW	0.00072	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW	0.0001	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.01	µg/L		Guideline value; For excess risk of 10E-05	International	WHO 1984
	FW	0.01	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.2	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	GW	0.350	µg/L		Water quality standard	New York State	NYSDEC (undated)
	GW	0.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	1	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	1	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	1	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	1	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	1	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	28	µg/L		Drinking water equivalent level; The medium-specific exposure which is interpreted to be protective for health effects not involving carcinogenicity over a lifetime of exposure	United States	USEPA 1987a
	FW	50	µg/L		Maximum permissible concentration	USSR	Stofen 1973
	FW	50	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 10 kg child assuming consumption of 1litre of	United States	USEPA 1987a
	FW	50	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	50	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	175	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 70 kg adult assuming consumption of 2 litres of	United States	USEPA 1987a
Hexachlorobutadiene	FW	0.5	µg/L		Standard	New York State	NYSDEC 1998
	GW	0.5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Hexachlorocyclohexane-Alpha	FW	0.01	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.01	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.15	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	0.7	µg/L		Interim Guideline; Action Level	California	CDWR 1997
Hexachlorocyclohexane-Beta	FW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.25	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	0.3	µg/L		Interim Guideline; Action Level	California	CDWR 1997
Hexachlorocyclohexane-Delta	FW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
Hexachlorocyclohexane-Epsilon	FW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
Hexachlorocyclohexane-Technical	FW	0.1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Hexachlorocyclopentadiene	FW	1	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	25	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	50	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	50	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	50	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	50	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	50	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Hexachlorodibenzodioxin	FW	0.0001	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Hexachloroethane	FW	2	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	3	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	5	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	10	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Hexachlorophene	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Hexachloropropene	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Hexanone, 2-	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Hexazinone	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
	FW	600.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Hydrazine	FW	0.02	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	5	µg/L		Standard; At less than 50 ppm hardness	New York State	NYSDEC 1998
	FW	10	µg/L		Standard; At greater than or equal to 50 ppm hardness	New York State	NYSDEC 1998
Hydrazine Sulfate	FW	0.1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Hydrocarbons, Petroleum	GW	1000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	Narrative			Standard; May not cause a visible sheen upon the surface of the water. May not exceed concentrations that individually or in combination impart odour or taste as determined by organoleptic tests	Alaska	ADEC 1998a
Hydroxy-3,5-di-tert-pentylphenyl)-benzotriazole, 2-(2-	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Hydroxyethylidene-1,1-diphosphonic acid, 1,1-	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Indeno(1,2,3-cd)pyrene	FW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
Iodine 125	FW	10	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Iodine 131	GW	3	pCi/L		Interim Standard; Maximum	Oregon	ODEQ 1997
	FW	6	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Iron	FW	50	µg/L		Guide level	Europe	CEC 1988
	FW	100	µg/L		Guide level for Category A1, dissolved	Europe	CEC 1988
	FW	200	µg/L		Maximum admissible concentration	Europe	CEC 1988

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Iron (cont.)	FW	<=300	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	<=300	µg/L	TTA	Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	300	µg/L		Standard; For taste, odour or aesthetic quality	Virginia	COV 1997
	FW	300	µg/L		Standard; Secondary Maximum Contaminant Level (aesthetic value)	California	CDWR 1997
	FW	300	µg/L		Secondary Standard	Massachusetts	Anastas 1998
	FW	300	µg/L		Imperative value for Category A1, dissolved	Europe	CEC 1988
	FW	300	µg/L		Guideline value for aesthetic quality	International	WHO 1984
	FW	300	µg/L		Objective; Maximum; Aesthetics	Manitoba	Williamson 1988
	FW	300	µg/L		Maximum desirable concentration; Related to aesthetic quality	Ontario	Environment Ontario 1983
	FW	300	µg/L		Secondary maximum contaminant level; Is not legally enforceable, aesthetic limit	United States	AWWA 1988
	FW	300	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	FW	500	µg/L		Maximum permissible concentration	USSR	Stofen 1973
	FW	1000	µg/L		Guide level for categories A2 and A3, dissolved	Europe	CEC 1988
	FW	2000	µg/L		Imperative value for categories A2, dissolved	Europe	CEC 1988
Iron (total)	FW	300	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	GW	300	µg/L		Guidance Level	Oregon	ODEQ 1997
Isodrin	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Isophorone	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Isopropalin	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Isopropylacetone	FW	350	µg/L		Guideline	Massachusetts	Anastas 1998
Isopropyltoluene, 2-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Isopropyltoluene, 3-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Isopropyltoluene, 4-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Isoproturon	FW	9	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Lasiocarpine	FW	0.045	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Lead	FW	0.02	µg/L		Lifetime health advisory for a 70 kg adult, assuming all exposure to the substance is from drinking water	United States	USEPA 1987a
	FW	0.25	µg/L		Proposition 65 Regulatory Level; 1/1000 of the No Observable Effect Level as a reproductive toxicant	California	CDWR 1997
	FW	5.0	µg/L	TTA	Proposed Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	7.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	10	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	10	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	10	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	15	µg/L		Standard; Action Level	Massachusetts	Anastas 1998
	GW	15	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	20	µg/L		A recommended maximum contaminant level health goal, the level at which no adverse effects can be expected to occur	United States	AWWA 1985b
	FW	20	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 70 kg adult assuming consumption of 2 litres of	United States	USEPA 1987a
	GW	25	µg/L		Standard	New York State	NYSDEC 1998
	FW	50	µg/L		Criterion; Maximum	Oregon	ODEQ 1996
	FW	50	µg/L		Standard	New York State	NYSDEC 1998
	FW	50	µg/L		Criterion; For ambient surface waters; Hardness and pH dependent	Maryland	MDOE 1997
	FW	50	µg/L		Maximum acceptable	Ontario	Environment Ontario 1983
	FW	50	µg/L		Criterion; Maximum contaminant level	United States	USEPA 1990
	GW	50	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Lead (total)	FW	10	µg/L		Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	30	µg/L		Maximum allowable concentration	USSR	UNEP 1983b
	FW	50	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	50	µg/L		Imperative for all categories	Europe	CEC 1988
	FW	50	µg/L		Maximum admissible concentration in running water; Where lead pipes are present, sample should not exceed this when taken after flushing	Europe	CEC 1988
	FW	50	µg/L		Guideline value	International	WHO 1984

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Lead (total; cont.)	FW	50	µg/L		Objective; Maximum	Manitoba	Williamson 1988
	GW	50	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Lead Acetate	FW	1.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Lead Subacetate	FW	10	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Lindane	GW	0.01	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	0.0186	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	FW	0.02	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.05	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.05	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.1	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.2	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	0.2	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	0.2	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	0.2	µg/L		Criterion; For ambient surface waters	Maryland	MDOE 1997
	FW	0.2	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	0.2	µg/L		A recommended maximum contaminant level health goal, the level at which no adverse effects can be expected to occur	United States	AWWA 1985b
	FW	0.2	µg/L		Lifetime advisory for a 70 kg adult, assuming 20% of exposure to the substance is from drinking water and adjusting for additional uncertainty if the substance is a potential carcinogen	United States	USEPA 1987a
	GW	0.2	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.3	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	0.4	µg/L		Maximum contaminant limit	United States	AWWA 1988
	FW	0.6	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	3	µg/L		Guideline value; Based on consumption of 2 L/day	International	WHO 1984
	FW	4	µg/L		Criterion; Maximum	Oregon	ODEQ 1996
	FW	4	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	4	µg/L		Objective; Maximum	Manitoba	Williamson 1988
	FW	4	µg/L		Maximum acceptable	Ontario	Environment Ontario 1983
	FW	4	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	4	µg/L		Criterion; Maximum contaminant level	United States	USEPA 1990
	GW	4	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Lindane (cont.)	FW	10	µg/L		Lifetime health advisory for a 70 kg adult, assuming all exposure to the substance is from drinking water	United States	USEPA 1987a
	FW	33	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 10 kg child assuming consumption of 1litre of	United States	USEPA 1987a
	FW	56	µg/L		Emergency limits for long-term consumption, (over a period of days, months, years) proposed	United States	AWWA 1983
	FW	120	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 70 kg adult assuming consumption of 2 litres of	United States	USEPA 1987a
	FW	1200	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	1200	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	2000	µg/L		Emergency limits for short-term consumption, up to 3 days, proposed	United States	AWWA 1983
Lindane (total)	GW	4	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
M1CDD (Dioxin)	FW	0.15	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
M1CDF (Furan)	FW	0.15	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
Magnesium	FW	30	mg/L		Guide level	Europe	CEC 1988
	FW	35	mg/L		Standard	New York State	NYSDEC 1998
	GW	35	mg/L		Guidance value	New York State	NYSDEC 1998
	FW	50	mg/L		Maximum admissible concentration	Europe	CEC 1988
Magnesium (dissolved)	FW	100	mg/L	TTA	Guideline; Taste Threshold; Sensitive People	British Columbia	BCMOELP 1998
	FW	500	mg/L	TTA	Guideline; Taste Threshold; Average people	British Columbia	BCMOELP 1998
	FW	>700	mg/L	TTA	Guideline; Laxative Effects	British Columbia	BCMOELP 1998
Malathion	GW	7.0	µg/L		Standard	New York State	NYSDEC 1998
	GW	7.0	µg/L		Water quality standard	New York State	NYSDEC (undated)
	FW	7	µg/L		Suggested no-adverse effect level	United States	NAS&NAE 1972
	FW	160	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	FW	190	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Malathion (cont.)	FW	190	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	190	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	190	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Mancozeb	GW	1.8	µg/L		Standard	New York State	NYSDEC 1998
Maneb	GW	1.8	µg/L		Standard	New York State	NYSDEC 1998
Manganese	FW	<=50	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	<=50	µg/L	TTA	Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	50	µg/L		Standard; For taste, odour or aesthetic quality	Virginia	COV 1997
	FW	50	µg/L		Standard; Secondary Maximum Contaminant Level (aesthetic value)	California	CDWR 1997
	FW	50	µg/L		Secondary Standard	Massachusetts	Anastas 1998
Manganese (total)	GW	50	µg/L		Guidance Level	Oregon	ODEQ 1997
	FW	100	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
MCPA	GW	0.44	µg/L		Standard	New York State	NYSDEC 1998
	FW	2	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Mecoprop	FW	10	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Melphalan	FW	0.0025	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Mercaptobenzothiazole	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Mercury	FW	0.002	µg/L	TTA	Human Noncancer Criterion; For drinking water; Includes methyl mercury	Great Lakes	USEPA 1992
	GW	0.05	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	0.1	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	0.144	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	FW	0.7	µg/L		Standard	New York State	NYSDEC 1998
	GW	0.7	µg/L		Standard	New York State	NYSDEC 1998
	FW	1	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	1	µg/L		Maximum acceptable	Ontario	Environment Ontario 1983
	FW	1	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Mercury (cont.)	GW	1	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	1.1	µg/L		Lifetime health advisory for a 70 kg adult, assuming 20% of exposure to the substance is from drinking water and adjusting for additional uncertainty if the substance is a potential carcinogen	United States	USEPA 1987a
	FW	1.58	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 10 kg child assuming consumption of 1litre of	United States	USEPA 1987a
	FW	1.58	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	1.58	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	2	µg/L		Criterion; Maximum	Oregon	ODEQ 1996
	FW	2	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	2	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	2	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	2	µg/L		Criterion; For ambient surface waters	Maryland	MDOE 1997
	FW	2	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	2	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	2	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	GW	2	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	5	µg/L		Maximum permissible concentration	USSR	Stofen 1973
	FW	5.5	µg/L		Lifetime health advisory for a 70 kg adult, assuming all exposure to the substance is from drinking water	United States	USEPA 1987a
Mercury (total)	FW	0.5	µg/L		Guide level for all categories	Europe	CEC 1988
	FW	1.0	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	1	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	1	µg/L		Imperative value for all categories	Europe	CEC 1988
	FW	1	µg/L		Maximum admissible concentration	Europe	CEC 1988
	FW	1	µg/L		Guideline value	International	WHO 1984
	FW	1	µg/L		Objective; Maximum	Manitoba	Williamson 1988
	GW	2	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Methacrylic Acid	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Methacrylonitrile	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Methomyl	GW	0.35	µg/L		Standard; As part of sum of Aldicarb and Methomyl	New York State	NYSDEC 1998
Methoxychlor	GW	0.03	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	GW	20	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	30	µg/L		Guideline value; Based on consumption of 2 L/day	International	WHO 1984
	FW	35	µg/L		Standard	New York State	NYSDEC 1998
	GW	35	µg/L		Standard	New York State	NYSDEC 1998
	FW	40	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	40	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	40	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	40	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	40	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	100	µg/L		Criterion; Maximum	Oregon	ODEQ 1996
	FW	100	µg/L		Objective; Maximum	Manitoba	Williamson 1988
	FW	100	µg/L		Maximum acceptable	Ontario	Environment Ontario 1983
	FW	100	µg/L		Criterion; Maximum contaminant level	United States	USEPA 1990
	GW	100	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	FW	900	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	900	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	900	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	900	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Methoxychlor (total)	GW	100	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Methoxyethyl Benzene, 1-	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Methoxy-m-phenylenediamine sulfate, 4-	FW	25	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Methoxy-m-phenylenediamine, 4-	FW	15	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Methyl -1-nitroanthraquinone, 2-	FW	0.1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Methyl Bromide	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	10	µg/L		Guideline	Massachusetts	Anastas 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Methyl Chloride	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Methyl Ethyl Ketone	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	350	µg/L		Guideline	Massachusetts	Anastas 1998
Methyl Iodide	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Methyl Methacrylate	GW	50	µg/L		Standard	New York State	NYSDEC 1998
Methyl Methanesulfonate	FW	3.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Methyl Parathion	GW	1.5	µg/L		Standard; As part of sum of parathion and methyl parathion	New York State	NYSDEC 1998
	FW	30	µg/L		Interim Guideline; Action Level	California	CDWR 1997
Methyl-4-chlorophenol, 2-	FW	1800	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
Methyl-6-chlorophenol, 3-	FW	20	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
Methylaniline, N-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Methylbenz(a)anthracenes	FW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.002	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
Methylcholanthrene, 3-	FW	0.015	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Methylene bis(2-chloroaniline), 4,4'-	FW	0.25	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Methylene bis(2-methylaniline), 4,4'-	FW	0.4	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Methylene Chloride	GW	2.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	5	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Methylene Chloride (cont.)	FW	5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	5	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	5	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	25	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	40	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	FW	50	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	50	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	50	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	50	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	50	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	2000	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
Methylene Dithiocyanate	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Methylene-bis-(N-methyl)-aniline,	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Methylenedianiline dihydrochloride, 4,4'-	FW	0.3	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Methylethoxy)-1-butanol, 4-(1-	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Methylethyl-1,3-dioxolane, 2-	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Methyl-N'-nitro-N-nitrosoguanidine,	FW	0.04	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Methylstyrene, 2-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Methylstyrene, 3-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Methylstyrene, 4-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Methylstyrene, alpha-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Methyl-t-Butyl Ether	GW	20	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	35	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	GW	40	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	70	µg/L		Guideline	Massachusetts	Anastas 1998
Methylthiouracil	FW	1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Metolachlor	FW	50	µg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	50	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	FW	50	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	50	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	100	µg/L		Guideline	Massachusetts	Anastas 1998
	FW	800.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Metribuzin	FW	5.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	50	µg/L		Standard	New York State	NYSDEC 1998
	FW	80	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	80	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	80	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	80	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Mevinphos	FW	6.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Michler's Base	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	10	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Michler's Ketone	FW	0.4	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Mirex	FW	0.02	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	0.03	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.03	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Molinate	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	6	µg/L		Criterion	Quebec	MDEQ 1996
Molybdenum	FW	70	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	500	µg/L		Maximum permissible concentration	USSR	Stofen 1973
Molybdenum (total)	FW	250	µg/L	TTA	Criterion; Maximum; Raw untreated	British Columbia	BCMOELP 1998
Molybdenum 99	FW	70	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Monochlorophenols	FW	0.1	µg/L	TTA	Criterion; Aesthetic	British Columbia	BCMOELP 1998
Monohydric Phenol	FW	1	µg/L		Criterion	Colorado	USEPA 1988a
Nabam	GW	1.8	µg/L		Standard	New York State	NYSDEC 1998
Naphthalene	GW	10	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	GW	20	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Naphthylamine, 2-	FW	0.2	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Nickel	FW	13.0	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	20	µg/L		Provisional Guideline	International	WHO 1998
	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	50	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	100	µg/L		Standard	New York State	NYSDEC 1998
	FW	100	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	100	µg/L		Criterion; For ambient surface waters; Hardness and pH dependent	Maryland	MDOE 1997
	GW	100	µg/L		Standard	New York State	NYSDEC 1998
	GW	100	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Nickel (total)	FW	100	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	200	µg/L	TTA	Criterion; Maximum; Without treatment	British Columbia	Nagpal et al. 1995
	FW	250	µg/L	TTA	Criterion; Maximum; With treatment	British Columbia	Nagpal et al. 1995
Nitralin	GW	35	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrate	GW	5	mg/L		Preventive Action Limit; For Class GAA and GA; As N	Rhode Island	RIDEM 1996
	FW	10	mg/L		Rule; Maximum; As N	Hawaii	HDOH 1997
	FW	10	mg/L		Standard; As part of sum of Nitrite and Nitrate; As N	New York State	NYSDEC 1998
	FW	10	mg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	10	mg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	10	mg/L		Standard; Enforceable; As N	Massachusetts	Anastas 1998
	FW	10	mg/L		Guideline value; As N	International	WHO 1984
	FW	10	mg/L		Objective; Maximum; As N	Manitoba	Williamson 1988
	FW	10	mg/L		Maximum acceptable; As N	Ontario	Environment Ontario 1983
	FW	10	mg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	10	mg/L		Criterion; Maximum contaminant level	United States	USEPA 1990
	GW	10	mg/L		Criterion; Maximum; As N; Domestic water supplies	Idaho	IDH&W 1998
	GW	10	mg/L		Standard; As part of sum of Nitrite and Nitrate; As N	New York State	NYSDEC 1998
	GW	10	mg/L		Standard; For Class GAA and GA; As N	Rhode Island	RIDEM 1996
	FW	25	mg/L		Guide level	Europe	CEC 1988
	FW	25	mg/L		Guide level for Category A1	Europe	CEC 1988
	FW	45	mg/L		Standard; Primary Maximum Contaminant Level; As NO3	California	CDWR 1997
	FW	45	mg/L		Guideline; Maximum Acceptable Concentration; Equivalent to 10 mg/L as nitrite-nitrate	Canada	Health Canada 1998
	FW	45	mg/L		Guideline; Maximum (or 10000 µg/L as NO3-N)	British Columbia	BCMOELP 1998
	FW	50	mg/L		Guideline; Acute toxicity; As NO3-	International	WHO 1998
	FW	50	mg/L		Imperative value for all categories	Europe	CEC 1988
	FW	50	mg/L		Maximum admissible concentration	Europe	CEC 1988
Nitrate + Nitrite	FW	1	mg/L		Guideline; Acute toxicity	International	WHO 1998
	GW	5	mg/L		Preventive Action Limit; For Class GAA and GA; (total)	Rhode Island	RIDEM 1996
	FW	10	mg/L		Rule; Maximum; As N	Hawaii	HDOH 1997
	FW	10	mg/L		Standard	New York State	NYSDEC 1998
	FW	10	mg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	10	mg/L		Regulation; Maximum Contaminant Level; As N	United States	USEPA 1997b
	FW	10	mg/L		Standard; Enforceable; As N	Massachusetts	Anastas 1998
	FW	10	mg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	GW	10	mg/L		Standard	New York State	NYSDEC 1998
	GW	10	mg/L		Standard; For Class GAA and GA; (total)	Rhode Island	RIDEM 1996
Nitrates	FW	10	mg/L		Criterion; Maximum	Oregon	ODEQ 1996
	FW	10	mg/L		Criterion; Maximum	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrates (total)	GW	10	mg/L		Permanent Standard; Maximum; Nitrate expressed as Nitrogen	Oregon	ODEQ 1997
Nitrilotriacetic Acid	FW	3	µg/L		Standard; Includes related forms that convert to nitrilotriacetic acid upon acidification to a pH of 2.3 or less; Tumour causing substance	New York State	NYSDEC 1998
	GW	3	µg/L		Standard; Includes related forms that convert to nitilotriacetic acid upon acidification to a pH of 2.3 or less; Tumour causing substance	New York State	NYSDEC 1998
	FW	50	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	400	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	400	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	400	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	400	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Nitrite	FW	0.1	mg/L		Maximum admissible concentration	Europe	CEC 1988
	FW	0.2	mg/L		Provisional Guideline; Chronic toxicity; As NO2-	International	WHO 1998
	GW	0.5	mg/L		Preventive Action Limit; For Class GAA and GA; As N	Rhode Island	RIDEM 1996
	FW	1	mg/L		Rule; Maximum; As N	Hawaii	HDOH 1997
	FW	1	mg/L		Standard; As part of sum of Nitrite and Nitrate; As N	New York State	NYSDEC 1998
	FW	1	mg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	1	mg/L		Standard; Primary Maximum Contaminant Level; As N	California	CDWR 1997
	FW	1	mg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	1	mg/L		Standard; Enforceable; As N	Massachusetts	Anastas 1998
	FW	1	mg/L		Objective; Maximum; As N	Manitoba	Williamson 1988
	FW	1	mg/L		Maximum acceptable; As N	Ontario	Environment Ontario 1983
	FW	1	mg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	1	mg/L		Maximum allowable concentration	USSR	UNEP 1982
	FW	1	mg/L		A recommended maximum contaminant level health goal, the level at which no adverse effects can be expected to occur	United States	AWWA 1985b
	FW	1	mg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	1	mg/L		Criterion; Maximum	Quebec	MDEQ 1996
	FW	1	mg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	1	mg/L		Standard; As part of sum of Nitrite and Nitrate; As N	New York State	NYSDEC 1998
	GW	1	mg/L		Standard; For Class GAA and GA; As N	Rhode Island	RIDEM 1996
	FW	3	mg/L		Guideline; Acute toxicity; As NO2-	International	WHO 1998
Nitroacenaphthene, 5-	FW	3	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitroaniline, 2-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Nitroaniline, 3-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Nitroaniline, 4-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Nitrobenzene	FW	0.4	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.4	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	30	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
Nitrofurazone	FW	0.25	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Nitrogen (total Kjeldahl)	FW	0.15	mg/L		Maximum acceptable; Minus ammonia nitrogen	Ontario	Environment Ontario 1983
	FW	1	mg/L		Guide level for Category A1, without NO3	Europe	CEC 1988
	FW	1	mg/L		Maximum admissible concentration; Excluding N in NO2 and NO3	Europe	CEC 1988
	FW	2	mg/L		Guide level for Category A2, without NO3	Europe	CEC 1988
	FW	3	mg/L		Guide level for Category A3, without NO3	Europe	CEC 1988
Nitrogen (total)	FW-Lakes	0.4	mg/L		Standard; Lakes Class III	Japan	JWQB 1998
Nitro-o-toluidine, 5-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Nitrophenols	FW	13.0	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
Nitrosodimethylamine, N-	FW	0.009	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	0.02	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	40	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Nitrotoluene, m-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrotoluene, o-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Nitrotoluene, p-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
O8CDD (Dioxin)	FW	0.15	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
O8CDF (Furan)	FW	0.15	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
Octachlorostyrene	FW	0.2	µg/L		Standard	New York State	NYSDEC 1998
	GW	0.2	µg/L		Standard	New York State	NYSDEC 1998
Octyl Phthalate, N-	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Odour	FW	3	t.o.n.		Standard; Secondary Maximum Contaminant Level (aesthetic value)	California	CDWR 1997
	FW	3	t.o.n.		Secondary Standard	Massachusetts	Anastas 1998
	GW	3	t.o.n.		Guidance Level; Threshold odour number	Oregon	ODEQ 1997
	FW	8			Interim Guideline; Maximum 20°C odour number	Alberta	AEP 1997
	FW	Narrative			Guideline; Aesthetic Objective; Inoffensive	Canada	Health Canada 1998
	FW	Narrative			Guideline; Aesthetic Objective = Inoffensive	British Columbia	BCMOELP 1998
Oil and grease	FW	Narrative			Standard; For Class A; Free from oil, grease, petrochemicals and other volatile or synthetic organic pollutants	Massachusetts	COM 1996
	FW	Narrative			Interim Guideline; Substantially absent, no iridescent sheen	Alberta	AEP 1997
Organic contaminant (principal)	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Oxamyl	FW	50	µg/L		Standard	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	100	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	200	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	200	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Oxamyl (cont.)	FW	200	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	200	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	200	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Oxygen (dissolved)	FW	5	mg/L		Standard; Lower value; After disinfection; Class C	Maine	USEPA 1988g
	FW	6.5	mg/L		Guideline; Minimum; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	7	mg/L		Standard; Lower value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	7	mg/L		Standard; Lower value; After disinfection; Class A	Maine	USEPA 1988g
	FW	7	mg/L		Standard; Lower value; After disinfection; Class B	Maine	USEPA 1988g
	FW	80	%		Guideline; Minimum; % Saturation; For raw waters subjected to coarse screening	Australia	ANZECC 1992
P5CDD (Dioxin)	FW	0.00015	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
P5CDF (Furan)	FW	0.00003	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
PAHs	FW	0.0028	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW	0.2	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
PAHs (total)	FW	0.2	µg/L		Imperative for categories A1 and A2	Europe	CEC 1988
	FW	0.2	µg/L		Maximum admissible concentration	Europe	CEC 1988
	FW	1	µg/L		Imperative for Category A3	Europe	CEC 1988
Paraquat	GW	3.0	µg/L		Standard	New York State	NYSDEC 1998
	FW	7	µg/L		Guideline; Interim Maximum Acceptable Concentration; As dichloride, 10 µg/L	Canada	Health Canada 1998
	FW	10	µg/L		Guideline; Interim maximum as dichloride (or 7 µg/L for paraquat ion)	British Columbia	BCMOELP 1998
	FW	10	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	10	µg/L		Criterion; Maximum; Interim; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	40.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Parathion	GW	1.5	µg/L		Standard; As part of sum of parathion and methyl parathion	New York State	NYSDEC 1998
	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	30	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	FW	50	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	50	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	50	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Parathion + Methyl Parathion	GW	1.5	µg/L		Standard	New York State	NYSDEC 1998
	FW	6.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
PCBs	FW	0.00	µg/L		Criterion; Value is zero	Ohio	USEPA 1988a
	FW	0.00	µg/L		Criterion; Value is zero	Oklahoma	USEPA 1988a
	FW	0.000003	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.00001	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.00008	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	0.00079	µg/L		Criterion	Louisiana	USEPA 1988a
	FW	0.001	µg/L		Criterion	Florida	USEPA 1988a
	FW	0.001	µg/L		Criterion; Maximum	Mariana Islands	USEPA 1988a
	FW	0.001	µg/L		Criterion	Maryland	USEPA 1988a
	FW	0.001	µg/L		Criterion	Nevada	USEPA 1988a
	FW	0.001	µg/L		Criterion	West Virginia	USEPA 1988a
	FW	0.01	µg/L		Criterion	New York State	USEPA 1988a
	FW	0.045	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	0.09	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.09	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.1	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	GW	0.25	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.5	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	0.5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	0.5	µg/L		Regulation; Maximum Contaminant Level; For community water and non-transient, non-community water	United States	USEPA 1997b
	FW	0.5	µg/L		Criterion; For ambient surface waters	Maryland	MDOE 1997
	FW	0.5	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	0.5	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	0.5	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	3	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
PCBs (total)	FW	0	µg/L		A recommended maximum contaminant level health goal, the level at which no adverse effects can be expected to occur; Value is zero	United States	AWWA 1985b
	FW	0.000079	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW	1	µg/L		Maximum allowable concentrations of monochloro-, dichloro-, trichloro-, and pentachloro-biphenyl	USSR	UNEP 1988
	FW	3	µg/L		Interim Maximum Acceptable Concentration	Ontario	Environment Ontario 1983
Pendimethalin	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Pentachlorobenzene	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Pentachloroethane	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Pentachlorophenol	GW	0.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.4	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	1	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	1	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	1	µg/L		Regulation; Maximum Contaminant Level; For community water and non-transient, non-community water	United States	USEPA 1997b
	FW	1	µg/L		Criterion; For ambient surface waters	Maryland	MDOE 1997
	FW	1	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	1	µg/L	TTA	Proposed Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	1	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	1.05	µg/L		Suggested no-adverse effect level	United States	NAS&NAE 1972
	FW	9	µg/L		Guideline value; For excess risk of 10E-05	International	WHO 1998
	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	20	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	21	µg/L		Chronic suggested no-adverse response level-20%, used for potential carcinogens where exposure is > 7 days, assuming 20% of the acceptable daily intake is from water; 10E-06 cancer risk	United States	AWWA 1985a
	GW	21	µg/L		Water quality standard	New York State	NYSDEC (undated)
	FW	<=30	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	30.0	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Pentachlorophenol (cont.)	FW	30	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	30	µg/L		Aesthetic Objective	Ontario	OMEE 1994
	FW	60	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	60	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	200	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	220	µg/L		A recommended maximum contaminant level health goal, the level at which no adverse effects can be expected to occur	United States	AWWA 1985b
	FW	220	µg/L		Lifetime health advisory for a 70 kg adult, assuming 20% of exposure to the substance is from drinking water and adjusting for additional uncertainty if the substance is a potential carcinogen	United States	USEPA 1987a
	FW	300	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 10 kg child assuming consumption of 1litre of	United States	USEPA 1987a
	FW	300	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	1000	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987a
	FW	1010	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	FW	1050	µg/L		Lifetime health advisory for a 70 kg adult, assuming all exposure to the substance is from drinking water	United States	USEPA 1987a
	FW	1050	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 70 kg adult assuming consumption of 2 litres of	United States	USEPA 1987a
Pentachlorophenols	FW	30	µg/L	TTA	Criterion; Aesthetic	British Columbia	BCMOELP 1998
	FW	60	µg/L	TTA	Criterion; Toxicity	British Columbia	BCMOELP 1998
Permethrin	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	300.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Pesticides (total)	FW	0.1	µg/L		Maximum admissible concentration; Substances considered separately	Europe	CEC 1988
	FW	1	µg/L		Includes parathion, BHC and dieldrin; Imperative for Category A1	Europe	CEC 1988
	FW	2.5	µg/L		Includes parathion, BHC and dieldrin; Imperative for Category A2	Europe	CEC 1988
	FW	5	µg/L		Includes parathion, BHC and dieldrin; Imperative for Category A3	Europe	CEC 1988
	FW	100	µg/L		Maximum Acceptable Concentration; Sampling at least semi-annually, under review	Canada	H&WC 1987
	FW	100	µg/L		Objective; Maximum	Manitoba	Williamson 1988

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
pH	FW	5.5 – 9			Guide level for categories A2 and A3	Europe	CEC 1988
	FW	6.0			Standard; Lower value; Raw water source	District of Columbia	USEPA 1988d
	FW	6.0			Standard; Lower value; After disinfection; Class B	Maine	USEPA 1988g
	FW	6.0			Standard; Lower value; After disinfection; Class C	Maine	USEPA 1988g
	FW	6.5			Standard; Lower value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	6.5 – 8.3			Standard; For Class A; And not more than 0.5 units outside background	Massachusetts	COM 1996
	FW	6.0 – 8.5			Standard; Shall not vary more than 0.5 units from natural conditions; For culinary use	Alaska	ADEC 1998a
	FW	6.5 – 8.5			Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary)	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent)	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Secondary Maximum Contaminant Level (aesthetic value)	California	CDWR 1997
	FW	6.5 – 8.5			Criterion; Use IIIp waters	Maryland	MDOE 1997
	FW	6.5 – 8.5			Secondary Standard	Massachusetts	Anastas 1998
	FW	6.5 – 8.5			Standard; Rivers Class AA, A and B; Lakes Class AA and A	Japan	JWQB 1998
	FW	6.5 – 8.5			Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	6.5 – 8.5			Criterion	British Columbia	BCMOELP 1998
	FW	6.5 – 8.5			Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	6.5 – 8.5			Guide level; Maximum value is 9.5	Europe	CEC 1988
	FW	6.5 – 8.5			Guide level for Category A1	Europe	CEC 1988
	FW	6.5 – 8.5			Guideline value; For aesthetic quality	International	WHO 1984
	FW	6.5 – 8.5			Objective; Recommended	Manitoba	Williamson 1988
	GW	6.5 – 8.5			Guidance Level	Oregon	ODEQ 1997
	FW	6.5 – 9.0			Criterion; Range; Or as it naturally occurs; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW	8.5			Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	8.5			Standard; Upper value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	8.5			Standard; Upper value; After disinfection; Class B	Maine	USEPA 1988g
	FW	8.5			Standard; Upper value; After disinfection; Class C	Maine	USEPA 1988g
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State 1997
Phenanthrene	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Phenol	FW	1.00	µg/L		Criterion	Puerto Rico	USEPA 1988a
	FW	1.0	µg/L		Criterion	Virginia	USEPA 1988a
	FW	1	µg/L		Criterion	Minnesota	USEPA 1988a

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Phenol (cont.)	FW	1	µg/L		Criterion	Mississippi	USEPA 1988a
	FW	1	µg/L		Criterion	Missouri	USEPA 1988a
	FW	1	µg/L		Maximum permissible concentration	USSR	Stofen 1973
	FW	5.0	µg/L		Interim Guideline; Action Level; Taste and odour threshold	California	CDWR 1997
	FW	50	µg/L		Criterion	Iowa	USEPA 1988a
	FW	300.0	µg/L		Criterion	Oklahoma	USEPA 1988a
	FW	300	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	300	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	3500	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
Phenolics	FW	5	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Phenols	FW	0.5	µg/L		Maximum admissible concentration; Excluding natural phenols which do not react to chlorine	Europe	CEC 1988
	FW	1.0	µg/L		Criterion	Oregon	USEPA 1988a
	FW	1	µg/L		Guide level for Category A2, C6H5OH	Europe	CEC 1988
	FW	1	µg/L		Imperative for Category A1, C6H5OH	Europe	CEC 1988
	FW	1	µg/L		Criterion	Illinois	USEPA 1988a
	FW	1	µg/L		Criterion; Maximum	Mariana Islands	USEPA 1988a
	FW	1	µg/L		Criterion	Nevada	USEPA 1988a
	FW	1	µg/L		Criterion	Ohio	USEPA 1988a
	FW-Lakes	1	µg/L		Criterion; Lake Erie	Ohio	USEPA 1988a
	GW	1	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	GW	1	µg/L		Water quality standard	New York State	NYSDEC (undated)
	FW	2	µg/L		Objective; Maximum; Aesthetics	Manitoba	Williamson 1988
	FW	2	µg/L		Maximum desirable concentration; Related to aesthetic quality	Ontario	Environment Ontario 1983
	FW	5	µg/L		Imperative for Category A2, C6H5OH	Europe	CEC 1988
	FW	5	µg/L		Criterion	Louisiana	USEPA 1988a
	FW	5	µg/L		Criterion	West Virginia	USEPA 1988a
	FW	10	µg/L		Guide level for Category A3, C6H5OH	Europe	CEC 1988
	FW	10	µg/L		Criterion; Ohio River	Ohio	USEPA 1988a
	FW	100	µg/L		Imperative for Category A3, C6H5OH	Europe	CEC 1988
Phenols (total chlorinated)	FW	0.04	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Phenols (total)	FW	1	µg/L		Criterion	New York State	USEPA 1988a
	FW	2	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Phenyl-1-propene, 1- (cis)	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Phenyl-1-propene, 1- (trans)	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Phenyl-1-propene, 3-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Phenylenediamine, 1,2-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Phenylenediamine, 1,3-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Phenylenediamine, 1,4-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Phenylhydrazine	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Phenylpropanolamine	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Phorate	FW	2	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	2	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	2	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	2	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Phosphate	FW	400	µg/L		Guide level for Category A1	Europe	CEC 1988
	FW	700	µg/L		Guide level for categories A2 and A3	Europe	CEC 1988
Phosphorus (total)	FW-Lakes	10	µg/L		Criterion; Maximum; For lakes only	British Columbia	BCMOELP 1998
	FW	25	µg/L		Criterion; Maximum average; In any lake, pond, kettlehole, or reservoir; Class A, B, B1, C	Rhode Island	RIDEM 1997

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Phosphorus (total; cont.)	FW-Lakes	30	µg/L		Standard; Lakes Class III	Japan	JWQB 1998
	FW	400	µg/L		Guide level	Europe	CEC 1988
	FW	5000	µg/L		Maximum admissible concentration	Europe	CEC 1988
Phthalate Esters	FW	0.003	µg/L		Criterion	Florida	USEPA 1988a
	FW	3	µg/L		Criterion	Nevada	USEPA 1988a
	FW-Lakes	3	µg/L		Criterion; Lake Erie	Ohio	USEPA 1988a
	FW	3.0	µg/L		Criterion (except butylbenzyl)	Oklahoma	USEPA 1988a
Picloram	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	50	µg/L		Guidance value; Related forms that convert to the organic acid upon acidification to a pH of 2 or less; And esters of the organic acid	New York State	NYSDEC 1998
	GW	50	µg/L		Standard; Related forms that convert to the organic acid upon acidification to a pH of 2 or less; And esters of the organic acid	New York State	NYSDEC 1998
	FW	190	µg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	190	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	FW	190	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	190	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	250	µg/L		Health guidance level for ground water; Proposed	Ontario	Environment Ontario 1985
	GW	250	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	490	µg/L		Lifetime health advisory for a 70 kg adult, assuming 20% of exposure to the substance is from drinking water and adjusting for additional uncertainty if the substance is a potential carcinogen	United States	USEPA 1987b
	FW	500	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	500	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	500	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	500	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	500	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	700	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 10 kg child assuming consumption of 1litre of	United States	USEPA 1987b
	FW	2450	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 70 kg adult assuming consumption of 2 litres of	United States	USEPA 1987b
	FW	20000	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987b
	FW	20000	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987b
Potassium Bromate	FW	0.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Prometon	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
Propachlor	GW	35	µg/L		Standard	New York State	NYSDEC 1998
Propanil	GW	7.0	µg/L		Standard	New York State	NYSDEC 1998
Propazine	GW	16	µg/L		Standard	New York State	NYSDEC 1998
Propham	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
Propoxur	FW	90	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	FW	1000.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Propylbenzene, n-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Propylene Dichloride	FW	1	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	1	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	2.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	5	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	5	µg/L		Standard; Little to no significant carcinogenic or other heath risk	United States	USEPA 1997b
	FW	5	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	5	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	5	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	5	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	40	µg/L		Provisional Guideline	International	WHO 1998
Propylidene Chloride	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Pseudocumene	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Pseudomonas aeruginosa	FW	0	Colonies/100mL		Criterion; For non-treated water; Value is zero	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Pyrazophos	FW	1000.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Pyrene	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Pyridate	FW	100	µg/L		Criterion	Quebec	MDEQ 1996
Pyridine	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Quintozine	FW	0.9	µg/L		Interim Guideline; Action Level	California	CDWR 1997
	FW	6.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Radioactivity	GW	4	mrem/yr		Standard; Manmade, Total Dose Equivalent; Possible present or anticipated use	Virginia	COV 1997
Radioactivity-Alpha (gross)	GW	7.5	pCi/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	15	pCi/L		Rule; Maximum; Including Radium 226 but excluding radon and uranium	Hawaii	HDOH 1997
	FW	15	pCi/L		Standard; Excluding radon and uranium	New York State	NYSDEC 1998
	FW	15	pCi/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	15	pCi/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	15	pCi/L		Interim Standard; Maximum; Including Radium 225 but excluding radon and uranium	Oregon	ODEQ 1997
	GW	15	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
	GW	15	pCi/L		Standard; Excluding radon and uranium	New York State	NYSDEC 1998
	GW	15	pCi/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Radioactivity-Beta (gross)	GW	2	mrem/yr		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	GW	4	mrem/yr		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	37.0	Bq/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	50	pCi/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	GW	50	pCi/L		Interim Standard; Maximum	Oregon	ODEQ 1997
	GW	50	pCi/L		Standard; Possible present or anticipated use; Used as a screening value only - if exceeded the water must be analyzed to determine the presence and quantity of radionuclides to determine compliance with the tritium, strontium, and manmade radioactivity standards	Virginia	COV 1997
	FW	1000	pCi/L		Standard or Guidance value depending on water class; Excluding Strontium 90 and alpha emitters	New York State	NYSDEC 1998

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Radioactivity-Beta (gross; cont.)	GW	1000	pCi/L		Standard value depending on water class; Excluding Strontium 90 and alpha emitters	New York State	NYSDEC 1998
Radium 224	FW	2	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Radium 226	FW	0.11	Bq/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	0.6	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	3	pCi/L		Standard or Guidance value depending on water class; See entry for Radium 226 and 228 in NYDEC 1998	New York State	NYSDEC 1998
	GW	3	pCi/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	GW	3	pCi/L		Standard; See entry for Radium 226 and 228 in NYDEC 1998	New York State	NYSDEC 1998
	FW	5	pCi/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
Radium 226 (+228)	GW	2.5	pCi/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	5	pCi/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	5	pCi/L		Standard	New York State	NYSDEC 1998
	FW	5	pCi/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	5	pCi/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	5	pCi/L		Interim Standard; Maximum	Oregon	ODEQ 1997
	GW	5	pCi/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	GW	5	pCi/L		Standard	New York State	NYSDEC 1998
	GW	5	pCi/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Radium 228	FW	0.5	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	5	pCi/L		Standard; As part of sum of Radium 226 and 228	New York State	NYSDEC 1998
	GW	5	pCi/L		Standard; As part of sum of Radium 226 and 228	New York State	NYSDEC 1998
Radon-222	FW	10000	pCi/L		Guideline	Massachusetts	Anastas 1998
Resin Acids	FW	100	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Selenium	FW	10	µg/L		Criterion; Maximum	Oregon	ODEQ 1996
	FW	10	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	10	µg/L		Standard	New York State	NYSDEC 1998
	FW	10	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	10	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	10	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	10	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Selenium (cont.)	GW	10	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	GW	10	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	GW	10	µg/L		Standard	New York State	NYSDEC 1998
	GW	25	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	50	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	50	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	50	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	50	µg/L		Criterion; For ambient surface waters	Maryland	MDOE 1997
	FW	50	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	50	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	50	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Selenium (total)	FW	10	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	GW	10	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Sethoxydim	GW	1800	µg/L		Health guidance level for ground water; Proposed	Ontario	Environment Ontario 1985
Silver	FW	50.0	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	50	µg/L		Criterion; Maximum	Oregon	ODEQ 1996
	FW	50	µg/L		Standard	New York State	NYSDEC 1998
	GW	50	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
	FW	100	µg/L		Standard; Secondary Maximum Contaminant Level (aesthetic value)	California	CDWR 1997
	FW	100	µg/L		Secondary Standard	Massachusetts	Anastas 1998
Silver (total)	FW	50	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	GW	50	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Silvex	GW	10	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	GW	10	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	GW	25	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	50	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	50	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	50	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	50	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	50	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Silvex (total)	GW	10	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Simazine	FW	0.5	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.5	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	2	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	4	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	4	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	4	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	4	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	4	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	10	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	10	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	FW	10	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	10	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Sodium	FW	20000	µg/L		Guideline	Massachusetts	Anastas 1998
	FW	20000	µg/L		Guideline; Alert level for persons on sodium-restricted diet	British Columbia	BCMOELP 1998
	GW	20000	µg/L		Criterion; No Maximum established; Suggested optimum; Domestic water supplies	Idaho	IDH&W 1998
	GW	20000	µg/L		Standard	New York State	NYSDEC 1998
	FW	<=200000	µg/L		Guideline; Aesthetic Objective; Should be included in routine monitoring programs, as levels may be of interest to authorities who wish to prescribe sodium-restricted diets for their patients	Canada	Health Canada 1998
	FW	<=200000	µg/L		Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	GW	270000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	300000	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Solids (settleable)	FW	Narrative			Standard; No measurable increase in concentration above natural conditions	Alaska	ADEC 1998a
Specific Conductance	FW	900	µmhos		Standard; Aesthetic Maximum; Recommended Upper Short Term	California	CDWR 1997
Strontium 90	FW	0.37	Bq/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	5	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	8	pCi/L		Standard; If two or more radionuclides are present, the sum of their dosages shall not exceed an annual potential dose of 4 mrems per year	New York State	NYSDEC 1998
	FW	8	pCi/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	GW	8	pCi/L		Interim Standard; Maximum	Oregon	ODEQ 1997
	GW	8	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Styrene	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Styrene (cont.)	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	50	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	100	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	100	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	100	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	100	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	100	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	100	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Styrene Oxide	FW	2	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Sulphate	FW	25	mg/L		Guide level	Europe	CEC 1988
	FW	150	mg/L		Guide level for all categories	Europe	CEC 1988
	FW	200	mg/L		Standard; Maximum; Includes culinary use	Alaska	ADEC 1998a
	FW	250	mg/L		Standard; For taste, odour or aesthetic quality	Virginia	COV 1997
	FW	250	mg/L		Standard	New York State	NYSDEC 1998
	FW	250	mg/L		Standard; Aesthetic Maximum; Recommended Upper Short Term	California	CDWR 1997
	FW	250	mg/L		Secondary Standard	Massachusetts	Anastas 1998
	FW	250	mg/L		Standard; Proposed Maximum	Alaska	ADEC 1998b
	FW	250	mg/L		Imperative value for all categories	Europe	CEC 1988
	FW	250	mg/L		Maximum admissible concentration	Europe	CEC 1988
	FW	250	mg/L		Secondary maximum contaminant level; Is not legally enforceable; Aesthetic limit	United States	AWWA 1988
	GW	250	mg/L		Standard	New York State	NYSDEC 1998
	FW	400	mg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	400	mg/L		Guideline value for aesthetic quality	International	WHO 1984
	FW	<=500	mg/L		Guideline; Aesthetic Objective; May be laxative effects above 500000 µg/L	Canada	Health Canada 1998
	FW	<=500	mg/L	TTA	Criterion; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	500	mg/L		Maximum Acceptable Concentration; Sampling at least semi-annually, under review	Canada	H&WC 1987
	FW	500	mg/L		Objective; Maximum	Manitoba	Williamson 1988
	FW	500	mg/L		Maximum desirable concentration; Related to aesthetic quality	Ontario	Environment Ontario 1983
Sulphate (total)	GW	250	mg/L		Guidance Level	Oregon	ODEQ 1997
Sulphide	FW	<=50	µg/L		Guideline; Aesthetic Objective; As H2S	Canada	Health Canada 1998
	FW	<=50	µg/L	TTA	Criterion; Aesthetic Objective; as H2S	British Columbia	BCMOELP 1998
	FW	50	µg/L		Guideline; For raw waters subjected to coarse screening; As H2S	Australia	ANZECC 1992

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Sulphide (cont.)	FW	50	µg/L		Objective; Maximum; As H2S; Aesthetics	Manitoba	Williamson 1988
	FW	Narrative			Maximum admissible concentration; As H2S; Organoleptic; Undetectable	Europe	CEC 1988
	FW	Narrative			Guideline for aesthetic quality; As H2S; Undetectable	International	WHO 1984
	FW	Narrative			Related to aesthetic quality; Inoffensive	Ontario	Environment Ontario 1983
Suspended Solids	FW-Lakes	1	mg/L		Standard; Lakes Class AA	Japan	JWQB 1998
	FW-Lakes	5	mg/L		Standard; Lakes Class A	Japan	JWQB 1998
	FW	25	mg/L		Standard; Rivers Class AA, A and B	Japan	JWQB 1998
Suspended Solids (total)	FW	25	mg/L		Guide level for all categories	Europe	CEC 1988
T, 2,4,5-	FW	2.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	9	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	<=20	µg/L		Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	20	µg/L		Aesthetic Objective	Ontario	OMEE 1994
	GW	35	µg/L		Standard	New York State	NYSDEC 1998
	FW	280	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	280	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
T3CDD (Dioxin)	GW	0.000015	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.00003	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	0.00003	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	0.00003	µg/L		Criterion; For ambient surface waters	Maryland	MDOE 1997
	FW	0.00003	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	0.00003	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	0.0015	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
T3CDF (Furan)	FW	0.0015	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
T4CDD, 2,3,7,8-	FW	0.00000001	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.00000001	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW	0.00000008	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
T4CDD, 2,3,7,8- (cont.)	FW	0.0000025	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	0.00001	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 10 kg child assuming consumption of 1litre of	United States	AWWA 1985b
	FW	0.000015	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
	FW	0.00003	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	0.000035	µg/L		Drinking water equivalent level; The medium-specific exposure which is interpreted to be protective for health effects not involving carcinogenicity over a lifetime of exposure	United States	AWWA 1985b
	FW	0.000035	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 70 kg adult assuming consumption of 2 litres of	United States	AWWA 1985b
	FW	0.000035	µg/L		Suggested no-adverse effect level	United States	NAS&NAE 1972
	GW	0.000035	µg/L		Water quality standard	New York State	NYSDEC (undated)
	FW	0.0001	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	AWWA 1985b
	FW	0.001	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	AWWA 1985b
T4CDD, 2,3,7,8- (total equivalent)	FW	0.0000007	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.0000007	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
T4CDD, 2,3,7,8- + T4CDF, 2,3,7,8-	FW	0.000015	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
T4CDF, 2,3,7,8-	FW	0.00003	µg/L		Interim Maximum Acceptable Concentration; Proposed; Based on 5% of maximum daily intake (10 pg/kg/day) for a 60 kg individual consuming 2 L/day	Ontario	Environment Ontario 1986
Taste	FW	Narrative			Guideline; Aesthetic Objective; Inoffensive	Canada	Health Canada 1998
	FW	Narrative			Guideline; Aesthetic Objective; Inoffensive	British Columbia	BCMOELP 1998
Tebuthiuron	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Standard	New York State	NYSDEC 1998
Temephos	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	280	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	FW	280	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature	FW	12	°C		Guide level	Europe	CEC 1988
	FW	<=15	°C		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	<=15	°C		Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	15	°C		Standard; Maximum	Alaska	ADEC 1998a
	FW	15	°C		Maximum desirable; Related to aesthetic	Ontario	Environment Ontario 1983
	FW	16.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=23/ [T+5] at any time; Class AA (extraordinary)	Washington	Washington State 1997
	FW	18.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=28/ [T+7] at any time; Class A (excellent)	Washington	Washington State 1997
	FW	20	°C		Criterion; Use IIIp waters; (68 F); Outside mixing zone; Or may not exceed	Maryland	MDOE 1997
	FW	20	°C		Standard; For Class A; Maximum in cold water fisheries (or 68 F)	Massachusetts	COM 1996
	FW	22	°C		Guide level for all categories	Europe	CEC 1988
	FW	25	°C		Imperative values for all categories	Europe	CEC 1988
	FW	25	°C		Maximum admissible	Europe	CEC 1988
	FW	28.3	°C		Criterion; Maximum; Class A, B, B1, C; (83 F)	Rhode Island	RIDEM 1997
	FW	28.3	°C		Standard; For Class A; Maximum in warm water fisheries (or 83 F)	Massachusetts	COM 1996
Temperature (change)	FW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed	Washington	Washington State 1997
	FW	0.3	°C		Standard; Secondary Upper Limit for A-1, B-1 and C-1 Classifications; (0.5	Montana	USEPA 1988e
	FW	0.6	°C		Standard; Upper value for A-1, B-1 and C-1 Classifications; (1 F)	Montana	USEPA 1988e
	FW	0.83	°C		Standard; For Class A; (1.5 F)	Massachusetts	COM 1996
	FW	1.7	°C		Standard; Secondary Upper Limit; After disinfection; Class AA; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; Secondary Upper Limit; After disinfection; Class A; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; Secondary Upper Limit; After disinfection; Class B; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; Secondary Upper Limit; After disinfection; Class C; (3 F)	Maine	USEPA 1988g
	FW-Lakes	1.7	°C		Standard; Secondary Upper Limit; After disinfection; Class GPA - Lakes and Ponds; (3 F)	Maine	USEPA 1988g
	FW	2.2	°C		Criterion; Maximum increase for receiving waters; Class A, B, B1, C; (4 F)	Rhode Island	RIDEM 1997
	FW	2.8	°C		Standard; Upper value; After disinfection; Class AA; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; Upper value; After disinfection; Class A; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; Upper value; After disinfection; Class B; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; Upper value; After disinfection; Class C; (5 F)	Maine	USEPA 1988g
	FW-Lakes	2.8	°C		Standard; Upper value; After disinfection; Class GPA - Lakes and Ponds; (5	Maine	USEPA 1988g
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State 1997
Terbacil	GW	50	µg/L		Standard	New York State	NYSDEC 1998
Terbufos	FW	0.09	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	0.09	µg/L		Guidance value	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Terbufos (cont.)	FW	1	µg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	1	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	FW	1	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	1	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Tetrachlorobenzene, 1,2,3,4-	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Tetrachlorobenzene, 1,2,3,5-	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Tetrachlorobenzene, 1,2,4,5-	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Tetrachlorobenzenes	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
Tetrachloroethane	FW	0.2	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	FW	1	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	1.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Tetrachloroethane, 1,1,1,2-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Tetrachloroethylene	FW	0.7	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	GW	2.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	5.0	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	FW	5	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	5	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	5	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	7	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	30	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	30	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
Tetrachlorophenol, 2,3,4,5-	FW	100	µg/L		Criterion; Toxicity; Maximum	British Columbia	BCMOELP 1998
Tetrachlorophenol, 2,3,4,6-	FW	<=1	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Tetrachlorophenol, 2,3,4,6- (cont.)	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	1	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	1	µg/L		Aesthetic Objective	Ontario	OMEE 1994
	FW	100	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	100	µg/L	TTA	Criterion; Toxicity	British Columbia	BCMOELP 1998
	FW	100	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
Tetrachlorophenols	FW	1	µg/L	TTA	Criterion; Aesthetic Objective	British Columbia	BCMOELP 1998
Tetrachloroterephthalic acid	GW	50	µg/L		Standard	New York State	NYSDEC 1998
Tetrachlorotoluene, alpha, alpha, alpha, 4-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Tetrahydrofuran	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	1300	µg/L		Guideline	Massachusetts	Anastas 1998
Tetramethylbenzene, 1,2,3,4-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Tetramethylbenzene, 1,2,3,5-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Tetramethylbenzene, 1,2,4,5-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Thallium	FW	0.5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	0.5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	1	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	2	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	2	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	2	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	2	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	2	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Theophylline	FW	40	µg/L		Standard	New York State	NYSDEC 1998
	GW	40	µg/L		Guidance value	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Thioacetamide	FW	0.05	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Thiobencarb	FW	1	µg/L		Standard; Secondary Maximum Contaminant Level (aesthetic value)	California	CDWR 1997
	FW	40.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	70	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
Thiourea	FW	5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Thiram	GW	1.8	µg/L		Standard	New York State	NYSDEC 1998
	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Thorium 228	FW	2	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Thorium 230	FW	0.4	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Thorium 232	FW	0.1	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Thorium 234	FW	20	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Titanium (total)	FW	100	µg/L	TTA	Criterion	British Columbia	Nagpal et al. 1995
Toluene	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	<=24	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	<=24	µg/L		Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	150	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	GW	500	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	1000	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	1000	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	1000	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	1000	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	1000	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	3500	µg/L		Proposition 65 Regulatory Level; 1/1000 of the No Observable Effect Level as a reproductive toxicant	California	CDWR 1997
	FW	6000	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
Toluene 2,4- Diisocyanate	FW	10	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Toluene-2,4-diamine	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Toluene-2,5-diamine	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Toluene-2,6-diamine	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Toluidine hydrochloride, o-	FW	2.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Toluidine, o-	FW	0.6	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	FW	2	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Tolytriazole	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Total Dissolved Solids	FW	250	mg/L		Standard; Proposed Maximum; From all sources; Includes culinary use	Alaska	ADEC 1998b
	FW	<=500	mg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	<=500	mg/L		Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	500	mg/L		Standard; For taste, odour or aesthetic values	Virginia	COV 1997
	FW	500	mg/L		Guideline; For raw waters subjected to coarse screening; To protect against the deterioration in taste	Australia	ANZECC 1992
	FW	500	mg/L		Standard; Aesthetic Maximum; Recommended Upper Short Term	California	CDWR 1997
	FW	500	mg/L		Secondary Standard	Massachusetts	Anastas 1998
Total Dissolved Solids (cont.)	FW	500	mg/L		Standard; Maximum; From all sources; Includes culinary use	Alaska	ADEC 1998a
	GW	500	mg/L		Guidance Level	Oregon	ODEQ 1997
	FW	1000	mg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Total Organic Carbon	FW	5000	µg/L		Maximum desirable concentration; Related to aesthetics	Ontario	Environment Ontario 1983
Toxaphene	FW	0.00002	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.0007	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	0.005	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	0.06	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.06	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Toxaphene (cont.)	FW	0.3	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	GW	1.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	3	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	3	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	3	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	3	µg/L		Criterion; For ambient surface waters	Maryland	MDOE 1997
	FW	3	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	3	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	5	µg/L		Criterion; Maximum	Oregon	ODEQ 1996
	FW	5	µg/L		Objective; Maximum	Manitoba	Williamson 1988
	FW	5	µg/L		Maximum acceptable	Ontario	Environment Ontario 1983
	FW	5	µg/L		Criterion; Maximum contaminant level	United States	USEPA 1990
	GW	5	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
Toxaphene (total)	GW	5	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Triacetyldiphenolisatin	FW	0.02	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Triallate	FW	230	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	230	µg/L		Maximum Acceptable Concentration	Canada	H&WC 1989
	FW	230	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
Tribromobenzene, 1,2,4-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Tributyltin Oxide	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Trichlorfon	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Trichloro-1,2,2-trifluoroethane, 1,1,2-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	1200	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	210000	µg/L		Guideline	Massachusetts	Anastas 1998
Trichloro-2,2,2-trifluoroethane, 1,1,1-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichloroacetic Acid	FW	100	µg/L		Criterion; Interim	Quebec	MDEQ 1996
Trichloroacetonitrile	FW	1	µg/L		Criterion; Interim	Quebec	MDEQ 1996
Trichloroaniline, 2,4,6-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichlorobenzene, 1,2,3-	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Trichlorobenzene, 1,2,4-	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	35	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	70	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	70	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	70	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	70	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	70	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Trichlorobenzene, 1,3,5-	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Trichlorobenzenes	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
Trichloroethane, 1,1,1-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	100	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	200	µg/L		Rule; Maximum	Hawaii	HDOH 1997
Trichloroethane, 1,1,1- (cont.)	FW	200	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	200	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	200	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	200	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Trichloroethane, 1,1,1- (total)	GW	200	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Trichloroethane, 1,1,2-	FW	1	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	1	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichloroethane, 1,1,2- (cont.)	FW	5	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	5	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	5	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	5	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	GW	25	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
Trichloroethylene	GW	2.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	5.0	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	FW	5	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	5	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	5	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	25	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	30	µg/L	TTA	Human Cancer Criterion; For drinking water	Great Lakes	USEPA 1992
	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	50	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	50	µg/L	TTA	Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	50	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	500	µg/L	TTA	Human Noncancer Criterion; For drinking water	Great Lakes	USEPA 1992
Trichloroethylene (total)	GW	5	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Trichlorofluoromethane	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichlorofluoromethane (cont.)	FW	150	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
Trichlorophenol, 2,4,5-	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	1	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	2600	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
Trichlorophenol, 2,4,6-	FW	0.1	µg/L		Odour threshold concentration; For aesthetic quality	International	WHO 1984

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichlorophenol, 2,4,6- (cont.)	FW	<=1	µg/L	TTA	Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	1.2	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW	<=2	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	2	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	2	µg/L		Aesthetic Objective	Ontario	OMEE 1994
	FW	5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	5	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	5	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	10	µg/L		Guideline value; Computed from a conservative hypothetical mathematical model which cannot be experimentally verified; Uncertainties involved may amount to two orders of magnitude	International	WHO 1984
	FW	100	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	17500	µg/L		Suggested no-adverse response level 1; The level of a contaminant in drinking water at which adverse health effects would not be anticipated for	United States	NIOSH 1982
Trichlorophenols	FW	2	µg/L		Criterion; Aesthetic; Maximum	British Columbia	BCMOELP 1998
Trichloropropane, 1,1,2-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichloropropane, 1,2,3-	FW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	GW	0.04	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.8	µg/L		Rule; Maximum	Hawaii	HDOH 1997
Trichloropropene, 1,2,3- (cis)	FW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichloropropene, 1,2,3- (cis; cont.)	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichloropropene, 1,2,3- (trans)	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichlorotoluene, 2,3,4-	FW	0.34	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichlorotoluene, 2,3,5-	FW	0.34	µg/L		Guidance value	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichlorotoluene, 2,3,5- (cont.)	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichlorotoluene, 2,3,6-	FW	0.34	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichlorotoluene, 2,4,5-	FW	0.34	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichlorotoluene, 2,4,6-	FW	0.34	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichlorotoluene, alpha, 2,4-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichlorotoluene, alpha, 2,6-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichlorotoluene, alpha, 3,4-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichlorotoluene, alpha, alpha, 2-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trichlorotoluene, alpha, alpha, 4-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trifluralin	FW	2	µg/L		Lifetime health advisory for a 70 kg adult, assuming 20% of exposure to the substance is from drinking water and adjusting for additional uncertainty if the substance is a potential carcinogen	United States	USEPA 1987b
	FW	25	µg/L		Longer term health advisory (approximately 7 years or 10% of an individual's lifetime) for a 10 kg child assuming consumption of 1 litre of	United States	USEPA 1987b
	FW	25	µg/L		One day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987b
	FW	25	µg/L		Ten day health advisory for a 10 kg child assuming consumption of 1 litre of water per day	United States	USEPA 1987b
	GW	35.0	µg/L		Water quality standard	New York State	NYSDEC (undated)
	FW	35	µg/L		Suggested no-adverse effect level	United States	NAS&NAE 1972
	GW	35	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trifluralin (cont.)	FW	45	µg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	45	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	FW	45	µg/L	TTA	Interim Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	45	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	87	µg/L		Lifetime health advisory for a 70 kg adult, assuming all exposure to the substance is from drinking water	United States	USEPA 1987b
	FW	500.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	GW	1000	µg/L		Health guidance level for ground water; Proposed	Ontario	Environment Ontario 1985
Trihalomethanes	FW	100	µg/L		Rule; Maximum for community water systems which serves a population > 10000 and adds a disinfectant (oxidant) to any part of the drinking water treatment process	Hawaii	HDOH 1997
	FW	100	µg/L		Guideline; Interim maximum	British Columbia	BCMOELP 1998
	GW	100	µg/L		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	FW	350	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
Trihalomethanes (total, sum)	GW	50	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	100	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	100	µg/L		Standard; Enforceable; For chlorinated supplies only	Massachusetts	Anastas 1998
	FW	100	µg/L		Guideline; Interim Maximum Acceptable Concentration	Canada	Health Canada 1998
	GW	100	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
	GW	100	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Trimethylbenzene, 1,2,3-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trimethylbenzene, 1,3,5-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trimethylpyridine, 2,3,6-	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Trimethylpyridine, 2,4,6-	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Trinitrobenzene, sym-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trinitrotoluene, 2,3,4-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trinitrotoluene, 2,3,6-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trinitrotoluene, 2,4,5-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trinitrotoluene, 2,4,6-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Trinitrotoluene, 3,4,5-	FW	5	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Triphenyl Phosphate	FW	50	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	50	µg/L		Guidance value	New York State	NYSDEC 1998
Tritium	FW	7000	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	20000	pCi/L		Standard; If two or more radionuclides are present, the sum of their annual dose equivalent to the total body or any organ shall not exceed 4 mrems per	New York State	NYSDEC 1998
	FW	20000	pCi/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	GW	20000	pCi/L		Interim Standard; Maximum	Oregon	ODEQ 1997
	GW	20000	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Tryptophan P-1	FW	0.015	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Tryptophan P-2	FW	0.1	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Turbidity	FW	0.1	NTU		A recommended maximum contaminant level health goal, the level at which no adverse effects can be expected to occur	United States	AWWA 1985b
	FW	0.4	NTU		Guide level	Europe	CEC 1988
	FW	0.5	NTU		Rule; Maximum for filtered water; For conventional treatment, direct filtration, and other filtration technologies; For 95 % of measurements	Hawaii	HDOH 1997
	FW	1.0	NTU		Rule; Maximum for filtered water; For slow sand and diatomaceous earth; 95 % of measurements	Hawaii	HDOH 1997
	FW	1	NTU		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	1	NTU		Guideline; Maximum	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Turbidity (cont.)	FW	1	FTU		Maximum acceptable (Formazin Turbidity Unit)	Ontario	Environment Ontario 1983
	FW	1	NTU		Maximum Acceptable Concentration	Ontario	OMEE 1994
	GW	1	NTU		Interim Standard; Maximum	Oregon	ODEQ 1997
	FW	1.5	NTU		Maximum contaminant level; Health limit	United States	AWWA 1988
	FW	4	JTU		Maximum admissible concentration	Europe	CEC 1988
	FW	<=5	NTU		Guideline; Aesthetic Objective; At the point of consumption	Canada	Health Canada 1998
	FW	<=5	NTU		Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	5	NTU		Rule; Maximum for filtered water; At any time	Hawaii	HDOH 1997
	FW	5	NTU		Guideline value for aesthetic quality; Preferably < 1 NTU for disinfection efficiency	International	WHO 1984
	FW	5	NTU		Objective; Maximum	Manitoba	Williamson 1988
	FW	5	NTU		Aesthetic Objective	Ontario	OMEE 1994
	GW	5	NTU		Criterion; Maximum; Domestic water supplies	Idaho	IDH&W 1998
	FW	50	NTU		Criterion; Use IIIp waters; Change from monthly average	Maryland	MDOE 1997
	FW	150	NTU		Criterion; Use IIIp waters; At any time	Maryland	MDOE 1997
Turbidity (change)	FW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class A (excellent)	Washington	Washington State 1997
	FW	5	NTU		Standard; Maximum increase above natural conditions when natural turbidity <= 50 NTU; Includes culinary use	Alaska	ADEC 1998a
	FW-Lakes	5	NTU		Standard; Maximum increase over background conditions; Lake Class	Washington	Washington State 1997
	FW	5	NTU		Criterion; Maximum increase above natural background when background < 50 NTU; Public water intake	Idaho	IDH&W 1998
	FW	5	NTU		Criterion; Maximum increase over background; Class A	Rhode Island	RIDEM 1997
	FW	10	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW	10	%		Standard; Maximum increase when background turbidity is >50; Class A (excellent)	Washington	Washington State 1997
	FW	10	%		Standard; Maximum increase above natural conditions when natural turbidity > 50 NTU; Includes culinary use	Alaska	ADEC 1998a
	FW	10	%		Criterion; Maximum increase above natural background; Turbidity change < 25 NTU when background > 50 NTU; Public water intake	Idaho	IDH&W 1998
	FW	25	NTU		Standard; Total maximum allowable increase; Includes culinary use	Alaska	ADEC 1998a
	FW	25	JTU		Interim Guideline; Maximum change above natural turbidity	Alberta	AEP 1997
Turbidity (induced)	FW	1	NTU		Criterion; Raw untreated when total turbidity <=5 NTU	British Columbia	BCMOELP 1998

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Turbidity (induced; cont.)	FW	5	NTU		Criterion; Raw treated when background <=50 NTU	British Columbia	BCMOELP 1998
	FW	10	%		Criterion; Raw treated when background >50 NTU	British Columbia	BCMOELP 1998
Uranium	FW	2	µg/L		Provisional Guideline	International	WHO 1998
	FW	20	pCi/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	20	µg/L		Guideline	Massachusetts	Anastas 1998
	FW	20	µg/L		Interim Maximum Acceptable Concentration	Ontario	Environment Ontario 1983
	FW	100	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	100	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	100	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	FW	100	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Uranium (total)	FW	20	µg/L		Objective; Maximum	Manitoba	Williamson 1988
Uranium 234	FW	4	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Uranium 235	FW	4	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Uranium 238	FW	4	Bq/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Uranyl (ionized)	GW	5000	µg/L		Standard	New York State	NYSDEC 1998
Urethan	FW	0.35	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
Vanadium	FW	100	µg/L		Maximum permissible concentration	USSR	Stofen 1973
Vinyl Chloride	FW	0.3	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.5	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	GW	1	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	1.5	µg/L		Proposition 65 Regulatory Level; No Significant Risk Level for carcinogens	California	CDWR 1997
	FW	2	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	2	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	2	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	2	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
	FW	2	µg/L		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	2	µg/L	TTA	Maximum Acceptable Concentration	Ontario	OMEE 1994
	GW	2	µg/L		Standard	New York State	NYSDEC 1998
	GW	2	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Vinylidene Chloride	FW	0.3	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Vinylidene Chloride (cont.)	FW	0.7	µg/L		Guidance value; Tumour causing substance	New York State	NYSDEC 1998
	GW	3.5	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
	FW	6	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	FW	7	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	7	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
	FW	7	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	7	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	7	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	14	µg/L		Guideline; Maximum Acceptable Concentration	Canada	Health Canada 1998
Vinylidene Chloride (total)	GW	7	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Xylene, m-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Xylene, o-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Xylene, p-	FW	5	µg/L		Standard	New York State	NYSDEC 1998
	GW	5	µg/L		Standard	New York State	NYSDEC 1998
Xylenes	FW	1750	µg/L		Standard; Primary Maximum Contaminant Level	California	CDWR 1997
	GW	5000	µg/L		Preventive Action Limit; For Class GAA and GA	Rhode Island	RIDEM 1996
	FW	10000	µg/L		Standard; Enforceable	Massachusetts	Anastas 1998
	FW	10000	µg/L	TTA	Criterion; Maximum Contaminant Level	United States	USEPA 1993
	GW	10000	µg/L		Standard; For Class GAA and GA	Rhode Island	RIDEM 1996
Xylenes (total)	FW	<=300	µg/L		Guideline; Aesthetic Objective	Canada	Health Canada 1998
	FW	<=300	µg/L		Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	10000	µg/L		Rule; Maximum	Hawaii	HDOH 1997
	FW	10000	µg/L		Regulation; Maximum Contaminant Level	United States	USEPA 1997b
Zinc	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	2000	µg/L		Guidance value	New York State	NYSDEC 1998
	GW	2000	µg/L		Guidance value	New York State	NYSDEC 1998
	FW	<=5000	µg/L		Guideline; Aesthetic Objective; Faucets should be thoroughly flushed before consumption or analysis	Canada	Health Canada 1998
	FW	<=5000	µg/L	TTA	Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998

Appendix 2-1. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Water Supplies).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Zinc (cont.)	FW	5000	µg/L		Standard; Upper value; Raw water source	District of Columbia	USEPA 1988d
	FW	5000	µg/L		Standard; Secondary Maximum Contaminant Level (aesthetic value)	California	CDWR 1997
	FW	5000	µg/L		Criterion; Maximum for organoleptic (taste and odour) effects	United States	USEPA 1998a
	FW	5000	µg/L		Secondary Standard	Massachusetts	Anastas 1998
	FW	5000	µg/L		Maximum desirable concentration; Related to aesthetic quality	Ontario	Environment Ontario 1983
	FW	5000	µg/L		Secondary maximum contaminant level; Is not legally enforceable, aesthetic limit	United States	AWWA 1988
Zinc (dissolved)	FW	5000	µg/L		Standard; For taste, odour or aesthetic quality	Virginia	COV 1997
Zinc (total)	FW	100	µg/L		Maximum admissible concentration; Above 5000 µg/L astringent taste, opalescence and sand-like deposits may occur	Europe	CEC 1988
	FW	500	µg/L		Guide level for Category A1	Europe	CEC 1988
	FW	1000	µg/L		Guide level for categories A2 and A3	Europe	CEC 1988
	FW	1000	µg/L		Maximum allowable concentration	USSR	UNEP 1985
	FW	3000	µg/L		Imperative for Category A1	Europe	CEC 1988
	FW	5000	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	5000	µg/L		Imperative for categories A2 and A3	Europe	CEC 1988
	FW	5000	µg/L		Guideline value; For aesthetic quality	International	WHO 1984
	FW	5000	µg/L		Objective; Maximum; Aesthetics	Manitoba	Williamson 1988
	GW	5000	µg/L		Guidance Level	Oregon	ODEQ 1997
Zineb	GW	1.8	µg/L		Standard	New York State	NYSDEC 1998
Ziram	GW	4.2	µg/L		Standard	New York State	NYSDEC 1998

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A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms)

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Acenaphthene	FW/SW	0.02	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
	FW	1200	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	1200	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	1200	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	1200	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	1200	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW	2700	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW/SW	2700	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	2700	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	2700	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	2700	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Acenaphthylene	FW	0.0028	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW	0.0311	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
Acetophenone	FW/SW	0.5	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
Acetylene Dichloride (trans)	FW	700	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	700	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	EST/SW	19000	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	130000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Acrolein	FW/SW	0.2	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	EST/SW	140	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	320	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	320	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	320	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	320	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	320	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	320	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW	320	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	360	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	780	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW	780	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	780	µg/L		Criterion; For the ingestion of fish only	Oregon	ODEQ 1996
	FW/SW	780	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Acrolein (cont.)	FW/SW	780	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	780	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	780	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	1000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Acrylamide	FW	0.05	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.91	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
Acrylonitrile	FW	0.058	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.058	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW	0.059	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.059	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.059	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.059	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.059	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	0.06	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	EST/SW	0.12	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.59	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.65	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW/SW	0.65	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.66	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.66	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.66	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.66	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.67	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW/SW	0.7	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	0.83	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW/SW	6.6	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	18.0	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Aldicarb (total)	FW	9	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Aldrin	EST/SW	0.00002	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.000074	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.000079	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.00008	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	0.00013	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00013	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.00013	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.00013	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.00014	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.00014	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.00014	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.00016	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.00017	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW/SW	0.00079	µg/L		Criterion; For ambient surface waters; For human consumption of fish	Maryland	MDOE 1997
	FW	0.001	µg/L		Standard; For the ingestion of fish only; As part of sum of aldrin and dieldrin	New York State	NYSDEC 1998
	SW	0.001	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	0.0013	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	0.0013	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.0014	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.0014	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	EST/SW	0.012	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	0.080	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	0.086	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	0.14	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
Aldrin + Dieldrin	FW	0.001	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.001	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	GW	0.003	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
Aluminum	FW	200	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ammonia (total)	FW	1.5	mg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
Anthracene	FW	0.0028	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW	0.0311	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW	9600	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	9600	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	9600	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	9600	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	9600	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	9600	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	110000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	110000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	110000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	110000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	110000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	110000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Antimony	GW	2	µg/L		Guideline; Maximum	Japan	JWQB 1998
	FW	5	µg/L		Criterion; Interim; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	14	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	14	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	14	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	14	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	14	µg/L		Criterion; For the ingestion of water and organisms	California	USEPA 1997c
	FW	14	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	14	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	146	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	146	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	EST/SW	760	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	4300	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	4300	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW/SW	4300	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	4300	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	4300	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	4300	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Antimony (cont.)	FW/SW	4300	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	5400	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW	45000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW/SW	45000	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
Araclor	FW	2	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
Aroclor 1016	FW	0.000044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.000044	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.000045	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.000045	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.00045	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Aroclor 1221	FW	0.000044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.000044	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.000045	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.000045	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.00045	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Aroclor 1232	FW	0.000044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.000044	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.000045	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.000045	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.00045	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Aroclor 1242	FW	0.000044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.000044	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.000044	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.000045	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	0.000045	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.000045	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Aroclor 1242 (cont.)	FW/SW	0.00045	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Aroclor 1248	FW	0.000044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.000044	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.000045	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.000045	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.00045	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Aroclor 1254	FW	0.000044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.000044	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.000045	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.000045	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.00045	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Aroclor 1260	FW	0.000044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.000044	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.000045	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.000045	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.00045	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Arsenic	FW	0.0022	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	0.0022	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW	0.0175	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW/SW	0.0175	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	FW	0.018	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.018	µg/L		Criterion; For the ingestion of water and organsims; Inorganic form only	United States	USEPA 1998a
	FW	0.018	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed; Inorganic arsenic	Quebec	MDEQ 1996
	FW	0.018	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW/SW	0.02	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW/SW	0.140	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.14	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed; Inorganic arsenic	Quebec	MDEQ 1996

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Arsenic (cont.)	FW	0.14	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW/SW	0.14	µg/L		Criterion; For the ingestion of organisms only; Inorganic form only	United States	USEPA 1998a
	GW	10	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW	50	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	50	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	GW	50	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
Arsenic (dissolved)	FW	50	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	50	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Asbestos	FW	30000	fib/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	7000000	fib/L		Criterion; Maximum; For the ingestion of water and aquatic organisms; Fibers > 10 µm/L	Quebec	MDEQ 1996
	FW	7000000	fib/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	7000000	fib/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	7000000	fib/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	7000000	fib/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
Atrazine	FW	0.78	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	5	µg/L		Criterion; Maximum; Interim; For the ingestion of water and aquatic organisms; Atrazine + metabolites	Quebec	MDEQ 1996
Azinphos-methyl	FW/SW	0.010	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	20	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Barium	FW	1	mg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	1	mg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	1	mg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	1	mg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	1	mg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW	1	mg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic	Delaware	DDNREC 1993
	GW	1	mg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	FW	2	mg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
Bendiocarb	FW	40	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Bentazon	FW	30	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Benzanthracene, 1,2-	FW	0.0028	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0028	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.0044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.028	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.031	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	0.0311	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.049	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	0.31	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.49	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Benzene	FW	0.66	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.66	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	1.2	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	1.2	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	1.2	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	1.2	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	1.2	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	1.2	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	10	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	GW	10	µg/L		Standard; Maximum	Japan	JWQB 1998
	SW	10	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	12	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	12	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	EST/SW	12.5	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW/SW	40.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Benzene (cont.)	FW	40	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	40	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	71	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	71	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW/SW	71	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	71	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	71	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	89	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	100	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	200	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW/SW	400	µg/L		Criterion; For ambient surface waters; For human consumption of fish	Maryland	MDOE 1997
	FW/SW	710	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	710	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Benzidine	EST/SW	0.00009	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.00012	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	0.00012	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00012	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.00012	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.00012	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.00012	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW/SW	0.0005	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW/SW	0.00053	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.00054	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.00054	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.00054	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.00054	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.00067	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	0.0012	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.0053	µg/L		Criterion; For ambient surface waters; For human consumption of fish	Maryland	MDOE 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Benzidine (cont.)	FW/SW	0.0054	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	EST/SW	64	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	85	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	460	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Benzo(a)pyrene	SW	0.0006	µg/L		Guidance value; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	0.0012	µg/L		Guidance value; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	0.0027	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.0028	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0028	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.0044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	EST/SW	0.0053	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.028	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.031	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	0.0311	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.037	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	0.044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.049	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	0.31	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.49	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Benzo(k)fluoranthene	FW	0.0028	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.028	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.031	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	0.044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.049	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Benzo(k)fluoranthene (cont.)	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	0.31	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.49	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Benzofluoranthene, 3,4-	FW	0.0028	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.028	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.031	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	0.044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.049	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	0.31	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.49	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Beryllium	FW	0.0037	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.0038	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.0068	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.0076	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	EST/SW	0.011	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.0641	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.08	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW/SW	0.1	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW/SW	0.117	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.131	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	4	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	170	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	EST/SW	500	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	3500	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Bis(2-chloroisopropyl) Ether	FW	1400	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	1400	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	170000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	170000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
Bis(2-ethylhexyl) Phthalate	FW	0.6	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	EST/SW	1	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	1.8	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	1.8	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	1.8	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	1.8	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	1.9	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	5.9	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	5.9	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	5.9	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	5.9	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	7.4	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	18	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	59	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	GW	60	µg/L		Guideline; Maximum	Japan	JWQB 1998
	EST/SW	290	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	400	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW	400	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	15000	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	18000	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	50000	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	FW/SW	59000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Boron	GW	0.2	mg/L		Guideline; Maximum	Japan	JWQB 1998
	FW	5	mg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Bromodichloromethane	FW	0.27	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.56	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	5.6	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Bromodichloromethane (cont.)	FW	22	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	46	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	460	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Bromoform	FW	4.3	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	4.3	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	4.3	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	4.3	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	5.6	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	5.7	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	EST/SW	37.4	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	43	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	44	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	266	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	360	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	360	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	360	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	360	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	470	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	690	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	3600	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	3600	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	EST/SW	4700	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	34000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Bromoxynil	FW	5	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Butyl Phthalate, N-	FW	2700	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	2700	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	2700	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	2700	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	2700	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	12000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	12000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	12000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Butyl Phthalate, N- (cont.)	FW/SW	12000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	12000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	35000	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW/SW	154000	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
Butylbenzyl Phthalate	FW	3000	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	3000	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	3000	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	3000	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW/SW	5200	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	5200	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	5200	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	5200	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Cadmium	GW	0.4	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	SW	2.7	µg/L		Guidance value; For the ingestion of fish only	New York State	NYSDEC 1998
	EST	9.3	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	5	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	10	µg/L		Criterion Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	10	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	10	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	10	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic	Delaware	DDNREC 1993
	GW	10	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW	170	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW	170	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
Cadmium (total)	FW	0.2–2.0	µg/L		Guideline; Hardness dependent; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	SW	2.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	10	µg/L		Standard relating to human health	Japan	JEA 1987
Carbaryl	FW	90	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Carbofuran	FW	90	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Carbon Tetrachloride	FW	0.25	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.25	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.25	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Carbon Tetrachloride (cont.)	FW	0.25	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.25	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	0.26	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.4	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	EST/SW	0.78	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	GW	2	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW	2.5	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	2.5	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	4.4	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	4.4	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	4.4	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	4.4	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	4.5	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen' Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	5.5	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	6.94	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	6.94	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	7.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	23	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	44	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	45	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	EST/SW	70	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	500	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Chlordane	FW	0.00002	µg/L		Standard; For the ingestion of fish only; Tumour causing substance	New York State	NYSDEC 1998
	SW	0.00002	µg/L		Standard; For the ingestion of fish only; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.0001	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	EST/SW	0.00013	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.00046	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chlordane (cont.)	FW	0.00046	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; Risk level of 10E-06	United States	USEPA 1986
	FW/SW	0.00048	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.00048	µg/L		Criterion; For the ingestion of fish only; 10- 6 risk level	United States	USEPA 1990
	FW/SW	0.0005	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	0.00057	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00057	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.00057	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.00059	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.00059	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.00059	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.00072	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.00073	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	0.0021	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW/SW	0.0022	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW	0.0057	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.0058	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.0059	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.0059	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	EST/SW	0.008	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	0.008	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	GW	0.01	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	FW	0.056	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	0.057	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Chlorides	FW	250	mg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
Chlorine	FW	600	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects; Total residual chlorine	Quebec	MDEQ 1996
	SW	1000	µg/L		Standard; Maximum; Total residual	Alaska	ADEC 1998a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chloro-5-methylphenol, 2-	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
Chlorobenzene	FW/SW	0.02	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	30	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
	FW	400	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	400	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	488	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	680	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	680	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	680	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	680	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	680	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	680	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	1500	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	EST/SW	3700	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	21000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	21000	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	21000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	21000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	21000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	21000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	26100	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Chlorobenzenes	FW	488	µg/L		Criterion Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
Chlorodibromomethane	FW	0.41	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.41	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.41	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	4.1	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	34	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	34	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	34	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	340	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	690	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW/SW	57000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chloroform	FW	0.19	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.19	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW	0.19	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	5.7	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	5.7	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	5.7	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	5.7	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	5.7	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	5.7	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	15.7	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	15.7	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	16.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	EST/SW	52	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	57	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	57	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	GW	60	µg/L		Guideline; Maximum	Japan	JWQB 1998
	FW	340	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	368	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	470	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	470	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW/SW	470	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	470	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	470	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	EST/SW	3200	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	4700	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	4700	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	22000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Chloro-m-cresol, 4-	FW/SW	0.02–3	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	3000.0	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chloro-m-cresol, 4- (cont.)	FW	3000	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
Chloronaphthalene, 2-	FW	1700	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	1700	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	1700	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW/SW	4300	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	4300	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW/SW	4800	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Chlorophenol, 2-	FW/SW	0.0001–0.015	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	0.1	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
	FW	120	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	120	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	120	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	120	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	180	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	400	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	400	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	400	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	400	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Chlorophenol, 3-	FW	0.1	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
Chlorophenol, 4-	FW/SW	0.0001	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	0.1	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
Chlorophenoxy Herbicide 2,4,5-TP	FW	9	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	10	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	21	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
Chlorothalonil	GW	40	µg/L		Guideline; Maximum	Japan	JWQB 1998
Chlorpyrifos	FW/SW	0.001	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	90	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chromium	FW	50	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic	Delaware	DDNREC 1993
	FW	50	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	50	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
Chromium (III)	FW	34000	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	EST/SW	120000	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	170000	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	840000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	3433000	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
Chromium (VI)	FW	10.0	µg/L		Guideline; Total; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	SW	50.0	µg/L		Guideline; Total; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	50	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	50	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	50	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	GW	50	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW	170	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	170	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	EST/SW	590	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	3400	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	4200	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Chrysene	FW	0.0028	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0028	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.0044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.028	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.031	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	0.0311	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.049	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	0.31	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chrysene (cont.)	FW/SW	0.49	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Coliforms (total)	SW	70	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 330 MPN/100mL; Harvesting for consumption; Class SA	Rhode Island	RIDEM 1997
	SW	700	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 2300 MPN/100mL; Harvesting for controlled relay and depuration; Class SB	Rhode Island	RIDEM 1997
Colour	SW	Narrative			Standard; Color or apparent color may not reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonally established norm for aquatic	Alaska	ADEC 1998a
	SW	Narrative			Standard; For all waters without a seasonally established norm for aquatic life, color or apparent color may not exceed 50 color units or the natural condition, whichever is greater	Alaska	ADEC 1998a
Copper	FW/SW	1.0	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	EST	2.9	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	1000	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
	GW	1000	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	FW	1300	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	1300	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	1300	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
Copper (dissolved)	FW	1300	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	1300	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
Copper (total)	FW	2.0–5.0	µg/L		Guideline; Hardness dependent; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	SW	5.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Cresol, m-	FW/SW	0.2	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
Cresol, o-	FW/SW	0.4	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
Cresol, p-	FW/SW	0.1	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
Cumene	FW/SW	<0.25	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
Cyanazine	FW	0.47	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Cyanazine (cont.)	FW	10	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Cyanide	FW/SW	5.0	µg/L		Guideline; Free cyanide; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	GW	5	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	FW	200	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	200	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	200	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	700	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	700	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	700	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	700	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	700	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	700	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	700	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	9000	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	9000	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	21500	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	EST/SW	38000	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	215000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW	220000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	220000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	220000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	220000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	220000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	270000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Cyanides	FW	60000	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
D, 2,4-	FW	71	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	100	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	100	µg/L		Criterion Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	100	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic	Delaware	DDNREC 1993
	FW	100	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	100	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	100	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	GW	100	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
DB, 2,4-	FW	90	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
DDD	FW	0.00008	µg/L		Standard; For the ingestion of fish only; Tumour causing substance	New York State	NYSDEC 1998
	SW	0.00008	µg/L		Standard; For the ingestion of fish only; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.00083	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00083	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.00083	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.00083	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.00084	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.00084	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.00084	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.00084	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.0083	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	0.0083	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.0084	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.0084	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
DDE	FW	0.000007	µg/L		Standard; For the ingestion of fish only; Tumour causing substance	New York State	NYSDEC 1998
	SW	0.000007	µg/L		Standard; For the ingestion of fish only; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.00059	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00059	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.00059	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.00059	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.00059	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.00059	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.00059	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.00059	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.0059	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	0.0059	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.0059	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.0059	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.014	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
DDT	FW	0.00001	µg/L		Standard; For the ingestion of fish only; Tumour causing substance	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
DDT (cont.)	SW	0.00001	µg/L		Standard; For the ingestion of fish only; Tumour causing substance	New York State	NYSDEC 1998
	FW	0.000024	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; Risk level of 10E-06	United States	USEPA 1986
	FW	0.000024	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.000024	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.00003	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW/SW	0.00024	µg/L		Criterion; For ambient surface waters; For human consumption of fish	Maryland	MDOE 1997
	FW	0.00059	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.00059	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.00059	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.00059	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.00059	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.00059	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	GW	0.001	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	FW	0.0059	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	0.0059	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.0059	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.0059	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
DDT and metabolites	EST/SW	0.00010	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.00073	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.00074	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	EST/SW	0.018	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	0.12	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	0.13	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
DDTs (sum)	FW/SW	0.000024	µg/L		Criterion; For the ingestion of fish only; 10- 6 risk level	United States	USEPA 1990
	FW	0.00006	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	0.0008	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
Demeton	FW/SW	0.100	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Diazinon	GW	5	µg/L		Guideline; Maximum	Japan	JWQB 1998
	FW	20	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Dibenzanthracene, 1,2:5,6-	FW	0.0027	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.0028	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	EST/SW	0.0053	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.028	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.031	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	0.037	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	0.044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.049	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.31	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.49	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Dibenzanthracene, 1,2:5,6- (total)	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
Dibromoacetonitrile	FW	100	µg/L		Criterion; Interim; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Dibromochloromethane	FW	0.41	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	34	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
Dibromochloropropane	FW	0.1	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
Dicamba	FW	120	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Dichlorobenzene, m-	FW	2.5	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	FW	400	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichlorobenzene, m- (cont.)	FW	400	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	400	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	400	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	400	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	400	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	410	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	EST/SW	600	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	EST	2600.0	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	2600	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	2600	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	2600	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	2600	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	2600	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	2600	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	2600	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	4300	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Dichlorobenzene, o-	FW/SW	<0.25	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	2.5	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	2700	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	2700	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	2700	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	2700	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	2700	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	2800	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	EST/SW	3100	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	17000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	17000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	17000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	17000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	17000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	17000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	EST	18000.0	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	21800	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Dichlorobenzene, p-	FW	1	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	FW	4.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichlorobenzene, p- (cont.)	FW	75	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic	Delaware	DDNREC 1993
	GW	300	µg/L		Guideline; Maximum	Japan	JWQB 1998
	FW	400	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	400	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	400	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	400	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	400	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	400	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	2600	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	2600	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	2600	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	2600	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	2600	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	2600	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	2600	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	EST/SW	3400	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	24000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Dichlorobenzenes	FW	3	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
	FW	400	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	400	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	2600	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	2600	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	FW	2700	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	17000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
Dichlorobenzidine, 3,3'-	EST/SW	0.0036	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.01	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.011	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW/SW	0.020	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.02	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	0.025	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	0.039	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.04	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichlorobenzidine, 3,3'- (cont.)	FW	0.04	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.04	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.077	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.077	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.077	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.077	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.40	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.77	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Dichlorobromomethane	FW	0.56	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.56	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	2.7	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	46	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	46	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	220	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Dichlorodifluoromethane	FW	6900	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	570000	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
Dichloroethyl Ether, sym-	FW	0.03	µg/L		Criterion Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	0.031	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.031	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.031	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.031	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW/SW	0.09–1	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW/SW	1.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW/SW	1.36	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	1.4	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	1.4	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	1.4	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	1.4	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichloroethylene, 1,2- (cis)	GW	40	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW	50	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Dichloroethylene, 1,2- (trans)	GW	40	µg/L		Guideline; Maximum	Japan	JWQB 1998
	FW	50	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	700	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	700	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	140000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	140000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	140000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Dichloroethylenes	FW	0.033	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	1.85	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
Dichloroisopropyl Ether, Bis-2,	FW	34.7	µg/L		Criterion Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	1400	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	1400	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW/SW	1700	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW/SW	4360	µg/L		Criterion Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	FW/SW	170000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
Dichloromethyl Ether, sym-	FW	0.000000003	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.00000184	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.00016	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.002	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW/SW	0.078	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
Dichlorophenol, 2,3-	FW	0.04	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
Dichlorophenol, 2,4-	FW/SW	0.0001–0.01[illegible]	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	0.2	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichlorophenol, 2,4- (cont.)	FW	0.3	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	FW	93	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	93	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	93	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	93	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	93	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	93	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	790	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	790	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	790	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	790	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	790	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	790	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	3090	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	FW	3090	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
Dichlorophenol, 2,5-	FW/SW	0.02	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	0.5	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
Dichlorophenol, 2,6-	FW/SW	0.03	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	0.2	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
Dichlorophenol, 3,4-	FW/SW	0.0003	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	0.3	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
Dichloropropane	SW	3040	µg/L		Lowest Observed Effect Level; Chronic; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	5700	µg/L		Lowest Observed Effect Level; Chronic; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Dichloropropene	FW	0.19	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	EST/SW	5.5	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	10.0	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	87	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichloropropene (cont.)	FW	224	µg/L		Lowest Observed Effect Level; Chronic; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	EST/SW	280	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	392	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	SW	790	µg/L		Lowest Observed Effect Level; Acute; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	2000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	14100	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
Dichloropropene, 1,3-	GW	2	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW	10	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	10	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	10	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	10	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	1700	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	1700	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	1700	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	1700	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Dichlorvos	GW	10	µg/L		Guideline; Maximum	Japan	JWQB 1998
Diclofop-Methyl	FW	9	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Dieldrin	FW	0.0000006	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.0000006	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	EST/SW	0.000025	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.000071	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.000071	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; Risk level of 10E-06	United States	USEPA 1986
	FW/SW	0.000076	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.000078	µg/L		Criterion; For the ingestion of fish only; 10- 6 risk level	United States	USEPA 1990
	FW	0.00008	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW/SW	0.00008	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	0.00014	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00014	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.00014	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dieldrin (cont.)	FW	0.00014	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.00014	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.00014	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.00014	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.00014	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.00017	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.00018	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW/SW	0.00076	µg/L		Criterion; For ambient surface waters; For human consumption of fish	Maryland	MDOE 1997
	FW	0.0014	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	0.0014	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.0014	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.0014	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	0.006	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	EST/SW	0.02	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	0.13	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	0.14	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Diethyl Phthalate	EST/SW	21000	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	23000	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	23000	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	23000	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	23000	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	23000	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	23000	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	23000	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	24000	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	120000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	120000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW/SW	120000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	120000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	120000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	120000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	120000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	148000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Diethyl Phthalate (cont.)	FW	350000	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	350000	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	1800000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	1800000	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
Dimethoate	FW	20	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Dimethyl Phthalate	FW	310000	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	313000	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	313000	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	313000	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	313000	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	313000	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	313000	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	320000	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	EST/SW	530000	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	2900000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	2900000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	2900000	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	FW/SW	2900000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	2900000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	2900000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	2900000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	3700000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Dimethylphenol, 2,4-	FW/SW	0.4	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	400	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	400	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	FW	540	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	540	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	540	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	540	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	1000	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	1000	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	FW/SW	2300	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	2300	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	2300	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dimethylphenol, 2,4- (cont.)	FW/SW	2300	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Di-n-butyl phthalate	FW	4.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	EST/SW	2100	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	2700	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	2800	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	12000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	13000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Dinitrocresol	FW	13.0	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	13.4	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	13.4	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	13.4	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	13.4	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	765	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	765	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	765	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	765	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	765	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Dinitrocresol, 2,4-	FW	13.0	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	765	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	FW/SW	765	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	13400000	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
Dinitrophenol	FW/SW	0.08	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
Dinitrophenol, 2,4-	FW	70	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	70	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	70	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	70	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	70	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	70	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	400	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	400	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	1400	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	EST/SW	1900	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	13000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dinitrophenol, 2,4- (cont.)	FW	14000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	14000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	14000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	14000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	14000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Dinitrophenols	FW	70	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW/SW	14000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
Dinitrotoluene	FW/SW	9.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	70	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW/SW	14300	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
Dinitrotoluene, 2,4-	FW	0.11	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.11	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.11	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.11	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.11	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.94	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	1.1	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	1.1	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	9.1	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	9.1	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	9.1	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	9.1	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	9.1	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-6 risk	California	USEPA 1997c
	EST/SW	13	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW/SW	91	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	91	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	96	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
Dinoseb	FW	10	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dioxane	FW	200	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
Diphenylhydrazine	FW/SW	0.00056	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.042	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.6	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
Diphenylhydrazine, 1,2-	FW	0.040	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.040	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.04	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.04	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.041	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	EST/SW	0.095	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.40	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.54	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.54	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.54	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.54	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.68	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW/SW	5.4	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Diquat	FW	70	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Dissolved Oxygen	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class AA (extraordinary)	Washington	Washington State
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class A (excellent)	Washington	Washington State
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class B (good)	Washington	Washington State
	SW	4	mg/L		Standard; Minimum; At any point beneath the surface	Alaska	ADEC 1998a
	EST	5	mg/L		Standard; Minimum; Except where natural conditions cause this value to be depressed; Includes tidal tributaries; Harvests for consumption of raw mollusks or other raw aquatic life	Alaska	ADEC 1998a
	EST/SW	5	mg/L		Standard; For Class SB; Minimum unless background is lower; For shellfish harvesting	Massachusetts	COM 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dissolved Oxygen (cont.)	FW/SW	5	mg/L		Criterion; Use II waters; Shellfish harvesting; Minimum at any time	Maryland	MDOE 1997
	SW	5	mg/L		Criterion; Minimum; Except as it naturally occurs; Harvesting for controlled relay and depuration; Class SB	Rhode Island	RIDEM 1997
	SW	5	mg/L		Standard; Minimum; Class B (good)	Washington	Washington State
	EST/SW	6	mg/L		Standard; For Class SA; Minimum unless background is lower; For shellfish harvesting	Massachusetts	COM 1996
	SW	6	mg/L		Criterion; Minimum; Except as it naturally occurs; Harvesting for direct consumption; Class	Rhode Island	RIDEM 1997
	SW	6	mg/L		Standard; Minimum; Class A (excellent)	Washington	Washington State
	SW	6	mg/L		Standard; Minimum; In coastal water; For a depth of one meter; Except when natural conditions cause this value to be depressed	Alaska	ADEC 1998a
	FW	6.5	mg/L		Standard; Minimum; Class B (good)	Washington	Washington State
	SW	7	mg/L		Standard; Minimum; Class AA (extraordinary)	Washington	Washington State
	FW	7	mg/L		Standard; Lower value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	8	mg/L		Standard; Minimum; Class A (excellent)	Washington	Washington State
	FW	9.5	mg/L		Standard; Minimum; Class AA (extraordinary)	Washington	Washington State
	SW	17	mg/L		Standard; Maximum	Alaska	ADEC 1998a
	EST/SW	70	%		Standard; Lower value; Class SC; For propagation and restricted harvesting of shellfish	Maine	USEPA 1988g
	EST/SW	85	%		Standard; Lower value; Class SB; For propagation and harvesting of shellfish	Maine	USEPA 1988g
	FW-Lakes	Narrative			Standard; No measurable decrease from natural conditions; Lake Class	Washington	Washington State
Diuron	FW	150	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Endosulfan	FW/SW	0.010	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	EST/SW	0.35	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	0.93	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	1.0	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	2	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	2.5	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW	74	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	110	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW/SW	159	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	FW/SW	240	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
Endosulfan (total)	EST	0.0087	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
Endosulfan Sulfate	FW	0.93	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	2.0	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	110	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	110	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Endosulfan Sulfate (cont.)	FW	110	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW/SW	240	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	240	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	240	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Endosulfan-alpha	FW	0.93	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	2.0	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	110	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	110	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	110	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW/SW	240	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	240	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	240	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Endosulfan-beta	FW	0.93	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	2.0	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	110	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	110	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	110	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW/SW	240	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	240	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	240	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Endrin	FW	0.002	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.002	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	FW/SW	0.003	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	EST/SW	0.14	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	0.2	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic	Delaware	DDNREC 1993
	FW	0.76	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	0.76	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	0.76	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.76	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.76	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	0.76	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	0.81	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	0.81	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	0.81	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	0.81	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Endrin (cont.)	FW/SW	0.81	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.81	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	1.0	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW	1	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
Endrin (total)	EST	0.0023	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
Endrin Aldehyde	FW	0.76	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	0.76	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.76	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.76	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW/SW	0.81	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	0.81	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.81	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.81	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Enterococci	FW/SW	<=4	Colonies/100mL		Criterion; Median; For shellfish harvesting	British Columbia	BCMOELP 1998
	FW/SW	<=11	Colonies/100mL		Criterion; 90th Percentile; For shellfish harvesting	British Columbia	BCMOELP 1998
Epichlorohydrin	FW	0.4	µg/L		Criterion; Interim; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Escherichia coli	FW/SW	<=14	Colonies/100mL		Criterion; Median; For shellfish harvesting	British Columbia	BCMOELP 1998
	FW/SW	<=43	Colonies/100mL		Criterion; 90th Percentile; For shellfish harvesting	British Columbia	BCMOELP 1998
Ethylbenzene	FW/SW	0.25	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	2.4	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	FW	1400	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	1400	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	3100	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	3100	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	3100	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	3100	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	3100	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	3100	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	3200	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	3280	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ethylbenzene (cont.)	FW/SW	3280	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	EST/SW	5000	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	29000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	29000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW/SW	29000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	29000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	29000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	29000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	29000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	35000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Ethylene Dichloride	FW	0.38	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.38	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.38	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.38	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.38	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.38	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	0.94	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.94	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogens	United States	USEPA 1993
	FW	3.8	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	3.8	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	GW	4	µg/L		Standard; Maximum	Japan	JWQB 1998
	EST/SW	17	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	99	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	99	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW/SW	99	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	99	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	99	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	123	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW/SW	240.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	243	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogens	United States	USEPA 1993

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ethylene Dichloride (cont.)	FW/SW	243	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	990	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	990	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Ethylene Oxide	FW	5.6	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
Fecal Coliforms	FW/SW	<=14	FC/100mL		Criterion; Median; For shellfish harvesting	British Columbia	BCMOELP 1998
	EST/SW	14	MPN/100mL		Standard; Median, Most Probable Number; And <= 10% of samples shall exceed a MPN of 43 for a 5-tube, 3-dilution test or 49 for a 3-tube, 3-dilution test; For shellfish waters	Virginia	COV 1997
	EST/SW	14	MPN/100mL		Standard; For Class SA; At any time, and 10% of all samples; Maximum = 43 FC/100mL	Massachusetts	COM 1996
	FW	14	FC/100mL		Criterion; For the ingestion of water and aquatic organisms; With no more than 10% of the samples may exceed 43 FC/100mL	Quebec	MDEQ 1996
	FW/SW	14	MPN/100mL		Guideline; To protect the consumers of aquatic organisms; With no more than 10% of the samples exceeding 43 MPN/100mL	Australia	ANZECC 1992
	FW/SW	14	MPN/100mL		Criterion; Median concentration; Use II waters; Shellfish harvesting	Maryland	MDOE 1997
	SW	14	FC/100mL		Mean probable number; Median; Except from initial dilution zones; Minimum of 5 weekly samples taken in a 30 day period; Shellfish harvesting areas	British Columbia	Warrington 1987
	SW	14	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 49 MPN/100mL; Harvesting for consumption; Class SA	Rhode Island	RIDEM 1997
	SW	14	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 43 Col/100mL; Class A (excellent)	Washington	Washington State
	SW	14	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 43 Col/100mL; Class AA (extraordinary)	Washington	Washington State
	SW	14	FC/100mL		Standard; Maximum mean; With no more than 10 % of the samples may exceed 43 Col/100	Alaska	ADEC 1998a
	FW/SW	<=43	FC/100mL		Criterion; 90th Percentile; For shellfish harvesting	British Columbia	BCMOELP 1998
	FW/SW	43	MPN/100mL		Criterion; For 10% of samples taken for a 5-tube decimal dilution test; Use II waters; Shellfish harvesting	Maryland	MDOE 1997
	SW	43	FC/100mL		Mean probable number; 90th percentile; Except from initial dilution zones; Minimum of 5 weekly samples taken in a 30 day period; Shellfish harvesting areas	British Columbia	Warrington 1987
	FW/SW	49	MPN/100mL		Criterion; For 10% of samples taken for a 3-tube decimal dilution test; Use II waters; Shellfish harvesting	Maryland	MDOE 1997
	FW	50	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Class AA (extraordinary)	Washington	Washington State
	FW-Lakes	50	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Lake Class	Washington	Washington State

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fecal Coliforms (cont.)	SW	50	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 500 MPN/100mL; Harvesting for controlled relay and depuration; Class SB	Rhode Island	RIDEM 1997
	EST/SW	88	MPN/100mL		Standard; For Class SB; Geometric mean MPN; At any time, and 10% of all samples; Maximum = 260 MPN/100mL; For shellfishing waters	Massachusetts	COM 1996
	FW	100	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100mL; Class A (excellent)	Washington	Washington State
	SW	100	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100mL; Class B (good)	Washington	Washington State
	FW	200	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 400 Col/100mL; Class B (good)	Washington	Washington State
	FW/EST/SW	200	FC/100mL		Standard; Geometric mean; For 2 or more samples in a 30 day period	Virginia	COV 1997
	FW	1000	FC/100mL		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW/EST/SW	1000	FC/100mL		Standard; For any time	Virginia	COV 1997
Fenitrothion	GW	3	µg/L		Guideline; Maximum	Japan	JWQB 1998
Fluoranthene	EST/SW	9.4	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	EST	42.0	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
Fluoranthene	FW	42	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW	42	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	42	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	50	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	54	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	54	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	FW	67	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW	300	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	300	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	300	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	300	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	300	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	300	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	370	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	370	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	370	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	370	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fluoranthene (cont.)	FW/SW	370	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	370	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Fluoride	GW	0.8	mg/L		Guideline; Maximum	Japan	JWQB 1998
	FW	1.8	mg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic	Delaware	DDNREC 1993
Fluorine	FW	0.0028	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.031	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	1300	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	1300	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	1300	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	1300	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	1300	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	1300	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	14000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	14000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	14000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	14000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	14000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	14000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Foaming Agents	GW	50	µg/L		Standard; For possible present or anticipated use; As Methylene Blue active substances	Virginia	COV 1997
Formaldehyde	FW/SW	95.0	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	900	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Glyphosate	FW	280	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Halomethanes	FW	0.19	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	15.7	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	16.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	100.0	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
Heptachlor	EST/SW	0.000037	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.0002	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Heptachlor (cont.)	SW	0.0002	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	0.00021	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00021	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.00021	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.00021	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.00021	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.00021	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.00021	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.00021	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.00026	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.00027	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	0.00028	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.00029	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.0003	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	0.0004	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	GW	0.001	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	FW	0.0021	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	0.0021	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.0021	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.0021	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	EST/SW	0.084	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	0.2	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	0.58	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	0.60	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Heptachlor Epoxide	FW	0.00010	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00010	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.00010	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.0001	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0001	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.00011	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Heptachlor Epoxide (cont.)	FW/SW	0.00011	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.00011	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.0003	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.0003	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	0.0010	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	GW	0.001	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	FW/SW	0.0011	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Hexachlorobenzene	FW	0.00003	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.00003	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	0.0001	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	EST/SW	0.00012	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	EST	0.00069	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW/SW	0.0007	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	0.00072	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW	0.00072	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.00072	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.00074	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.00074	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.00074	µg/L		Criterion; For the ingestion of fish only; 10- 6 risk level	United States	USEPA 1990
	FW	0.00075	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00075	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.00075	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.00075	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.00077	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.00077	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.00077	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.00077	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.00085	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.00088	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	0.01	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Hexachlorobenzene (cont.)	EST/SW	0.17	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	1.2	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW	1.2	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
Hexachlorobutadiene	FW	0.01	µg/L		Standard	New York State	NYSDEC 1998
	SW	0.01	µg/L		Standard	New York State	NYSDEC 1998
	FW	0.1	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	SW	0.3	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	0.44	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.44	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.44	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.44	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.44	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.45	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	4.4	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	EST/SW	8.7	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	50	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	50	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	50	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	50	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	50	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	62.1	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	69	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	500	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	EST/SW	1300	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	2000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Hexachlorocyclohexane-Alpha	FW	0.002	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.002	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	EST/SW	0.0023	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.0039	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.0039	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.0039	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Hexachlorocyclohexane-Alpha (cont.)	FW	0.0039	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0041	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.0092	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	EST	0.013	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	0.013	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.013	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.013	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.013	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.016	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW/SW	0.031	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.031	µg/L		Criterion; For the ingestion of fish only; 10- 6 risk level	United States	USEPA 1990
	FW	0.039	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.13	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Hexachlorocyclohexane-Beta	FW	0.007	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.007	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	EST/SW	0.0081	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.014	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.014	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.014	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.014	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.014	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0163	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	EST	0.046	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	0.046	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.046	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.046	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.046	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	0.0547	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.0547	µg/L		Criterion; For the ingestion of fish only; 10- 6 risk level	United States	USEPA 1990

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Hexachlorocyclohexane-Beta (cont.)	FW	0.058	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	0.140	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.460	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Hexachlorocyclohexane-Delta	FW	0.008	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.008	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
Hexachlorocyclohexane-Epsilon	FW	0.008	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	SW	0.008	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
Hexachlorocyclohexane-Technical	FW	0.0052	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.0123	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.0174	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.0414	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.0414	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.0414	µg/L		Criterion; For the ingestion of fish only; 10- 6 risk level	United States	USEPA 1990
Hexachlorocyclopentadiene	FW/SW	0.001	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	1	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	FW	206	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	240	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	240	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	240	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	240	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	240	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	EST/SW	1800	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	1800	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW	17000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	17000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	17000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	17000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	17000	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
Hexachloroethane	FW	0.6	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	EST/SW	1.6	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Hexachloroethane (cont.)	FW	1.9	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	1.9	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	1.9	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	1.9	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	1.9	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	2	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	2	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	3	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW/SW	8.74	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	FW	8.9	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	8.9	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	8.9	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	8.9	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	9.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	11	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	19	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	EST/SW	22	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	29	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	89	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	150	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Hydrocarbons, Petroleum	GW	1000	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	SW	Narrative			Standard; May not exceed concentrations that individually or in combination impart undesirable odour or taste to an organism as determined by bioassay or organoleptic tests	Alaska	ADEC 1998a
Hydrogen Sulfide	FW	50	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
Indeno(1,2,3-cd)pyrene	FW	0.0028	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0044	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.0044	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.028	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.031	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Indeno(1,2,3-cd)pyrene (cont.)	FW	0.044	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.049	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.049	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	0.31	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.49	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
Iron	FW	300	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	300	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	FW	300	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	300	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	300	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	FW	300	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
Iron (total)	FW	1000	µg/L		Guideline; Provided Fe(II) is not present; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Isophorone	FW	8.4	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	8.4	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	36	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	36	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	84	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	600	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	600	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	2600	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	2600	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW	5200	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	5200	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	5200	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	6000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	6900	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	6900	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	EST/SW	71000	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Isophorone (cont.)	FW	490000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW/SW	490000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW	500000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW	520000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	520000	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
Isoproturon	FW	9	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Lead	EST	5.6	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	10	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	10	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW	50	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	50	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	50	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	50	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	GW	50	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
Lead (dissolved)	FW	15	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
Lead (total)	FW	1.0–5.0	µg/L		Guideline; Hardness dependent; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	SW	5.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Lindane	FW/SW	0.003	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	0.008	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.008	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	GW	0.01	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	EST/SW	0.011	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.0186	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	FW	0.0186	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million; As gamma-HCH	Oregon	ODEQ 1996
	FW	0.019	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.019	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.019	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.019	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.02	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Lindane (cont.)	FW	0.02	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	EST	0.062	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW/SW	0.0625	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million; As gamma-HCH	Oregon	ODEQ 1996
	FW/SW	0.0625	µg/L		Criterion; For the ingestion of fish only; 10- 6 risk level	United States	USEPA 1990
	FW	0.063	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.063	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.063	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.063	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.08	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	0.190	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.6	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW/SW	0.625	µg/L		Criterion; For ambient surface waters; For human consumption of fish	Maryland	MDOE 1997
	FW/SW	0.630	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	4.0	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic	Delaware	DDNREC 1993
	EST/SW	4.4	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	7	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW/SW	25	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW	31	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Malathion	FW	0.070	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	SW	0.100	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	190	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Manganese	FW	50	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	50	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	50	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	50	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
	FW	50	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	100.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	100	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	100	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	FW/SW	100	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	100	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
MCPA	FW	2	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Mecoprop	FW	10	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Mercury	FW	0.0018	µg/L		Criterion; For the ingestion of water and 15 grams of aquatic organisms per day	Quebec	MDEQ 1996
	FW	0.0018	µg/L		Criterion; For the ingestion of aquatic organisms only; 15 grams per day	Quebec	MDEQ 1996
	FW	0.002	µg/L	TRA	Human Noncancer Criterion; For nondrinking water; Includes methyl mercury	Great Lakes	USEPA 1992
	EST	0.025	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	0.050	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.050	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	GW	0.05	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	FW/SW	0.051	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.051	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	0.14	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	0.14	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	0.144	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	0.144	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	FW	0.144	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.146	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.146	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	FW/SW	0.146	µg/L		Criterion; For ambient surface waters; For human consumption of fish	Maryland	MDOE 1997
	FW/SW	0.146	µg/L		Criterion; For the ingestion of fish only	United States	USEPA 1990
	FW	0.15	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW/SW	0.15	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	EST/SW	1.5	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant; Inorganic mercury	Delaware	DDNREC 1993
	FW	2.0	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic toxicant; Inorganic mercury	Delaware	DDNREC 1993
	FW	7.1	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant; Inorganic mercury	Delaware	DDNREC 1993
Mercury (dissolved)	FW	0.0007	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.0007	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	0.052	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW/SW	0.053	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW	0.14	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.15	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Mercury (total)	FW/SW	0.1	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Mercury (total; cont.)	FW	0.5	µg/L		Standard; Relating to human health; Considers possible accumulation and concentration in fish and shellfish	Japan	JEA 1987
	GW	0.5	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW	Narrative			Standard; Considers possible accumulation and concentration in fish and shellfish; Alkyl mercury; Undetectable	Japan	JEA 1987
Methoxychlor	GW	0.03	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	FW/SW	0.040	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	40	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	100	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	100	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	100	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	100	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	900	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Methyl Bromide	FW	48	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	48	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	48	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	48	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	48	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	4000	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	4000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	4000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	4000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	4000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
Methyl Chloride	GW	20	µg/L		Standard; Maximum	Japan	JWQB 1998
Methyl-4-chlorophenol, 2-	FW/SW	2.0	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	1800	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
Methylene Chloride	FW	2.0	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	4.6	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	4.7	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	4.7	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Methylene Chloride (cont.)	FW	4.7	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	4.7	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	4.7	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	47	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	47	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	200	µg/L		Standard; For the ingestion of fish only; Tumour causing substance	New York State	NYSDEC 1998
	SW	200	µg/L		Standard; For the ingestion of fish only; Tumour causing substance	New York State	NYSDEC 1998
	EST/SW	277	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	1600	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	1600	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	1600	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	1600	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	2000	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	2100	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	16000	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	16000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	82000	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	EST/SW	110000	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	810000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Metolachlor	FW	15	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	50	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Metribuzin	FW	80	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Mirex	FW	0.000001	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.000001	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	FW/SW	0.001	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Molybdenum	GW	70	µg/L		Guideline; Maximum	Japan	JWQB 1998
	FW	70	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Monochlorophenols	FW	7.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Naphthalene	FW/SW	1.0	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Naphthalene (cont.)	FW	10	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
Nickel	EST	8.3	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	GW	10	µg/L		Guideline; Maximum	Japan	JWQB 1998
	FW	13.4	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	13.4	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW/SW	100.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	100	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	100	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
	FW	510	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	610	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	610	µg/L		Proposed Criterion; For the ingestion of fish and water	Alaska	ADEC 1998b
	FW	610	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	610	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	620	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	EST/SW	810	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	3800	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	4600	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	4600	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	4600	µg/L		Proposed Criterion; For the ingestion of fish only	Alaska	ADEC 1998b
	FW/SW	4600	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	4600	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW/SW	4600	µg/L		Criterion; For ambient surface waters; For human consumption of fish; Hardness and pH dependent	Maryland	MDOE 1997
	FW	5700	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Nickel (dissolved)	FW	610	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	610	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	4600	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	4600	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Nitrate	FW	10	mg/L		Standard; For the ingestion of fish and water; Nitrite as N	Virginia	COV 1997
Nitrate + Nitrite	GW	10	mg/L		Guideline; Maximum; As N	Japan	JWQB 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrates	FW	10	mg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	10	mg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	10	mg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
Nitrilotriacetic Acid	FW	400	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Nitrobenzene	FW/SW	0.03	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	17.0	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	17	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	17	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	17	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	17	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	17	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	17	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	17	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	EST/SW	320	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	1900	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	1900	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	1900	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	1900	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	1900	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	1900	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	1900	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	2200	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW	19800	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	19800	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
Nitrosamines	FW	0.0008	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.0008	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.0008	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	1.24	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	1.24	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	1.24	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
Nitrosodibutylamine, N-	FW	0.0064	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrosodibutylamine, N- (cont.)	FW	0.0064	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	0.0064	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.0064	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW/SW	0.587	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.587	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	0.587	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW	0.59	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.6	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
Nitrosodiethylamine, N-	FW	0.00023	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0008	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.0008	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.36	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	1.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW/SW	1.24	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	1.24	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
Nitrosodimethylamine, N-	FW	0.00068	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.00069	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00069	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.00069	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.00069	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0014	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.0069	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	EST/SW	1.4	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	8.1	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrosodimethylamine, N- (cont.)	FW/SW	8.1	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	8.1	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	8.1	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	10	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW/SW	16.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW/SW	16	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	81	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Nitrosodi-n-propylamine, N-	FW	0.005	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.005	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.005	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	0.05	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	1.4	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	1.4	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	EST/SW	4.9	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW/SW	14.0	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	35	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
Nitrosodiphenylamine, N-	EST/SW	2.8	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	4.9	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	5.0	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	5.0	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	5.0	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	5	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	5.3	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW/SW	16.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	16	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	16	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	16	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	16	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	16.1	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrosodiphenylamine, N- (cont.)	FW	20	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	50	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	160	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Nitrosopyrrolidine, N-	FW	0.016	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.016	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.017	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	90.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW/SW	91.9	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	91.9	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW	92	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	93	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
N-Nitrosodi-N-Propylamine	FW	0.005	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	1.4	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
Octachlorostyrene	FW	0.000006	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.000006	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
Oil and grease	FW/SW	>0.0150	mg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms; Emulsifiable	Australia	ANZECC 1992
PAHs	FW	0.0028	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.0028	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW	0.0028	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.0028	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.03	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
PAHs (cont.)	FW	0.031	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	0.0311	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.0311	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
PAHs (total)	FW	0.0028	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	EST	0.031	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW/SW	0.0311	µg/L		Criterion; For the ingestion of fish only; 10- 6 risk level	United States	USEPA 1990
Paraquat	FW	10	µg/L		Criterion; Maximum; Interim; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Parathion	FW/SW	0.004	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	50	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
PCBs	FW	0.000001	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.000001	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	0.000003	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	0.000079	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	EST/SW	0.0000079	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.00001	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	0.000055	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.000056	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	0.000079	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.000079	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.000079	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.000079	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.00017	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.00017	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW/SW	0.00017	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.00017	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW/SW	0.00079	µg/L		Criterion; For ambient surface waters; For human consumption of fish	Maryland	MDOE 1997
	FW	0.001	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	0.001	µg/L		Criterion	Arizona	USEPA 1988a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
PCBs (cont.)	FW	0.001	µg/L		Criterion	Florida	USEPA 1988a
	SW	0.004	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	GW	Narrative			Standard; Maximum; Not detectable	Japan	JWQB 1998
PCBs (total)	EST	0.00007	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW/SW	0.000079	µg/L		Criterion; For the ingestion of fish only; 10- 6 risk level	United States	USEPA 1990
	FW	0.00044	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.00044	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	Narrative			Standard; Considers possible accumulation and concentration in fish and shellfish;	Japan	JEA 1987
Pentachlorobenzene	FW	3.5	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	3.5	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW/SW	4.1	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	4.1	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW	74	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	74	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	74	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	80.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	85	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	85	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	85	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
Pentachloroethane	SW	281	µg/L		Lowest Observed Effect Level; Chronic; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	1100	µg/L		Lowest Observed Effect Level; Chronic; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Pentachlorophenol	FW/SW	0.03	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	0.05	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	SW	0.2	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	0.28	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.28	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.28	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.28	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.5	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	2.8	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	2.8	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	2.8	µg/L		Proposed Criterion; For the ingestion of fish and water; At risk level of 10E-05	Alaska	ADEC 1998b
	EST	8.2	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Pentachlorophenol (cont.)	FW	8.2	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	8.2	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	8.2	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	8.2	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	82	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	82	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	82	µg/L		Proposed Criterion; For consumption of fish; At risk level of 10E-05	Alaska	ADEC 1998b
	FW	200	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	1000	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	1010	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	FW	1010	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	1010	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	29000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
Permethrin	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
pH	FW	5 – 9			Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	SW	6.0 – 8.5			Standard; May not vary more than 0.5 pH unit from natural conditions	Alaska	ADEC 1998a
	FW	6.5			Standard; Lower value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	EST/SW	6.5 – 8.5			Standard; For Class SA; And not more than 0.2 units outside background; For shellfish harvesting	Massachusetts	COM 1996
	EST/SW	6.5 – 8.5			Standard; For Class SB; And not more than 0.2 units outside background; For shellfish harvesting	Massachusetts	COM 1996
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary)	Washington	Washington State
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent)	Washington	Washington State
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class B (good)	Washington	Washington State
	FW	6.5 – 8.5			Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW/SW	6.5 – 8.5			Criterion; Use II waters; Shellfish harvesting	Maryland	MDOE 1997
	SW	6.5 – 8.5			Criterion; Range; But not more than 0.2 units outside of the normally occurring range; Harvesting for consumption; Class SA and SB	Rhode Island	RIDEM 1997
	EST/SW	6.7			Standard; Lower value; Class SA; For propagation and harvesting of shellfish	Maine	USEPA 1988g
	EST/SW	6.7			Standard; Lower value; Class SB; For propagation and harvesting of shellfish	Maine	USEPA 1988g

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
pH (cont.)	EST/SW	6.7			Standard; Lower value; Class SC; For propagation and restricted harvesting of shellfish	Maine	USEPA 1988g
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary)	Washington	Washington State
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent)	Washington	Washington State
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class B (good)	Washington	Washington State
	EST/SW	8.5			Standard; Upper value; Class SA; For propagation and harvesting of shellfish	Maine	USEPA 1988g
	EST/SW	8.5			Standard; Upper value; Class SB; For propagation and harvesting of shellfish	Maine	USEPA 1988g
	EST/SW	8.5			Standard; Upper value; Class SC; For propagation and restricted harvesting of shellfish	Maine	USEPA 1988g
	FW	8.5			Standard; Upper value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State
Phenanthrene	FW	0.0028	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.0311	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
Phenol	FW/SW	1–10	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	300	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	FW	3500	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	FW	3500	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	3500	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	21000	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	21000	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	21000	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	21000	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	21000	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	21000	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	21000	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	4600000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	4600000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	4600000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	4600000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	4600000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	4600000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	4600000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Phenols	FW/SW	0.15–0.02	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms; Phenols in polluted rivers	Australia	ANZECC 1992
	GW	1	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	FW	5	µg/L		Criterion	Arizona	USEPA 1988a
Phorate	FW	2	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Phosphorus (elemental)	FW	4.3	µg/L		Criterion; Interim; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Phthalate Esters	FW	0.2	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Picloram	FW	190	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Propylene Dichloride	FW	0.52	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.52	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	5	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	6.4	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	39	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	39	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	GW	60	µg/L		Guideline; Maximum	Japan	JWQB 1998
Propyzamide	GW	8	µg/L		Guideline; Maximum	Japan	JWQB 1998
Pyrene	FW	0.0028	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.0311	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	960	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	960	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	960	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	960	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	960	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	960	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	11000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	11000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	11000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	11000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	11000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	11000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Pyridine	FW/SW	5–28	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
Quinoline	FW/SW	0.5–1	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
Radioactivity	GW	4	mrem/yr		Standard; Manmade, Total Dose Equivalent; For possible present or anticipated use	Virginia	COV 1997
Radioactivity-Alpha (gross)	FW	15	pCi/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW/SW	15	pCi/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	GW	15	pCi/L		Standard; For possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Radioactivity-Beta (gross)	FW	4	mrem		Standard; For the ingestion of fish and water; Beta particle and photon activity	Virginia	COV 1997
	FW/SW	4	mrem		Standard; For the ingestion of fish only; Beta particle and photon activity	Virginia	COV 1997
	GW	50	pCi/L		Standard; For possible present or anticipated use; Used as a screening value only - if exceeded the water must be analyzed to determine the presence and quantity of radionuclides to determine compliance with the tritium, strontium, and manmade radioactivity standards	Virginia	COV 1997
Radium 226	GW	3	pCi/L		Standard; For possible present or anticipated use	Virginia	COV 1997
Radium 226 (+228)	GW	5	pCi/L		Standard; For possible present or anticipated use	Virginia	COV 1997
Salinity	SW	Narrative			Standard; A human-induced alteration may not cause a change in water's isohaline patterns of more than +/- 10% of the natural variations (or the corresponding salinity values for aquatic life/wildlife; Whichever is more stringent)	Alaska	ADEC 1998a
Selenium	FW	5.0	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	10	µg/L		Criterion; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	10	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	10	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic	Delaware	DDNREC 1993
	FW	10	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	10	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	GW	10	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	GW	10	µg/L		Standard; Maximum	Japan	JWQB 1998
	EST	71.0	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	104	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	EST/SW	160	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	1100	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW	6800	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Selenium (cont.)	FW/SW	11000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
Selenium (dissolved)	FW	170	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW/SW	11000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
Selenium (total)	FW	5.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	SW	70.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Silver	EST	2.3	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	50.0	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	50	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	50	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic	Delaware	DDNREC 1993
	FW	50	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	91	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	100	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	170	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	EST/SW	5700	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	40000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	110000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
Silver (total)	FW	0.1	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	SW	1.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Silvex	FW	10	µg/L		Criterion Maximum; For the ingestion of fish and water; 2,4,5,-TP	Oregon	ODEQ 1996
	FW	10	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic	Delaware	DDNREC 1993
	GW	10	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	FW	50	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
Simazine	GW	3	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW	10	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Sodium	FW	200000	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
	GW	270000	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
Strontium 90	FW	8	pCi/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW/SW	8	pCi/L		Standard; For the ingestion of fish only	Virginia	COV 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Strontium 90 (cont.)	GW	8	pCi/L		Standard; For possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Styrene	FW/SW	0.25	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	1.9	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	4	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
Sulphate	FW	500	mg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
Sulphide	FW/SW	2.0	µg/L		Guideline; Undissociated H2S; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
T, 2,4,5-	FW	9	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	10	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
T3CDD (Dioxin)	EST/SW	0.000000002	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.000000013	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.000000014	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.000000016	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.000000017	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	0.00000013	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.00000014	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.0000012	µg/L		Criterion; For ambient surface waters; For human consumption of fish	Maryland	MDOE 1997
T4CDD, 2,3,7,8-	FW	0.00000001	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	0.00000001	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW/SW	0.00000001	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	0.000000013	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.000000013	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.000000013	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
T4CDD, 2,3,7,8- (cont.)	FW	0.000000013	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.000000014	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	0.000000014	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	0.000000014	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.000000014	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.00000008	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	0.0000012	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
T4CDD, 2,3,7,8- (total equivalent)	FW	0.000000000	µg/L		Standard; For the ingestion of fish only; Tumour causing substance	New York State	NYSDEC 1998
	SW	0.000000000	µg/L		Standard; For the ingestion of fish only; Tumour causing substance	New York State	NYSDEC 1998
T4CDD, 2,3,7,8- + T4CDF, 2,3,7,8-	FW	0.000000013	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	EST	0.000000014	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
Temperature	SW	13.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=8/ [T-4] at any time; Class AA (extraordinary)	Washington	Washington State
	FW	16.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=23/ [T+5] at any time; Class AA (extraordinary)	Washington	Washington State
	SW	16.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=12/ [T-2] at any time; Class A (excellent)	Washington	Washington State
	FW	18.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=28/ [T+7] at any time; Class A (excellent)	Washington	Washington State
	SW	19.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=16/[T]; Class B	Washington	Washington State
	FW	21.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=34/ [T+9]; Class B (good)	Washington	Washington State
	EST/SW	26.7	°C		Standard; For Class SA; Maximum daily mean (or 80 F); For shellfish harvesting	Massachusetts	COM 1996
	EST/SW	26.7	°C		Standard; For Class SB; Maximum daily mean (or 80 F); For shellfish harvesting	Massachusetts	COM 1996
	SW	28.3	°C		Criterion; Maximum; Harvesting for consumption; Class SA, and SB; (83 F)	Rhode Island	RIDEM 1997
	EST/SW	29.4	°C		Standard; For Class SA; Maximum at any time (or 85 F); For shellfish harvesting	Massachusetts	COM 1996
	EST/SW	29.4	°C		Standard; For Class SB; Maximum at any time (or 85 F); For shellfish harvesting	Massachusetts	COM 1996
	FW/SW	32.2	°C		Criterion; Use II waters; Shellfish harvesting; (90 F); Outside mixing zone; Or may not exceed ambient temperature, whichever is greater	Maryland	MDOE 1997
Temperature (change)	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 16.0 C / 13.0 C for FW/SW respectively; Class AA (extraordinary)	Washington	Washington State
	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 21.0 C / 19.0 C for FW/SW respectively; Class B (good)	Washington	Washington State

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature (change; cont.)	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed guideline; Class A (excellent)	Washington	Washington State
	FW	0.3	°C		Standard; Secondary Upper Limit for A-1, B-1 and C-1 Classifications; (0.5 F)	Montana	USEPA 1988e
	FW	0.6	°C		Standard; Upper value for A-1, B-1 and C-1 Classifications; (1 F)	Montana	USEPA 1988e
	EST/SW	0.83	°C		Standard; Secondary Upper value; Class SA; For propagation and harvesting of shellfish; (1.5 F)	Maine	USEPA 1988g
	EST/SW	0.83	°C		Standard; Secondary Upper value; Class SB; For propagation and harvesting of shellfish;	Maine	USEPA 1988g
	EST/SW	0.83	°C		Standard; Secondary Upper value; Class SC; For propagation and restricted harvesting of shellfish; (1.5 F)	Maine	USEPA 1988g
	EST/SW	0.83	°C		Standard; For Class SA; (or 1.5 F); For shellfish harvesting	Massachusetts	COM 1996
	EST/SW	0.83	°C		Standard; For Class SB; (or 1.5 F); For shellfish harvesting; During summer months	Massachusetts	COM 1996
	SW	0.89	°C		Criterion; Maximum increase above normal temperature; Harvesting for consumption; Class SA, and SB; (1.6 F)	Rhode Island	RIDEM 1997
	EST/SW	2.2	°C		Standard; Upper value; Class SA; For propagation and harvesting of shellfish; (4 F)	Maine	USEPA 1988g
	EST/SW	2.2	°C		Standard; Upper value; Class SB; For propagation and harvesting of shellfish; (4 F)	Maine	USEPA 1988g
	EST/SW	2.2	°C		Standard; Upper value; Class SC; For propagation and restricted harvesting of shellfish; (4	Maine	USEPA 1988g
	EST/SW	2.2	°C		Standard; For Class SB; (or 4 F)); During winter months; For shellfish harvesting	Massachusetts	COM 1996
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State
	SW	Narrative			Standard; May not cause the weekly average temperature to increase more than 1 C. The maximum rate of change may not exceed 0.5 C per hour; Normal daily temperature cycles may not be altered in amplitude or frequency	Alaska	ADEC 1998a
Terbufos	FW	1	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Tetrachlorobenzene, 1,2,3,4-	FW	0.1	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	2.4	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
Tetrachlorobenzene, 1,2,3,5-	FW	0.1	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Tetrachlorobenzene, 1,2,4,5-	FW	2.3	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	2.3	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW/SW	2.9	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	2.9	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW	3.1	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	38	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	38	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	48	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	48	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Tetrachlorobenzene, 1,2,4,5- (cont.)	FW/SW	50.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Tetrachloroethane	FW	0.17	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.17	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.17	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.17	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.17	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.17	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	1.7	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	EST/SW	1.9	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW/SW	10.7	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	11.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	11	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	11	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	11	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	11	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	13.5	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW/SW	110	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Tetrachloroethylene	FW	0.80	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.8	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.8	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.8	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.8	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.8	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	1	µg/L		Guidance value; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	1	µg/L		Guidance value; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	8.0	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	8.85	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	8.85	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Tetrachloroethylene (cont.)	FW/SW	8.85	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	8.85	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	8.85	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	8.9	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	9.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	GW	10	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW/SW	88.5	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	320	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	320	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	EST/SW	610	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	3500	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW	4300	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Tetrachlorophenol, 2,3,4,6-	FW/SW	0.001	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms; Phenols in polluted rivers	Australia	ANZECC 1992
	FW	1	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic or aesthetic effects	Quebec	MDEQ 1996
Tetrachlorophenols	FW	1.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Thallium	FW	1.7	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	1.7	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	1.7	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	1.7	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	1.7	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	4.0	µg/L		Guideline; Total; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW/SW	6.2	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	6.3	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	6.3	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	6.3	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	6.3	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	EST/SW	8.4	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	13	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	14	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	SW	20.0	µg/L		Guideline; Total; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW/SW	48	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Thallium (cont.)	FW	60	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Thiobencarb	GW	20	µg/L		Standard; Maximum	Japan	JWQB 1998
Thiram	GW	6	µg/L		Standard; Maximum	Japan	JWQB 1998
Toluene	FW/SW	0.25	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	FW	6.8	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	24	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	GW	600	µg/L		Guideline; Maximum	Japan	JWQB 1998
	FW	6000	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	6000	µg/L		Standard; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	6800	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	6800	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	6800	µg/L		Criterion; For the ingestion of water and organsims	California	USEPA 1997c
	FW	6800	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	10000.0	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	10000	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	10000	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	14300	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	14300	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	22000	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	EST	30000.0	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	EST/SW	52000	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	200000	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW/SW	200000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	200000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW/SW	200000	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	200000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	200000	µg/L		Criterion; For the ingestion of organisms only	California	USEPA 1997c
	FW	300000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	370000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW	424000	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	424000	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Toxaphene	FW	0.000006	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	SW	0.000006	µg/L		Standard; Tumour causing substance; For the ingestion of fish only	New York State	NYSDEC 1998
	FW	0.00002	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	EST/SW	0.00013	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	EST	0.00069	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	0.00071	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.00073	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.00073	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.00073	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	0.00073	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW/SW	0.00073	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	0.00073	µg/L		Criterion; For the ingestion of fish only; 10- 6 risk level	United States	USEPA 1990
	FW	0.00075	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	0.00075	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	0.00075	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	0.00075	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.00091	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.00093	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	0.005	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW	0.0073	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	0.0073	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	0.0073	µg/L		Proposed Criterion; For the ingestion of fish and water; Risk level of 10E-05	Alaska	ADEC 1998b
	FW/SW	0.0073	µg/L		Criterion; For ambient surface waters; For human consumption of fish	Maryland	MDOE 1997
	FW/SW	0.0075	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	0.0075	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	0.0075	µg/L		Proposed Criterion; For the ingestion of fish only; Risk level of 10E-05	Alaska	ADEC 1998b
	FW/SW	0.008	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Tributyltin	SW	0.002	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	EST	0.005	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	0.008	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	20.0	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
Trichlorobenzene, 1,2,3-	FW	0.9	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichlorobenzene, 1,2,3- (cont.)	FW	10.5	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Trichlorobenzene, 1,2,4-	FW	0.5	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	FW	22	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	260	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	680	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	940	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	950	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	EST/SW	2700	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	19000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Trichlorobenzene, 1,3,5-	FW	0.7	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	20	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Trichloroethane, 1,1,1-	FW	200	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Systemic	Delaware	DDNREC 1993
	FW	200	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
	GW	1000	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW	18400	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	EST/SW	28000	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	SW	31200	µg/L		Lowest Observed Effect Level; Acute; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	200000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	1030000	µg/L		Criterion; Maximum; For the ingestion of fish only	Oregon	ODEQ 1996
Trichloroethane, 1,1,2-	FW	0.60	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.60	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.6	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	0.6	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	0.61	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	0.61	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	6.0	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	GW	6	µg/L		Standard; Maximum	Japan	JWQB 1998
	EST/SW	7.4	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichloroethane, 1,1,2- (cont.)	FW/SW	40.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW/SW	41.8	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	42	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	42	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	42	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	42	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	52.5	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	140	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	420	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	EST/SW	1500	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW	11000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Trichloroethylene	FW	2.7	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	2.7	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	2.7	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	2.7	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	2.7	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	2.7	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	3.1	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	EST/SW	16	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	27	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	27	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	GW	30	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW	40	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	SW	40	µg/L		Standard; Tumour causing substance	New York State	NYSDEC 1998
	FW/SW	80.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	80.7	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	80.7	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	81	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	81	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichloroethylene (cont.)	FW/SW	81	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	81	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	81	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	115	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	200	µg/L	TRA	Human Cancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
	FW/SW	810	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	810	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	4000	µg/L	TRA	Human Noncancer Criterion; For nondrinking water	Great Lakes	USEPA 1992
Trichlorofluoromethane	FW	10000	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW/SW	860000	µg/L		Regulation; For the ingestion of fish only; Based on systemic toxicity	New Hampshire	NHDES 1996
Trichlorophenol, 2,3,5-	FW/SW	0.001	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
Trichlorophenol, 2,4,5-	FW	1	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	SW	8.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	FW	25	µg/L		Criterion; For the ingestion of aquatic organisms only	Quebec	MDEQ 1996
	FW	2600	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health	United States	USEPA 1986
	FW	2600	µg/L		Criterion; Maximum; For the ingestion of fish and water	Oregon	ODEQ 1996
	FW	2600	µg/L		Regulation; For the ingestion of fish and water; Based on systemic toxicity	New Hampshire	NHDES 1996
	FW	2600	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW/SW	9800	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
Trichlorophenol, 2,4,6-	FW/SW	0.002	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	EST/SW	0.63	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	1.2	µg/L		Ambient water quality criteria; To ensure that surface waters used as a source of drinking water and from which fish are eaten contain no level of chemical hazardous to human health; 10E-06 risk level	United States	USEPA 1986
	FW	1.2	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	1.3	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	2.1	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	2.1	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	2.1	µg/L		Criterion; For the ingestion of water and organsims; Based on a carcinogenicity of 10E-06	California	USEPA 1997c
	FW	2.1	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichlorophenol, 2,4,6- (cont.)	FW/SW	3.6	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	4.5	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW	6.5	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	6.5	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	6.5	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	6.5	µg/L		Criterion; For the ingestion of organisms only; Based on a carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	21	µg/L		Standard; For the ingestion of fish and water; Risk level of 10E-05	Virginia	COV 1997
	FW	21	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	65	µg/L		Standard; For the ingestion of fish only; Risk level of 10E-05	Virginia	COV 1997
	FW/SW	65	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
Trichlorophenols (total)	FW	18.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
Trifluralin	FW	45	µg/L		Criterion; Interim; Maximum; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Trihalomethanes (total, sum)	FW	100	µg/L		Criterion; Maximum Contaminant Level; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
Tritium	FW	20000	pCi/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW/SW	20000	pCi/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	GW	20000	pCi/L		Standard; For possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Turbidity	FW/SW	50	NTU		Criterion; Use II waters; Shellfish harvesting; Change from monthly average	Maryland	MDOE 1997
	FW/SW	150	NTU		Criterion; Use II waters; Shellfish harvesting; At any time	Maryland	MDOE 1997
	SW	Narrative			Standard; May not reduce the depth of the compensation point for photosynthetic activity by more than 10%; May not reduce the maximum secchi disk depth by more than 10%	Alaska	ADEC 1998a
Turbidity (change)	FW/SW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class AA (extraordinary)	Washington	Washington State
	FW/SW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class A (excellent)	Washington	Washington State
	FW-Lakes	5	NTU		Standard; Maximum increase over background conditions; Lake Class	Washington	Washington State
	SW	5	NTU		Criterion; Maximum increase over background; Harvesting for consumption; Class SA	Rhode Island	RIDEM 1997
	FW/SW	10	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class B (good)	Washington	Washington State
	SW	10	NTU		Criterion; Maximum increase over background; Harvesting for controlled relay and depuration; Class SB	Rhode Island	RIDEM 1997
	FW/SW	10	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class AA (extraordinary)	Washington	Washington State

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Turbidity (change; cont.)	FW/SW	10	%		Standard; Maximum increase when background turbidity is >50; Class A (excellent)	Washington	Washington State
	FW/SW	20	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class B (good)	Washington	Washington State
Uranium	FW	100	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Vanadium	FW	100	µg/L		Criterion; For the ingestion of water and aquatic organisms	Quebec	MDEQ 1996
Vinyl Chloride	FW	2.0	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	2.0	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	2	µg/L		Criterion; Maximum; For the ingestion of fish and water; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW	2	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	2	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996
	FW	2.1	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	FW	20	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	FW	20	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	EST/SW	95	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	525	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW/SW	525	µg/L		Criterion; Maximum; For the ingestion of fish only; With a probability of one concern case per million	Oregon	ODEQ 1996
	FW/SW	525	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	525	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW/SW	530.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW/SW	530	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	677	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	FW/SW	5250	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW/SW	5300	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
Vinylidene Chloride	FW	0.033	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW	0.057	µg/L		Regulation; For the ingestion of fish and water; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW	0.057	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW	0.057	µg/L		Criterion; For the ingestion of water and organsims; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	0.057	µg/L		Criterion; For the ingestion of water and aquatic organisms; Risk level of one cancer case for every million individuals exposed	Quebec	MDEQ 1996

Appendix 2-2. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Human Health (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Vinylidene Chloride (cont.)	FW	0.057	µg/L	USEPA	Criterion; For the ingestion of water and organisms; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW	0.058	µg/L		Criterion; For the ingestion of fish and water; Carcinogen	Delaware	DDNREC 1993
	EST/SW	0.56	µg/L		Criterion; For the ingestion of fish/shellfish; Carcinogen	Delaware	DDNREC 1993
	FW	0.57	µg/L		Criterion; For the ingestion of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	1.85	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen	United States	USEPA 1993
	FW/SW	2.0	µg/L		Guideline; To protect the consumers of aquatic organisms; Potential carcinogen; Risk level of 10E-06	Australia	ANZECC 1992
	FW	3.2	µg/L		Criterion; For the ingestion of aquatic organisms only; Risk level of one cancer case for every million people exposed	Quebec	MDEQ 1996
	FW	3.2	µg/L	USEPA	Criterion; For the ingestion of organisms only; 1 in 1 million risk level for carcinogen; Recalculated values using IRIS, 9/90	United States	USEPA 1993
	FW/SW	3.2	µg/L		Regulation; For the ingestion of fish only; Based on carcinogenicity	New Hampshire	NHDES 1996
	FW/SW	3.2	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
	FW/SW	3.2	µg/L		Criterion; For the ingestion of organisms only; Based on carcinogenicity of 10E-06 risk	California	USEPA 1997c
	FW	4	µg/L		Criterion; For the ingestion of fish only; Carcinogen	Delaware	DDNREC 1993
	GW	20	µg/L		Standard; Maximum	Japan	JWQB 1998
	FW/SW	32	µg/L		Criterion; For the ingestion of fish only; Class A	Rhode Island	RIDEM 1997
	FW	310	µg/L		Criterion; For the ingestion of fish and water; Systemic toxicant	Delaware	DDNREC 1993
	FW	310	µg/L		Standard; For the ingestion of fish and water	Virginia	COV 1997
	EST/SW	2800	µg/L		Criterion; For the ingestion of fish/shellfish; Systemic toxicant	Delaware	DDNREC 1993
	FW/SW	17000	µg/L		Standard; For the ingestion of fish only	Virginia	COV 1997
	FW	20000	µg/L		Criterion; For the ingestion of fish only; Systemic toxicant	Delaware	DDNREC 1993
Xylene	FW	300	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	GW	400	µg/L		Guideline; Maximum	Japan	JWQB 1998
Zinc	FW/SW	5.0	µg/L		Guideline; To protect against tainting of fish flesh and other aquatic organisms	Australia	ANZECC 1992
	GW	50	µg/L		Standard; For possible present or anticipated use	Virginia	COV 1997
	EST	86.0	µg/L	TTA	Water Quality Objective	California	CSWRCB 1993
	FW	5000	µg/L		Criterion; For the ingestion of water and aquatic organisms; To protect against organoleptic and aesthetic effects	Quebec	MDEQ 1996
	FW	9100	µg/L		Criterion; For the ingestion of water and organsims	United States	USEPA 1998a
	FW/SW	69000	µg/L		Criterion; For the ingestion of organisms only	United States	USEPA 1998a
Zinc (total)	FW	5.0–50.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992
	SW	50.0	µg/L		Guideline; To protect the consumers of aquatic organisms	Australia	ANZECC 1992

Appendix 2 - 3

A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Aluminum (dissolved)	FW	200	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
Aluminum (total)	FW	15	µg/L		Scientific criterion; At pH 4.5 to 5.5; Guideline based on inorganic monomeric aluminum; In clay-free samples	Ontario	Neville et al. 1988
	FW	75	µg/L		Scientific criterion; At pH 6.5 to 9.0; Guideline based on total aluminum; In clay-free	Ontario	Neville et al. 1988
	SW	20	%		Maximum increase; Kitimat Arm; Except for initial dilution zones (See reference); Primary contact	British Columbia	Warrington 1987
	FW	Narrative			Scientific criterion; At pH 5.5 to 6.5; With no more than 10% increase above the natural background; For acid soluble inorganic aluminum; In clay-free samples; In areas unaffected by man-made inputs	Ontario	Neville et al. 1988
Ammonia	FW	2	mg/L		Maximum permissible concentration; Drinking water aesthetics	USSR	Stofen 1973
	FW	Narrative			Bathing waters must be checked when there is a tendency toward eutrophication; As N)	Europe	CEC 1988
Ammonia (total)	SW	1	mg/L		Average; Kitimat Arm; Except for initial dilution zones (See reference); As N; Primary	British Columbia	Warrington 1987
	EST	1.84	mg/L		Average 30 day at pH 7.0 and 10°C; With no more than one in five of the measured values can be greater than 1.5 times this value; Kitimat River downstream from the District of Kitimat sewage discharge; Secondary contact; As N	British Columbia	Warrington 1987
	SW	2.5	mg/L		Maximum; Kitimat Arm; Except for initial dilution zones (See reference); As N; Primary	British Columbia	Warrington 1987
	EST	20.5	mg/L		Maximum at pH 7.0 and 10°C; Kitimat River downstream from the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); Secondary contact; As N	British Columbia	Warrington 1987
Ammonia (unionized)	FW/EST/SW	0.007	mg/L	TTA	Provisional Objective; Average; North, Middle, Main Arms of the Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
	FW/EST/SW	0.03	mg/L	TTA	Provisional Objective; Maximum; North, Middle, Main Arms of the Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
Arsenic	FW	10	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Arsenic (total)	FW	25	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
Bacteria	SW	0	C/L		Mandatory; Salmonella; Bathing waters	Europe	CEC 1988
	SW	0	PFU/10L		Mandatory; Entero viruses; Bathing waters	Europe	CEC 1988
	SW	100	MPN/100mL		Maximum; Guideline; Fecal streptococci; Bathing waters	Europe	CEC 1988
Barium	FW	1	mg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Biological Oxygen Demand	FW	2	mg/L		Standard; Rivers Class A	Japan	JWQB 1998

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Biological Oxygen Demand (cont.)	FW	Narrative			Interim Guideline; Dependent on the assimilative capacity of the receiving water, must not exceed a limit which would create a dissolved oxygen content of < 5000 µg/L	Alberta	AEP 1997
Boron	FW	0.5	mg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Cadmium (total)	FW	10	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	10	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
	SW	12	µg/L		Average; Calculated from at least five weekly samples taken in a 30 day period; Kitimat Arm; Except samples from initial dilution zones (See reference); Primary contact	British Columbia	Warrington 1987
	SW	38	µg/L		Maximum; Kitimat Arm; Except samples from initial dilution zones (See reference); Primary contact	British Columbia	Warrington 1987
Chemical Oxygen Demand	SW	2	mg/L		Standard; Coastal waters Class A	Japan	JWQB 1998
	FW-Lakes	3	mg/L		Standard; Lakes Class A	Japan	JWQB 1998
Chlorine (total, residual)	FW/EST/SW	2	µg/L		Provisional Objective; Maximum for Main Arm of Fraser River, Sturgeon and Roberts	British Columbia	Swain and Holms 1985
Chlorophenols	FW	0.2	µg/L		Provisional Objective; Maximum for Fraser River; Secondary contact	British Columbia	Swain and Holms 1985
Chlorophyll a	EST	50000	µg/m2		Maximum; Kitimat River downstream from the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); Secondary contact; Average is calculated from at least 5 weekly samples in a 30 day period	British Columbia	Warrington 1987
	FW	50000	µg/m2		Criterion; Maximum in streams; This applies to naturally-growing periphytic algae	British Columbia	BCMOELP 1998
Chromium	FW	50	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Chromium (total)	FW	100	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
Clarity	FW	1.2	m		Guideline; Minimum	British Columbia	BCMOELP 1998
Coliforms (total)	SW	70	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 330 MPN/100mL; Primary and secondary contact; Class SA	Rhode Island	RIDEM 1997
	FW	100	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 500 MPN/100mL; Primary and secondary contact; Class A	Rhode Island	RIDEM 1997
	SW	500	MPN/100mL		Maximum; Guideline; Bathing waters	Europe	CEC 1988
	SW	700	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 2300 MPN/100mL; Primary and secondary contact; Class SB and SB1	Rhode Island	RIDEM 1997

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Coliforms (total; cont.)	FW	1000	MPN/100mL		Criterion; Maximum geometric mean; With no more than 20% of samples exceeding 2400 MPN/100mL; Primary and secondary contact; Class B and B1	Rhode Island	RIDEM 1997
	FW	1000	MPN/100mL		Standard; Rivers Class A; Lakes Class A	Japan	JWQB 1998
	FW	1000	C/100mL		Interim Guideline; Maximum 30-day average; Primary contact	Alberta	AEP 1997
	SW	1000	MPN/100mL		Standard; Coastal waters Class A	Japan	JWQB 1998
	FW	2400	C/100mL		Interim Guideline; Maximum at any time; Primary contact	Alberta	AEP 1997
	FW	<5000	C/100mL		Interim Guideline; 90% of samples; Secondary contact	Alberta	AEP 1997
	SW	10000	MPN/100mL		Maximum; Mandatory for bathing waters	Europe	CEC 1988
Colour	FW/SW	15	colour units		Standard; Maximum; Or the natural condition; For contact recreation	Alaska	ADEC 1998a
	FW	Narrative			Standard; May not interfere with or make the water unfit or unsafe for the use; Secondary recreation	Alaska	ADEC 1998a
	FW	Narrative			Guideline: should not impede visibility in swimming areas	British Columbia	BCMOELP 1998
	SW	Narrative			Standard; Surface waters must be free of substances that produce objectionable color; For secondary recreation	Alaska	ADEC 1998a
Colour (change)	FW	30	colour units		Interim Guideline; Maximum change above natural value	Alberta	AEP 1997
	SW	Narrative			No abnormal change in colour; Mandatory for bathing waters	Europe	CEC 1988
Copper	FW	100	µg/L		Maximum permissible concentration; Drinking water aesthetics	USSR	Stofen 1973
Copper (total)	SW	2	µg/L		Average; Kitimat Arm; Calculated from at least five weekly samples taken in a 30 day period; Primary contact	British Columbia	Warrington 1987
	SW	3	µg/L		Maximum; or 20 % increase, whichever is greater; Kitimat Arm; Primary contact	British Columbia	Warrington 1987
	FW	4	µg/L		Provisional Objective; Maximum when hardness <= 35 mg/L for North, Middle, and Main Arms of the Fraser River; or 3 µg/L average, or 20 % maximum increase, whichever is greater; Secondary contact	British Columbia	Swain and Holms 1985
	FW	6	µg/L		Provisional Objective; Maximum when hardness > 35 mg/L for North, Middle, and Main Arms of the Fraser River; or 4 µg/L average, or 20 % maximum increase, whichever is greater; Secondary contact	British Columbia	Swain and Holms 1985
	FW	20	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	1000	µg/L	TTA	Criterion; Maximum for raw water	British Columbia	BCMOELP 1998
Cyanide	SW	1	µg/L		Maximum; Kitimat Arm; Weak acid dissociable; Except samples from initial dilution zones (See reference); See reference regarding minimum detect limits and sampling procedures; Primary contact	British Columbia	Warrington 1987
	FW	10	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
D, 2,4-	FW	10	µg/L		Maximum allowable concentration	USSR	UNEP 1984
Dichlorophenols	FW	0.2	µg/L		Objective; All isomers	Ontario	Environment Ontario 1989a
	FW/EST/SW	0.2	µg/L	TTA	Criterion; Maximum; Flavour Impairment; For water when harvesting fish, crustaceans and shellfish	British Columbia	BCMOELP 1998
	FW	0.3	µg/L	TTA	Criterion; Maximum; For secondary contact	British Columbia	BCMOELP 1998
	FW	2	µg/L		Maximum permissible concentration; Drinking water aesthetics	USSR	Stofen 1973
Dissolved Oxygen	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class AA (extraordinary); Primary contact	Washington	Washington State 1997
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class A (excellent); Primary contact	Washington	Washington State 1997
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class B (good); Secondary contact	Washington	Washington State 1997
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class C (fair); Secondary contact	Washington	Washington State 1997
	FW	3	mg/L		Standard; For Class C; At any time unless background is lower, and 5000 µg/L minimum during 16 of 24 hours; For secondary recreation	Massachusetts	COM 1996
	FW	4	mg/L		Standard; Minimum, For contact and secondary recreation	Alaska	ADEC 1998a
	FW/SW	4	mg/L		Standard; Lower value; Primary and secondary contact and water of exceptional recreation or ecological significance	Delaware	USEPA 1988c
	EST/SW	4	mg/L		Standard; For Class SC; Minimum unless background is lower; Secondary recreation; Shall not be less than 5000 µg/L at least 16 out of 24 hrs.	Massachusetts	COM 1996
	SW	4	mg/L		Standard; Minimum; Class C (fair); Secondary contact	Washington	Washington State 1997
	SW	4	mg/L		Standard; Minimum; For contact and secondary recreation; At any point beneath the surface	Alaska	ADEC 1998a
	FW	5	mg/L		Criterion; Instantaneous Minimum; Warm and cold water; Primary and secondary contact; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW	5	mg/L		Standard; For Class B; Minimum in warm water fisheries	Massachusetts	COM 1996
	FW	5	mg/L		Interim Guideline; Minimum at any time	Alberta	AEP 1997
	FW	5	mg/L		Standard; Lower value for B-3 and C-3 Classifications	Montana	USEPA 1988e
	FW	5	mg/L		Standard; Lower value; Class C	Maine	USEPA 1988g
	FW/SW	5	mg/L		Criterion; Use I waters	Maryland	MDOE 1997
	EST	5	mg/L		Standard; Minimum; Contact and secondary recreation; Except where natural conditions cause this value to be depressed; Includes tidal tributaries	Alaska	ADEC 1998a
	EST/SW	5	mg/L		Standard; For Class SB; Minimum unless background is lower	Massachusetts	COM 1996
	SW	5	mg/L		Criterion; Minimum; Except as it naturally occurs; Primary and secondary contact; Class SB, SB1, and SC	Rhode Island	RIDEM 1997
	SW	5	mg/L		Standard; Minimum; Class B (good); Secondary contact	Washington	Washington State 1997

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dissolved Oxygen (cont.)	FW	6	mg/L		Standard; For Class A; Minimum unless background is lower;	Massachusetts	COM 1996
	FW	6	mg/L		Standard; For Class B; Minimum in cold water fisheries	Massachusetts	COM 1996
	EST/SW	6	mg/L		Standard; For Class SA; Minimum unless background is lower	Massachusetts	COM 1996
	SW	6	mg/L		Criterion; Minimum; Except as it naturally occurs; Primary and secondary contact; Class SA	Rhode Island	RIDEM 1997
	SW	6	mg/L		Standard; Minimum; Class A (excellent); Primary contact	Washington	Washington State 1997
	SW	6	mg/L		Standard; Minimum; For contact and secondary recreation; In coastal water; For a depth of one meter; Except when natural conditions cause this value to be depressed	Alaska	ADEC 1998a
	FW	6.5	mg/L		Standard; Minimum; Class B (good); Secondary contact	Washington	Washington State 1997
	FW	7	mg/L		Standard; Lower value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	7	mg/L		Standard; Lower value for B-2 and C-2 Classifications	Montana	USEPA 1988e
	FW	7	mg/L		Standard; Lower value; Class A	Maine	USEPA 1988g
	FW	7	mg/L		Standard; Lower value; Class B	Maine	USEPA 1988g
	SW	7	mg/L		Standard; Minimum; Class AA (extraordinary); Primary contact	Washington	Washington State 1997
	FW	7.5	mg/L		Standard; Rivers Class A	Japan	JWQB 1998
	FW-Lakes	7.5	mg/L		Standard; Lakes Class A	Japan	JWQB 1998
	SW	7.5	mg/L		Standard; Coastal waters Class A	Japan	JWQB 1998
	FW	7.75	mg/L		Provisional Objective; Minimum for Fraser River; Secondary contact	British Columbia	Swain and Holms 1985
	EST	7.8	mg/L		Minimum; Kitimat River downstream from District of Kitimat sewage discharge; Secondary contact recreation; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	FW	8	mg/L		Standard; Minimum; Class A (excellent); Primary contact	Washington	Washington State 1997
	EST/SW	9	mg/L		Provisional Objective; Minimum for Sturgeon and Roberts Banks; Primary contact	British Columbia	Swain and Holms 1985
	FW	9.5	mg/L		Standard; Minimum; Class AA (extraordinary); Primary contact	Washington	Washington State 1997
	SW	17	mg/L		Standard; Minimum; For contact and secondary recreation	Alaska	ADEC 1998a
	FW	60	%		Criterion; Minimum saturation; Based on a daily average; Warm water; Primary and secondary contact; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	EST/SW	70	%		Standard; Lower value; Class SC	Maine	USEPA 1988g
	FW	75	%		Criterion; Minimum saturation; Based on a daily average; Cold water; Primary and secondary contact; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	SW	75	%		Standard; For Class AA protection	Hawaii	USEPA 1988f
	SW	75	%		Standard; For Class A protection	Hawaii	USEPA 1988f
	FW	80	%		Standard; For Class 1a protection	Hawaii	USEPA 1988f
	FW	80	%		Standard; For Class 1b protection	Hawaii	USEPA 1988f
	FW	80	%		Standard; For Class 2 protection	Hawaii	USEPA 1988f
	FW	80–120	%		Saturation, Guide level, for bathing waters	Europe	CEC 1988
	SW	80–120	%		Saturation; Guideline for bathing waters	Europe	CEC 1988
	EST/SW	85	%		Standard; Lower value; Class SB	Maine	USEPA 1988g
	FW	Narrative			Objective; Must maintain aerobic conditions; Primary and secondary contact recreation	Manitoba	Williamson 1988
	FW-Lakes	Narrative			Standard; No measurable decrease from natural conditions; Lake Class; Primary contact	Washington	Washington State 1997

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Enterococci	FW/SW	35	Colonies/100mL		Criterion; Geometric mean; For primary contact	British Columbia	BCMOELP 1998
	SW	35	Colonies/100mL		Guideline; Geometric mean of 5 samples	British Columbia	BCMOELP 1998
	SW	35	C/100mL		Criterion; Geometric mean of a minimum of six samples	Quebec	MDEQ 1996
	FW/SW	<=100	Colonies/100mL		Criterion; Geometric mean; For secondary contact and crustaceans	British Columbia	BCMOELP 1998
Escherichia coli	FW	200	Colonies/100mL		Criterion; Geometric mean; For primary contact	British Columbia	BCMOELP 1998
	FW	<=385	Colonies/100mL		Criterion; Geometric mean; For secondary contact and crustaceans	British Columbia	BCMOELP 1998
Fecal Coliforms	EST/SW	14	MPN/100mL		Standard; For Class SA; At any time, and 10% of all samples; Maximum = 43 FC/100mL	Massachusetts	COM 1996
	SW	14	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 49 MPN/100mL; Primary and secondary contact; Class SA	Rhode Island	RIDEM 1997
	SW	14	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 43 Col/100mL; Class A (excellent); Primary contact	Washington	Washington State 1997
	SW	14	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 43 Col/100mL; Class AA (extraordinary); Primary contact	Washington	Washington State 1997
	FW	20	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 200 MPN/100mL; Primary and secondary contact; Class A	Rhode Island	RIDEM 1997
	FW	20	FC/100mL		Standard; For Class A; At any time, and 10% of all samples; Maximum = 100 FC/100mL	Massachusetts	COM 1996
	FW	50	FC/100mL		Criterion; Primary contact; Maximum for geometric mean based on a minimum of 5 samples over 30 days	Idaho	IDH&W 1998
	FW	50	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Class AA (extraordinary); Primary contact	Washington	Washington State 1997
	FW	50	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Lake Class; Primary contact	Washington	Washington State 1997
	SW	50	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 500 MPN/100mL; Primary and secondary contact; Class SB and SB1	Rhode Island	RIDEM 1997
	FW	100	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100mL; Class A (excellent); Primary contact	Washington	Washington State 1997
	FW	100	FC/100mL		Standard; Maximum 30-day average; For contact recreation; With no more than one sample (or 10% of the samples if there are more than 10 samples) exceeding 200/100mL	Alaska	ADEC 1998a
	SW	100	MPN/100mL		Interim maximum; Guideline for bathing waters	Europe	CEC 1988
	SW	100	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100mL; Class B (good); Secondary contact	Washington	Washington State 1997
	SW	100	FC/100mL		Standard; Maximum 30-day average; For contact recreation; With no more than one sample, or more than 10% of the samples if there are more than 10 samples, may exceed 200	Alaska	ADEC 1998a
	FW/SW	<=200	FC/100mL		Criterion; Geometric mean; For primary contact	British Columbia	BCMOELP 1998
	FW	200	FC/100mL		Criterion; Primary contact; Not to exceed > 10% of the total samples over 30 days	Idaho	IDH&W 1998

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fecal Coliforms (cont.)	FW	200	FC/100mL		Criterion; Secondary contact; Maximum for geometric mean	Idaho	IDH&W 1998
	FW	200	MPN/100mL		Criterion; Maximum geometric mean; With no more than 20% of samples exceeding 500 MPN/100mL; Primary and secondary contact; Class B and B1	Rhode Island	RIDEM 1997
	FW	200	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 400 Col/100mL; Class B (good); Secondary contact	Washington	Washington State 1997
	FW	200	FC/100mL		Standard; For Class B; At any time, and 10% of all samples; Maximum = 400 FC/100mL	Massachusetts	COM 1996
	FW	200	FC/100mL		Standard; Maximum 30-day average; For secondary recreation; With no more than 10% of the samples exceeding 400/100mL	Alaska	ADEC 1998a
	FW	200	FC/100mL		Interim Guideline; Maximum 30-day average; Primary contact	Alberta	AEP 1997
	FW	200	FC/100mL		Criterion; Primary contact	Quebec	MDEQ 1996
	FW/SW	200	FC/100mL		Criterion; 30-day average; Log mean; Use I waters - Primary contact	Maryland	MDOE 1997
	FW/EST/SW	200	FC/100mL		Standard; Geometric mean; For 2 or more samples in a 30 day period	Virginia	COV 1997
	EST/SW	200	FC/100mL		Standard; For Class SB; Geometric mean MPN; At any time, and 10% of all samples; Maximum = 400 FC/100mL	Massachusetts	COM 1996
	EST/SW	200	MPN/100mL		Provisional Objective; Geometric mean for Sturgeon and Roberts Banks; Primary contact	British Columbia	Swain and Holms 1985
	SW	200	FC/100mL		Mean probable number, geometric mean; Except from initial dilution zones; Minimum of 5 weekly samples taken in a 30 day period; Non-Shellfish harvesting areas; Primary contact	British Columbia	Warrington 1987
	SW	200	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 400 Col/100mL; Class C (fair); Secondary contact	Washington	Washington State 1997
	SW	200	FC/100mL		Standard; Maximum 30-day average; For secondary recreation; With no more than 10 % of the samples may exceed 400 Col/100 mL	Alaska	ADEC 1998a
	SW	200	FC/100mL		Criterion; Geometric mean of a minimum of six samples; With no more than 10% of the samples may exceed 400 FC/100mL	Quebec	MDEQ 1996
	FW	400	FC/100mL		Criterion; Secondary contact; Not to exceed > 10% of the total samples over 30 days	Idaho	IDH&W 1998
	FW/SW	400	FC/100mL		Criterion; 10% of samples during 30-days; Use I waters - Primary contact	Maryland	MDOE 1997
	EST/SW	400	MPN/100mL		Provisional Objective; Maximum for Sturgeon and Roberts Banks; Primary contact	British Columbia	Swain and Holms 1985
	SW	400	FC/100mL		Mean probable number, 90th percentile; Except from initial dilution zones; Minimum of 5 weekly samples taken in a 30 day period; Non-Shellfish harvesting areas; Primary contact	British Columbia	Warrington 1987
	FW	500	FC/100mL		Criterion; Primary contact; Maximum at any time	Idaho	IDH&W 1998
	FW	800	FC/100mL		Criterion; Secondary contact; Maximum at any time	Idaho	IDH&W 1998
	FW	<1000	FC/100mL		Interim Guideline; 90% of samples; Secondary contact	Alberta	AEP 1997
	FW	1000	FC/100mL		Standard; For Class C; At any time, and 10% of all samples; Maximum = 2000 FC/100mL; Secondary recreation	Massachusetts	COM 1996
	FW	1000	FC/100mL		Criterion; Secondary contact	Quebec	MDEQ 1996
	FW/EST/SW	1000	FC/100mL		Standard; For any time	Virginia	COV 1997
	EST/SW	1000	FC/100mL		Standard; For Class SC; Geometric mean MPN; At any time, and 10% of all samples; Maximum = 2000 FC/100mL; Secondary recreation	Massachusetts	COM 1996
	SW	2000	MPN/100mL		Interim maximum; Mandatory for bathing waters	Europe	CEC 1988

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fluoride	FW	1.5	mg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	SW	1.5	mg/L		Kitimat Arm; Except samples from initial dilution zones (See reference); Primary contact	British Columbia	Warrington 1987
Hydrocarbons, Petroleum	FW/SW	Narrative			Standard; May not cause a film, sheen, or discoloration on the surface or floor of the waterbody or adjoining shorelines; Surface waters must be virtually free from floating oils; For contact and secondary recreation	Alaska	ADEC 1998a
Hydrogen Sulfide	EST	2	µg/L		Maximum; Kitimat River downstream from the District of Kitimat sewage discharge; Undissociated; Except samples from initial dilution zones (See reference); Secondary	British Columbia	Warrington 1987
Iron	FW	500	µg/L		Maximum permissible concentration; Drinking water aesthetics	USSR	Stofen 1973
Iron (total)	FW	300	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	SW	300	µg/L		Maximum; Kitimat Arm; Primary contact	British Columbia	Warrington 1987
Lead (total)	FW	3	µg/L		Provisional Objective; Average for North, Middle and Main Arms of the Fraser River; Secondary contact	British Columbia	Swain and Holms 1985
	SW	9	µg/L		Average; Kitimat Arm; Calculated from at least five weekly samples taken in a 30 day period; Primary contact	British Columbia	Warrington 1987
	FW	10	µg/L		Provisional Objective; Maximum for North, Middle and Main Arms of the Fraser River; Secondary contact	British Columbia	Swain and Holms 1985
	FW	50	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	50	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	SW	220	µg/L		Maximum; or 20 % increase, whichever is greater; Kitimat Arm; Primary contact	British Columbia	Warrington 1987
Manganese	FW	50	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Mercury (total)	FW	0.1	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	1.0	µg/L	TTA	Criterion; Maximum; Primary contact	British Columbia	BCMOELP 1998
Mineral Oil	SW	0.3	mg/L		Maximum; Guideline for bathing waters	Europe	CEC 1988
	SW	Narrative			Mandatory; No film visible on the surface of the water and no odour; Bathing waters	Europe	CEC 1988
Monochlorophenols	FW/EST/SW	0.1	µg/L	TTA	Criterion; Flavour Impairment	British Columbia	BCMOELP 1998
	FW	0.3	µg/L	TTA	Criterion; Maximum; For secondary contact only	British Columbia	BCMOELP 1998
	FW	7	µg/L		Objective; All isomers	Ontario	Environment Ontario 1989a
Nickel (total)	FW	200	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrite	EST	0.02	mg/L		Average; Kitimat River downstream of the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); Average is calculated from at least five weekly samples taken in a 30 day period; As N; Secondary contact	British Columbia	Warrington 1987
	EST	0.06	mg/L		Maximum; Kitimat River downstream of the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); As N; Secondary contact	British Columbia	Warrington 1987
Nitrogen	FW	1	mg/L		Interim Guideline; Maximum; Total inorganic and organic nitrogen	Alberta	AEP 1997
Nitrogen (total Kjeldahl)	FW	Narrative			Bathing waters must be checked when there is a tendency toward eutrophication	Europe	CEC 1988
Nitrogen (total)	FW-Lakes	0.2	mg/L		Standard; Lakes Class II	Japan	JWQB 1998
	SW	0.3	mg/L		Standard; Coastal waters Class II	Japan	JWQB 1998
Odour	FW	8			Interim Guideline; The cold (20°C) threshold odour number not to exceed 8	Alberta	AEP 1997
Oil and grease	FW	Narrative			Standard; For Class A; Free from oil, grease, petrochemicals and other volatile or synthetic organic pollutants	Massachusetts	COM 1996
	FW	Narrative			Interim Guideline; Substantially absent, no iridescent sheen	Alberta	AEP 1997
	FW	Narrative			Guideline; Not detectable by sight or smell	British Columbia	BCMOELP 1998
PCBs	FW	0.001	µg/L		Criterion	Arizona	USEPA 1988a
	FW	0.001	µg/L		Criterion	Florida	USEPA 1988a
	FW	0.001	µg/L		Criterion; Nuisance prevention	Ohio	USEPA 1988a
Pentachlorophenol	FW	300	µg/L		Maximum permissible concentration; Drinking water aesthetics	USSR	Stofen 1973
Pentachlorophenols	FW	0.5	µg/L		Objective; All isomers	Ontario	Environment Ontario 1989a
	FW	860	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
Pesticides	FW	Narrative			An application shall not exceed 1/100 of the 48-h median threshold limit (LC50). Any peticide used on, in, or near water (within 100 linear feet) must be approved by DOE	Alberta	AEP 1997
pH	FW	5.0 – 9.0			Standard; Secondary recreation	Alaska	ADEC 1998a
	FW	5.0 – 9.0			Guideline; Aesthetic Objective; In low buffering capacity	British Columbia	BCMOELP 1998
	FW	5 – 9			Guideline for body contact recreation, for waters with very low buffering capacity	Canada	H&WC 1983
	FW/SW	5.0 – 9.0			Criterion; For recreation only	British Columbia	BCMOELP 1998
	SW	5.0 – 9.0			Standard; For secondary recreation	Alaska	ADEC 1998a
	FW	6.0			Standard; Lower value; Class B	Maine	USEPA 1988g

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
pH (cont.)	FW	6.0			Standard; Lower value; Class C	Maine	USEPA 1988g
	FW/EST	6.0			Standard; Lower value; Primary and Secondary contact	District of Columbia	USEPA 1988d
	FW	6 – 9			Imperative, for bathing water	Europe	CEC 1988
	SW	6.0 – 9.0			Mandatory for bathing waters	Europe	CEC 1988
	FW	6.1			Standard; Lower value for B-2 Classifications	Montana	USEPA 1988e
	FW	6.5			Standard; Lower value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	6.5			Standard; Lower value for B-3, C-2 and C-3 Classifications	Montana	USEPA 1988e
	FW/SW	6.5			Standard; Lower value; Primary and secondary contact and water of exceptional recreation or ecological significance	Delaware	USEPA 1988c
	FW	6.5 – 8.3			Standard; For Class A; And not more than 0.5 units outside background	Massachusetts	COM 1996
	FW	6.5 – 8.3			Standard; For Class B; And not more than 0.5 units outside background	Massachusetts	COM 1996
	FW	6.5 – 8.5			Standard; Rivers and Lakes Class A	Japan	JWQB 1998
	FW	6.5 – 8.5			Standard; Shall not vary more than 0.5 units from natural conditions; For contact recreation; If natural conditions are outside this range, substances shall not be added that cause an increase in buffering capacity of the water	Alaska	ADEC 1998a
	FW	6.5 – 8.5			Interim Guideline; Not altered by more than 0.5 units from background values	Alberta	AEP 1997
	FW	6.5 – 8.5			Guideline; Aesthetic Objective	British Columbia	BCMOELP 1998
	FW	6.5 – 8.5			Provisional Objective; Fraser River including the Main Stem, North, Middle, and Main Arms; Secondary contact	British Columbia	Swain and Holms 1985
	FW	6.5 – 8.5			Guideline for body contact recreation	Canada	H&WC 1983
	FW	6.5 – 8.5			Objective; Direct contact recreation	Manitoba	Williamson 1988
	FW	6.5 – 8.5			Objective; Swimming and bathing use	Ontario	Environment Ontario 1984
	FW	6.5 – 8.5			Criterion	Quebec	MDEQ 1996
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary); Primary contact	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent); Primary contact	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class B (good); Secondary contact	Washington	Washington State 1997
	FW/SW	6.5 – 8.5			Criterion; Use I waters	Maryland	MDOE 1997
	EST/SW	6.5 – 8.5			Standard; For Class SA; And not more than 0.2 units outside background	Massachusetts	COM 1996
	EST/SW	6.5 – 8.5			Standard; For Class SB; And not more than 0.2 units outside background	Massachusetts	COM 1996
	SW	6.5 – 8.5			Criterion; Range; But not more than 0.2 units outside of the normally occurring range; Primary and secondary contact; SA, SB, SB1, and SC	Rhode Island	RIDEM 1997
	SW	6.5 – 8.5			Standard; For contact recreation; If the natural pH condition is outside this range, substances may not be added that cause any increase in buffering capacity of the water	Alaska	ADEC 1998a
	FW	6.5 – 9.0			Criterion; Range; Or as it naturally occurs; Primary or Secondary contact; Class A, B, B1, and C	Rhode Island	RIDEM 1997

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
pH (cont.)	FW	6.5 – 9.0			Standard; For Class C; And not more than 1.0 units outside background; Secondary	Massachusetts	COM 1996
	EST	6.5 – 9.0			Kitimat River downstream of the District of Kitimat sewage discharge; Secondary contact; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	EST/SW	6.5 – 9.0			Standard; For Class SC; And not more than 0.5 units outside background; Secondary	Massachusetts	COM 1996
	SW	6.5 – 9.0			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class C (fair); Secondary contact	Washington	Washington State 1997
	EST/SW	6.7			Standard; Lower value; Class SA	Maine	USEPA 1988g
	EST/SW	6.7			Standard; Lower value; Class SB	Maine	USEPA 1988g
	EST/SW	6.7			Standard; Lower value; Class SC	Maine	USEPA 1988g
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary); Primary contact	Washington	Washington State 1997
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent)	Washington	Washington State 1997
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class B (good); Secondary contact	Washington	Washington State 1997
	SW	7.8 – 8.3			Standard; Coastal waters Class A	Japan	JWQB 1998
	FW	8.5			Standard; Upper value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	8.5			Standard; Upper value; Class B	Maine	USEPA 1988g
	FW	8.5			Standard; Upper value; Class C	Maine	USEPA 1988g
	FW/EST	8.5			Standard; Upper value; Primary and Secondary contact	District of Columbia	USEPA 1988d
	FW/SW	8.5			Standard; Upper value; Primary and secondary contact and water of exceptional recreation or ecological significance	Delaware	USEPA 1988c
	EST/SW	8.5			Standard; Upper value; Class SA	Maine	USEPA 1988g
	EST/SW	8.5			Standard; Upper value; Class SB	Maine	USEPA 1988g
	EST/SW	8.5			Standard; Upper value; Class SC	Maine	USEPA 1988g
	FW	9.0			Standard; Upper value for B-2, B-3, C-2 and C-3	Montana	USEPA 1988e
	FW-Lakes	Narrative			Criterion; No statistically significant decrease when pH is 9.0-9.5; For aesthetics of the Marl Lakes only	British Columbia	BCMOELP 1998
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class; Primary contact	Washington	Washington State 1997
Phenol	FW	1	µg/L		Maximum permissible concentration; Drinking water aesthetics	USSR	Stofen 1973
	FW	10	µg/L		Criterion	Minnesota	USEPA 1988a
	FW	50	µg/L		Criterion; Secondary contact	Iowa	USEPA 1988a
	FW/SW	200	µg/L		Standard; Upper value; Primary and secondary contact and water of exceptional recreation or ecological significance	Delaware	USEPA 1988c
Phenols	FW	1	µg/L		Criterion	Illinois	USEPA 1988a
	FW	5	µg/L		Criterion	Arizona	USEPA 1988a

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Phenols (cont.)	FW	5	µg/L		Guide level, bathing waters	Europe	CEC 1988
	SW	5	µg/L		Maximum; Guideline for bathing waters	Europe	CEC 1988
	FW	50	µg/L		Imperative, bathing waters	Europe	CEC 1988
	SW	50	µg/L		Maximum; Mandatory for bathing waters; No specific odour	Europe	CEC 1988
	FW	300	µg/L		Criterion; Secondary contact	Illinois	USEPA 1988a
Phosphorus (total)	FW-Lakes	<10	µg/L		General guideline; To provide a high level of protection against aesthetic deterioration; For the ice-free period; Should apply to all lakes naturally below this value	Ontario	Environment Ontario 1989a
	FW-Lakes	10	µg/L		Standard; Lakes Class II	Japan	JWQB 1998
	FW-Lakes	10	µg/L		Criterion; Maximum; For lakes only	British Columbia	BCMOELP 1998
	FW-Lakes	10	µg/L	TTA	Provincial Water Quality Guideline; To protect against aesthetic deterioration in lakes	Ontario	OMEE 1994
	FW-Lakes	<20	µg/L		General guideline; Average; To avoid nuisance concentrations of algae in lakes; For the ice-free period	Ontario	Environment Ontario 1989a
	FW	20	µg/L		Guidance value	New York State	NYSDEC 1998
	FW-Lakes	20	µg/L		Criterion; Chronic; For limiting growth of algae and aquatic plants in lakes	Quebec	MDEQ 1996
	FW-Lakes	20	µg/L	TTA	Provincial Water Quality Guideline; Average; To avoid nuisance concentrations of algae in lakes	Ontario	OMEE 1994
	FW	25	µg/L		Criterion; Maximum average; In any lake, pond, kettlehole, or reservoir; Primary or Secondary contact; Class A, B, B1, C	Rhode Island	RIDEM 1997
	FW-Rivers	<30	µg/L		General guideline; Excessive plant growth in rivers and streams should be eliminated	Ontario	Environment Ontario 1989a
	FW	30	µg/L		Criterion; Chronic; For limiting growth of algae and aquatic plants in streams/rivers	Quebec	MDEQ 1996
	FW-Rivers	30	µg/L	TTA	Provincial Water Quality Guideline; To avoid excess plant growth in rivers and streams	Ontario	OMEE 1994
	SW	30	µg/L		Standard; Coastal waters Class II	Japan	JWQB 1998
	FW	150	µg/L		Interim Guideline; Maximum; Total inorganic and organic phosphorus as PO4	Alberta	AEP 1997
Phthalate Esters	FW	3	µg/L		Criterion	Florida	USEPA 1988a
Pseudomonas aeruginosa	FW/SW	<=2	Colonies/100mL		Criterion; 75th Percentile; For primary contact	British Columbia	BCMOELP 1998
	FW/SW	<=10	Colonies/100mL		Criterion; 75th Percentile; For secondary contact and crustaceans	British Columbia	BCMOELP 1998
Selenium	FW	10	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Silver	FW	50	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Sodium	FW	30 – 75	%		Interim Guideline; Maximum as % cations	Alberta	AEP 1997
Solids (Floatable or Settleable)	FW	Narrative			Guideline; No floatable or settleable debris	British Columbia	BCMOELP 1998

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Solids (settleable)	FW/SW	Narrative			Standard; May not pose hazards to incidental human contact or cause interference with the use; For secondary recreation	Alaska	ADEC 1998a
	FW/SW	Narrative			Standard; No measurable increase in concentration above natural conditions; For contact recreation	Alaska	ADEC 1998a
Sulphide	FW	50	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Surface-active substances	SW	300	µg/L		Maximum, reacting with methylene blue; Guideline for bathing waters; Laurylsulfate	Europe	CEC 1988
	SW	Narrative			Reacting with methylene blue; No lasting foam; Mandatory, bathing waters; Laurylsulfate	Europe	CEC 1988
Suspended Solids	FW-Lakes	5	mg/L		Standard; Lakes Class A	Japan	JWQB 1998
	FW	10	mg/L		Provisional Objective; Maximum increase for Fraser River when upstream background <= 100000 µg/L; Secondary contact	British Columbia	Swain and Holms 1985
	EST	10	mg/L		Maximum increase; Kitimat River downstream from the District of Kitimat sewage discharge; Except initial dilution zones; When background is less than 100 mg/L; Secondary	British Columbia	Warrington 1987
	SW	10	mg/L		Maximum increase; Kitimat Arm; When background is less than 100 mg/L; Except initial dilution zones; Primary contact	British Columbia	Warrington 1987
	FW	25	mg/L		Standard; Rivers Class A	Japan	JWQB 1998
	FW	10	%		Provisional Objective; Maximum increase for Fraser River when upstream background >= 100000 µg/L; Secondary contact	British Columbia	Swain and Holms 1985
	EST	10	%		Maximum increase; Kitimat River downstream from the District of Kitimat sewage discharge; Except initial dilution zones; When background is greater than 100 mg/L;	British Columbia	Warrington 1987
	SW	10	%		Maximum increase; Kitimat Arm; When background is greater than 100 mg/L; Except initial dilution zones; Primary contact	British Columbia	Warrington 1987
Suspended Solids (total)	FW	10	mg/L		Interim Guideline; Maximum increase over background	Alberta	AEP 1997
Temperature	SW	13.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=8/ [T-4] at any time; Class AA (extraordinary); Primary contact	Washington	Washington State 1997
	FW	15–30	°C		Range for bathing	Canada	H&WC 1983
	FW	16.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=23/ [T+5] at any time; Class AA (extraordinary); Primary contact	Washington	Washington State 1997
	SW	16.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=12/ [T-2] at any time; Class A (excellent); Primary contact	Washington	Washington State 1997
	FW	18.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=28/ [T+7] at any time; Class A (excellent); Primary contact	Washington	Washington State 1997
	SW	19.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=16/[T]; Class B (good); Secondary contact	Washington	Washington State 1997

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature (cont.)	FW	20	°C		Standard; For Class A; Maximum in cold water fisheries (or 68 F)	Massachusetts	COM 1996
	FW	20	°C		Standard; For Class B; Maximum in cold water fisheries; (or 68 F)	Massachusetts	COM 1996
	FW	21.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=34/ [T+9]; Class B (good); Secondary contact	Washington	Washington State 1997
	SW	22.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=20/ [T+2]; Class C (fair); Secondary contact	Washington	Washington State 1997
	FW	23.9	°C		Criterion; Use IV - Recreational trout waters; (75 F); Outside mixing zone; Or may not exceed ambient temperature, whichever is greater	Maryland	MDOE 1997
	EST/SW	26.7	°C		Standard; For Class SA; Maximum daily mean (or 80 F)	Massachusetts	COM 1996
	EST/SW	26.7	°C		Standard; For Class SB; Maximum daily mean (or 80 F)	Massachusetts	COM 1996
	FW	28.3	°C		Criterion; Maximum; Primary or Secondary contact; Class A, B, B1, C; (83 F)	Rhode Island	RIDEM 1997
	FW	28.3	°C		Standard; For Class A; Maximum in warm water fisheries (or 83 F)	Massachusetts	COM 1996
	FW	28.3	°C		Standard; For Class B; Maximum in warm water fisheries; (or 83 F)	Massachusetts	COM 1996
	SW	28.3	°C		Criterion; Maximum; Primary and secondary contact; Class SA, SB, SB1,and SC; (83 F)	Rhode Island	RIDEM 1997
	FW	29.4	°C		Standard; For Class C; At any time (or 85 F); Secondary recreation	Massachusetts	COM 1996
	FW/SW	29.4	°C		Standard; Upper value; Primary and secondary contact and water of exceptional recreation or ecological significance; (85 F)	Delaware	USEPA 1988c
	EST/SW	29.4	°C		Standard; For Class SA; Maximum at any time (or 85 F)	Massachusetts	COM 1996
	EST/SW	29.4	°C		Standard; For Class SB; Maximum at any time (or 85 F)	Massachusetts	COM 1996
	EST/SW	29.4	°C		Standard; For Class SC; Maximum at any time (or 85 F); Secondary recreation	Massachusetts	COM 1996
	FW	30	°C		Standard; Maximum, For contact recreation	Alaska	ADEC 1998a
	FW/EST	32.2	°C		Standard; Upper value; Secondary contact	District of Columbia	USEPA 1988d
	FW/SW	32.2	°C		Criterion; Use I waters - Primary contact (90 F); Outside mixing zone; Or may not exceed ambient temperature, whichever is greater	Maryland	MDOE 1997
	FW	Narrative			Guideline; Should not cause an appreciable increase or decrease in deep body temperature for swimmers and bathers	British Columbia	BCMOELP 1998
Temperature (change)	FW	0.3	°C		Standard; Secondary Upper Limit for A-1, B-1 and C-1 Classifications; (0.5 F)	Montana	USEPA 1988e
	FW	0.3	°C		Standard; Secondary Upper Limit for B-2, B-3, C-2 and C-3 Classifications; (0.5 F)	Montana	USEPA 1988e
	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 16.0 C / 13.0 C for FW/SW respectively; Class AA (extraordinary); Primary contact	Washington	Washington State 1997
	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 21.0 C / 19.0 C for FW/SW respectively; Class B (good); Secondary contact	Washington	Washington State 1997
	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed guideline; Class A (excellent); Primary contact	Washington	Washington State 1997
	SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 22.0 C for SW; Class C (fair); Secondary contact	Washington	Washington State 1997
	FW	0.6	°C		Standard; Upper value for A-1, B-1 and C-1 Classifications; (1 F)	Montana	USEPA 1988e

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature (change; cont.)	FW	0.6	°C		Standard; Upper value for B-2 and C-2 Classifications; (1 F)	Montana	USEPA 1988e
	FW	0.83	°C		Standard; For Class A; (or1.5 F)	Massachusetts	COM 1996
	EST/SW	0.83	°C		Standard; Secondary Upper value; Class SA; (1.5 F)	Maine	USEPA 1988g
	EST/SW	0.83	°C		Standard; Secondary Upper value; Class SB; (1.5 F)	Maine	USEPA 1988g
	EST/SW	0.83	°C		Standard; Secondary Upper value; Class SC; (1.5 F)	Maine	USEPA 1988g
	EST/SW	0.83	°C		Standard; For Class SA; (or 1.5 F)	Massachusetts	COM 1996
	EST/SW	0.83	°C		Standard; For Class SB; (or 1.5 F); During summer months	Massachusetts	COM 1996
	SW	0.89	°C		Criterion; Maximum increase above normal temperature; Primary and secondary contact; Class SA, SB, SB1, and SC; (1.6 F)	Rhode Island	RIDEM 1997
	FW-Lakes	1.7	°C		Standard; Secondary Upper Limit; Class GPA - Lakes and Ponds; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; Upper value for B-3 and C-3 Classifications; (3 F)	Montana	USEPA 1988e
	FW	1.7	°C		Standard; Secondary Upper Limit; Class AA; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; Secondary Upper Limit; Class A; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; Secondary Upper Limit; Class B; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; Secondary Upper Limit; Class C; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; For Class B; Maximum in cold water fisheries; (or 3 F)	Massachusetts	COM 1996
	FW	1.7	°C		Standard; For Class B; Maximum for lakes and ponds; (or 3 F)	Massachusetts	COM 1996
	FW	2.2	°C		Criterion; Maximum increase for receiving waters; Primary and secondary contact; Class A, B, B1, C; (4 F)	Rhode Island	RIDEM 1997
	FW/SW	2.2	°C		Standard; Secondary Upper Limit; Primary and secondary contact and water of exceptional recreation or ecological significance; (4 F)	Delaware	USEPA 1988c
	EST/SW	2.2	°C		Standard; Upper value; Class SA; (4 F)	Maine	USEPA 1988g
	EST/SW	2.2	°C		Standard; Upper value; Class SB; (4 F)	Maine	USEPA 1988g
	EST/SW	2.2	°C		Standard; Upper value; Class SC; (4 F)	Maine	USEPA 1988g
	EST/SW	2.2	°C		Standard; For Class SB; (or 4 F); During winter months	Massachusetts	COM 1996
	FW-Lakes	2.8	°C		Standard; Upper value; Class GPA - Lakes and Ponds; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; Upper value; Class AA; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; Upper value; Class A; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; Upper value; Class B; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; Upper value; Class C; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; For Class B; Maximum in warm water fisheries; (or 5 F)	Massachusetts	COM 1996
	FW	2.8	°C		Standard; For Class C; (or 5 F); Secondary recreation	Massachusetts	COM 1996
	FW/EST	2.8	°C		Standard; Upper value for Temperature Change	District of Columbia	USEPA 1988d
	FW/SW	2.8	°C		Standard; Upper value; Primary and secondary contact and water of exceptional recreation or ecological significance; (5 F)	Delaware	USEPA 1988c
	EST/SW	2.8	°C		Standard; For Class SC; (or 5 F); Secondary recreation	Massachusetts	COM 1996
	FW	3	°C		Maximum increase above ambient conditions	Alberta	AEP 1997
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class; Primary contact	Washington	Washington State 1997

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Tetrachlorophenols	FW	1.0	µg/L		Objective; All isomers	Ontario	Environment Ontario 1989a
	FW	600	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
Trichlorophenols	FW	0.4	µg/L		Maximum permissible concentration; Drinking water aesthetics	USSR	Stofen 1973
	FW	11	µg/L	TTA	Criterion; Maximum; For secondary contact only	British Columbia	BCMOELP 1998
	FW	18	µg/L		Objective; All isomers	Ontario	Environment Ontario 1989a
Turbidity	SW	1	m		Mandatory for bathing waters; Secchi depth	Europe	CEC 1988
	SW	2	m		Guideline for bathing waters; Secchi depth	Europe	CEC 1988
	SW	25	NTU		Standard; Maximum; For contact and secondary recreation	Alaska	ADEC 1998a
	FW	50	NTU		Guideline; Maximum	British Columbia	BCMOELP 1998
	FW	50	JTU		Maximum, for boating and swimming	Canada	H&WC 1983
	FW	50	JTU		Objective; Maximum; Direct contact recreation	Manitoba	Williamson 1988
	FW/SW	150	NTU		Criterion; Use I waters; At any time	Maryland	MDOE 1997
	FW	Narrative			Objective; Bathing area waters should be sufficiently clear to estimate depth or to see submerged swimmers requiring assistance; If the bottom is not visible, water clarity should have a Secchi disc transparency of at least 1.2 m	Ontario	Environment Ontario 1984
Turbidity (change)	FW-Lakes	5	NTU		Standard; Maximum increase above natural conditions for all lakes; For contact and secondary recreation	Alaska	ADEC 1998a
	FW-Lakes	5	NTU		Standard; Maximum increase over background conditions; Lake Class; Primary contact	Washington	Washington State 1997
	FW	5	NTU		Standard; Maximum increase in turbidity when background turbidity is <= 50 NTU, For contact recreation	Alaska	ADEC 1998a
	FW	5	NTU		Criterion; Maximum increase over background; Primary and secondary contact; Class A	Rhode Island	RIDEM 1997
	EST	5	NTU		Maximum increase; Kitimat River downstream from the District of Kitimat sewage discharge; Background < 50 NTU; Secondary contact; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	FW/SW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class AA (extraordinary); Primary contact	Washington	Washington State 1997
	FW/SW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class A (excellent); Primary contact	Washington	Washington State 1997
	SW	5	NTU		Maximum increase; Kitimat Arm; Background < 50 NTU; Primary contact; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	SW	5	NTU		Criterion; Maximum increase over background; Primary and secondary contact; Class SA	Rhode Island	RIDEM 1997
	FW	10	NTU		Standard; Maximum increase in turbidity when background turbidity is <= 50 NTU, For secondary recreation	Alaska	ADEC 1998a
	FW	10	NTU		Criterion; Maximum increase over background; Primary and secondary contact; Class B, B1, and C	Rhode Island	RIDEM 1997

Appendix 2-3. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Recreation and Aesthetics.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Turbidity (change; cont.)	FW/SW	10	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class B (good); Secondary contact	Washington	Washington State 1997
	SW	10	NTU		Criterion; Maximum increase over background; Primary and secondary contact; Class SB, SB1, and SC	Rhode Island	RIDEM 1997
	SW	10	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class C (fair); Secondary contact	Washington	Washington State 1997
	FW	10	%		Standard; Maximum increase in turbidity when background turbidity is > 50 NTU, For contact recreation	Alaska	ADEC 1998a
	EST	10	%		Maximum increase; Kitimat River downstream from the District of Kitimat sewage discharge; Background > 50 NTU; Secondary contact; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	FW/SW	10	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class AA (extraordinary); Primary contact	Washington	Washington State 1997
	FW/SW	10	%		Standard; Maximum increase when background turbidity is >50; Class A (excellent); Primary contact	Washington	Washington State 1997
	SW	10	%		Maximum increase; Kitimat Arm; Background > 50 NTU; Primary contact; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	FW	15	NTU		Standard; Maximum total increase above natural conditions at any time; For contact and secondary recreation	Alaska	ADEC 1998a
	FW	20	%		Standard; Maximum increase in turbidity when background turbidity is > 50 NTU, For secondary recreation	Alaska	ADEC 1998a
	FW/SW	20	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class B (good); Secondary contact	Washington	Washington State 1997
	SW	20	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class C (fair); Secondary contact	Washington	Washington State 1997
	FW	25	JTU		Maximum increase over natural turbidity	Alberta	AEP 1997
	FW/SW	50	NTU		Criterion; Use I waters; Change from monthly average	Maryland	MDOE 1997
Turbidity (induced)	FW	10	NTU		Criterion; When background <=50 NTU	British Columbia	BCMOELP 1998
	FW	20	%		Criterion; When background >50 NTU	British Columbia	BCMOELP 1998
Zinc (total)	FW	50	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	50	µg/L		Provisional Objective; Average for North, Middle and Main Arms of the Fraser River; Secondary contact	British Columbia	Swain and Holms 1985
	FW	100	µg/L		Provisional Objective; Maximum for North, Middle and Main Arms of the Fraser River; Secondary contact	British Columbia	Swain and Holms 1985
	FW	5000	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995

Appendix 2 - 4

A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Acenaphthene	FW	1.9	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	3	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	5.3	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	5.8	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	5.8	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	6	µg/L	TTA	Criterion; Chronic	British Columbia	BCMOELP 1998
	FW	48	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	FW	67	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	85	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	520	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	520	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	520	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	1700	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	1700	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	1700	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Acridine	FW	0.05	µg/L	TTA	Criterion; Phototoxic	British Columbia	BCMOELP 1998
	FW	3	µg/L	TTA	Criterion; Chronic	British Columbia	BCMOELP 1998
	FW	4.4	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	4.4	µg/L		Interim Guideline	Canada	Environment Canada 1999
Acrolein	FW	0.06	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.070	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW/SW	0.200	µg/L		Guideline	Australia	ANZECC 1992
	FW	1.6	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	2.9	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	21	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	21	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	21	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	68	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	68	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	68	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
Acrylamide	FW	440	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	10000	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Acrylonitrile	FW	8.4	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	20	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Acrylonitrile (cont.)	FW	378	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	460	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	2600	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	2600	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	2600	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	7550	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	7550	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	7550	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
Alachlor	FW	48	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Aldicarb	FW	1	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	1	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Aldicarb (dissolved)	FW	0.49	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Aldicarb (total)	FW	0.49	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	1	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
Aldrin	FW/SW	0.010	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.3	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW/EST	0.4	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	1.5	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	3.0	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	3.0	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	3.0	µg/L		Criterion; Maximum	California	USEPA 1997c
	FW	3.0	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	3.0	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	3.0	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	3.0	µg/L		Criterion; Acute	United States	USEPA 1990
	FW	3.0	µg/L		Criterion; Acute; Instantaneous	Rhode Island	RIDEM 1997
	FW	3	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
Aldrin + Dieldrin	FW	0.001	µg/L		Objective; Unfiltered sample	Ontario	Environment Ontario 1989
	FW	0.001	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.0019	µg/L		Criterion; Chronic; Maximum 24-hour average	Washington	Washington State 1997
	FW	2.5	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Aldrin + Dieldrin (dissolved)	FW	0.0005	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Aldrin + Dieldrin (total)	FW	0.0034	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Alkalinity	FW	<10	µg/L		Criterion; Chronic; At a high calcium concentration	Quebec	MDEQ 1996
	FW	10–20	µg/L		Criterion; Chronic; At a medium calcium concentration	Quebec	MDEQ 1996
	FW	>20	µg/L		Criterion; Chronic; At a low calcium concentration	Quebec	MDEQ 1996
	FW	20000	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	20000	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	20000	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
Alkyl Benzene Sulfonates (linear)	FW	40	µg/L		Standard; Chronic; Aquaculture; LAS with side chains greater than 13 carbons only	New York State	NYSDEC 1998
Alkyl Dimethyl Benzyl Ammonium Chloride	FW	10	µg/L		Standard; Chronic; As part of sum of Quaternary ammonium compounds; Aquaculture	New York State	NYSDEC 1998
Aluminum	FW	5	µg/L		Guideline; At pH <6.5; [Ca2+]<4 mg/L; DOC <2.0 mg/L	Nova Scotia	NSDOE 1998
	FW	5	µg/L		Guideline; At pH <6.5; [Ca2+]<4 mg/L; DOC <2.0 mg/L	Canada	Environment Canada 1999
	FW	15	µg/L	TTA	Provincial Water Quality Guideline; At pH of 4.5-5.5; In clay free samples (inorganic)	Ontario	OMEE 1994
	FW	87	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	87	µg/L		Criterion; Chronic; At a pH of 6.5-9.0	Quebec	MDEQ 1996
	FW	87	µg/L		Criterion; Continuous when pH = 6.5-9.0	United States	USEPA 1998a
	FW	87	µg/L		Criterion; Chronic; At pH of 6.5-9.0	Rhode Island	RIDEM 1997
	FW	87	µg/L		Criterion; Chronic	United States	USEPA 1990
	FW	87	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	87	µg/L		Proposed Criterion; Chronic; 4-day average	Alaska	ADEC 1998b
	FW	100	µg/L		Guideline; At pH >=6.5; [Ca2+]>=4 mg/L; DOC >=2.0 mg/L	Nova Scotia	NSDOE 1998
	FW	100	µg/L		Guideline; At pH >=6.5; [Ca2+]>=4 mg/L; DOC >=2.0 mg/L	Canada	Environment Canada 1999
	FW	750	µg/L		Criterion; Maximum when pH = 6.5-9.0	United States	USEPA 1998a
	FW	750	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	750	µg/L		Criterion; Acute	United States	USEPA 1990
	FW	750	µg/L		Criterion; Acute; At pH of 6.5-9.0	Rhode Island	RIDEM 1997
	FW	750	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	750	µg/L		Proposed Criterion; Acute; 1-houraverage	Alaska	ADEC 1998b
	FW	750	µg/L		Criterion; Acute; At a pH of 6.5-9.0	Quebec	MDEQ 1996

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Aluminum (dissolved)	FW	50	µg/L	TTA	Criterion; 30-day Average when median pH >=6.5; (dissolved Al = exp[1.6 - 3.327 (median pH) + 0.402 (median pH)(median pH)] at median pH < 6.5)	British Columbia	BCMOELP 1998
	FW	100	µg/L	TTA	Criterion; Maximum; At pH >=6.5; Dissolved Al = exp[1.209-2.426 (pH) + 0.286(pH)(pH)] at pH <6.5	British Columbia	BCMOELP 1998
Aluminum (ionic)	FW	100	µg/L		Standard; Chronic	New York State	NYSDEC 1998
Aluminum (total)	FW	5.0	µg/L		Guideline; Maximum; At pH<=6.5	Australia	ANZECC 1992
	FW	75	µg/L		Scientific criterion; At pH 6.5 to 9.0; Guideline based on total aluminum measured in clay-free samples	Ontario	Neville et al. 1988
	FW	100.0	µg/L		Guideline; Maximum; At pH >6.5	Australia	ANZECC 1992
	FW	Narrative			Scientific criterion; At pH 5.5 to 6.5; With no more than 10% increase above the natural background; For acid soluble inorganic aluminum; In clay-free samples; In areas unaffected by man-made inputs	Ontario	Neville et al. 1988
Ammonia	FW	0.0027	mg/L		Regulation; Chronic Criterion at 10°C, pH 7.00; Value is dependent on temperature and pH (See reference)	New Hampshire	NHDES 1996
	FW	0.020–0.030	mg/L		Guideline; Undissociated ammonia; As NH3	Australia	ANZECC 1992
	FW	0.02	mg/L		Objective; Under certain temperature and pH conditions, the total ammonia criterion for the protection of aquatic life may be less stringent than the criteria for other beneficial uses (un-ionized)	Ontario	Environment Ontario 1989
	FW	0.025	mg/L		Regulation; Acute Criterion at 10°C, pH 7.00; Value is dependent on temperature and pH (See reference)	New Hampshire	NHDES 1996
	FW	2.66	mg/L		Standard; Chronic Criterion at 10 °C, pH 7.00; Value is dependent on temperature and pH (See reference)	Virginia	COV 1997
	FW	25	mg/L		Standard; Acute Criterion at 10 °C, pH 7.00; Value is dependent on temperature and pH (See reference)	Virginia	COV 1997
Ammonia (total)	FW	0.0042	mg/L		Criterion; Chronic; 4-day average; At pH = 7 and temperature = 10 C; As N; For salmonid or other sensitive cold water species	United States	USEPA 1990
	FW	0.005	mg/L		Guide level for salmonid and cyprinid waters; Monthly sampling; As un-	Europe	CEC 1988
	FW	0.0184	mg/L		Objective; Maximum; At pH of 7 and temperature of 10°C	Manitoba	Williamson 1988
	FW	0.02	mg/L		Guideline; Coldwater; Chronic value (un-ionized)	Michigan	MDNR 1989
	FW	0.025	mg/L		Imperative value for salmonid and cyprinid waters; Monthly sampling (as un-ionized)	Europe	CEC 1988
	FW	0.04	mg/L		Guide level for salmonid waters; Monthly sampling; As ionized	Europe	CEC 1988
	FW	0.05	mg/L		Guideline; Warmwater; Chronic value; Un-ionized	Michigan	MDNR 1989

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ammonia (total; cont.)	FW	0.2	mg/L		Guide level for cyprinid waters, monthly sampling; As ionized N	Europe	CEC 1988
	FW	1	mg/L		Imperative value for salmonid and cyprinid waters; Monthly sampling; As ionized N	Europe	CEC 1988
	FW	1.37	mg/L		Guideline; At pH=8.0; 10C	Nova Scotia	NSDOE 1998
	FW	1.37	mg/L		Guideline; At pH=8.0; 10C	Canada	Environment Canada 1999
	FW	1.81	mg/L		Objective; At pH = 7 and temperature = 10 C; As N	Saskatchewan	SDEPS1988
	FW	1.84	mg/L		Criterion; Chronic; At pH=7; 10C	Quebec	MDEQ 1996
	FW	2.2	mg/L		Guideline; At pH=7.0 and 10°C; As NH3	Australia	ANZECC 1992
	FW	2.2	mg/L		Guideline; At pH=6.5; 10C	Nova Scotia	NSDOE 1998
	FW	2.2	mg/L		Standard; Chronic value at pH 7.0 and 10°C; Value is a function of pH and temperature (See reference); As NH3, un-ionized; Aquaculture	New York State	NYSDEC 1998
	FW	2.2	mg/L		Guideline; At pH=6.5; 10C	Canada	Environment Canada 1999
	FW	2.3	mg/L		Criterion; 4=day average for water-column of spawning salmonids at pH 7.00 and 10 °C (See reference); As N	Idaho	IDH&W 1998
	FW	2.3	mg/L		Criterion; 4-day average for cold water biota at pH 7.00 and 10 °C (See reference); As N	Idaho	IDH&W 1998
	FW	2.3	mg/L		Criterion; 4-day average for warm water biota at pH 7.00 and 10 °C (See reference); As N	Idaho	IDH&W 1998
	FW	2.7	mg/L		Criterion; Chronic; At pH of 7.0; 10C	Rhode Island	RIDEM 1997
	FW	20.5	mg/L		Criterion; Acute; At pH=7; 10C	Quebec	MDEQ 1996
	FW	20.62	mg/L		Criterion; 1-hour average for cold water biota at pH 7.00 and 10 °C (See reference); As N	Idaho	IDH&W 1998
	FW	20.62	mg/L		Criterion; 1-hour average for warm water biota at pH 7.00 and 10 °C (See reference); As N	Idaho	IDH&W 1998
	FW	20.62	mg/L		Criterion; 1-hour average for Water-Column of Spawning Salmonids at pH 7.00 and 20 C (See reference); As N	Idaho	IDH&W 1998
	FW	25	mg/L		Standard; Acute value at pH 7.0 and 10°C; Value is a function of pH and temperature (See reference); As NH3, un-ionized	New York State	NYSDEC 1998
	FW	25	mg/L		Criterion; Acute; At pH of 7.0; 10C	Rhode Island	RIDEM 1997
Ammonia (total-N unionized)	FW	0.00495	mg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; See reference for equations; At 10C & pH = 7	Washington	Washington State 1997
	FW	0.0465	mg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; See reference for equations; At 10C & pH = 7	Washington	Washington State 1997
Ammonia (unionized)	FW	0.0041	mg/L		Criterion; 4-day average for warm water biota at pH 7.00 and 10 °C (See reference); As N	Idaho	IDH&W 1998

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ammonia (unionized; cont.)	FW	0.0041	mg/L		Criterion; 4-day average for Water-Column of Spawning Salmonids at pH 7.00 and 10 °C (See reference); As N	Idaho	IDH&W 1998
	FW	0.0041	mg/L		Criterion; 4-day average for cold water biota at pH 7.00 and 10 °C (See reference); As N	Idaho	IDH&W 1998
	FW	0.0042	mg/L		Standard; Chronic value at pH 7.0 and 10°C; Value is a function of pH and temperature (See reference); As NH3; Aquaculture	New York State	NYSDEC 1998
	FW/EST/SW	0.007	mg/L	TTA	Provisional Objective; Average; North, Middle, Main Arms of the Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
	FW	0.02	mg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW/EST/SW	0.03	mg/L	TTA	Provisional Objective; Maximum; North, Middle, Main Arms of the Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
	FW	0.04	mg/L		Criterion; 1-hour average for Water-Column of Spawning Salmonids at pH 7.00 and 20 C (See reference); As N	Idaho	IDH&W 1998
	FW	0.04	mg/L		Criterion; 1-hour average for cold water biota at pH 7.00 and 10 °C (See reference); As N	Idaho	IDH&W 1998
	FW	0.04	mg/L		Criterion; 1-hour average for warm water biota at pH 7.00 and 10 °C (See reference); As N	Idaho	IDH&W 1998
	FW	0.046	mg/L		Standard; Acute value at pH 7.0 and 10°C; Value is a function of pH and temperature (See reference); As NH3	New York State	NYSDEC 1998
Ammonia Nitrogen	FW	1.84	mg/L		Criterion; 30 day average at 10 C and pH = 7; See reference for values at other pHs and temperatures	British Columbia	BCMOELP 1998
	FW	20.5	mg/L		Criterion; Maximum at 10 C and pH = 7.0; See reference for values at other pHs and temperatures	British Columbia	BCMOELP 1998
Ammonium Compounds (Quaternary)	FW	10	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
Aniline	FW	2	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	2	µg/L	TTA	Criterion	British Columbia	Nagpal et al. 1995
	FW	2	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	2.2	µg/L		Guideline	Canada	Environment Canada 1999
	FW	2.2	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	14	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	28	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	28	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Aniline (dissolved)	FW	2	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Aniline (total)	FW	2	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Anions	FW	Narrative			Objective; Levels should not be suddenly increased or decreased in a receiving water so as to result in injury to aquatic life, or alter the sodium : cation ratio beyond the range 0.30 to 0.75	Saskatchewan	SDEPS1988
Anthracene	FW	0.012	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	0.012	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.1	µg/L	TTA	Criterion; Phototoxic	British Columbia	BCMOELP 1998
	FW	3.8	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	4	µg/L	TTA	Criterion; Chronic	British Columbia	BCMOELP 1998
	FW	35	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
Anthracene (dissolved)	FW	0.031	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Anthracene (total)	FW	0.034	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Antimony	FW	7	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	10	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	30	µg/L		Criterion; Chronic; Sb III (See reference)	Quebec	MDEQ 1996
	FW	30	µg/L	TTA	Proposed Criterion; Chronic	United States	USEPA 1993
	FW	88	µg/L		Criterion; Acute; Sb III (See reference)	Quebec	MDEQ 1996
	FW	88	µg/L	TTA	Proposed Criterion; Acute	United States	USEPA 1993
	FW	450	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	1600	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	1600	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	9000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	9000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Antimony (total)	FW	20	µg/L	TTA	Proposed Ontario water quality guideline; 1-hour average	British Columbia	Nagpal et al. 1995
	FW	30.0	µg/L		Guideline	Australia	ANZECC 1992
	FW	30	µg/L	TTA	Proposed guideline; 4-day average	British Columbia	Nagpal et al. 1995
Aroclor 1016	FW	0.014	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.014	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.014	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	FW	2.0	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Aroclor 1221	FW	0.014	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	FW	0.014	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.014	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	2.0	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Aroclor 1232	FW	0.014	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.014	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.014	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	FW	2.0	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Aroclor 1242	FW	0.014	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.014	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	FW	0.014	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	2.0	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	2	µg/L		Criterion; Lowest Observed Toxicity Level; Acute	Quebec	MDEQ 1996
Aroclor 1248	FW	0.014	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.014	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.014	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	FW	2.0	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Aroclor 1254	FW	0.014	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.014	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	FW	0.014	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	2.0	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Aroclor 1260	FW	0.014	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.014	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.014	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	FW	2.0	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Arsenic	FW	5.0	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	5.0	µg/L		Guideline	Canada	Environment Canada 1999
	FW	10	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW/EST	90	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	100	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	190	µg/L		Objective; Maximum	Manitoba	Williamson 1988
	FW	190	µg/L		Criterion; Chronic; Inorganic Arsenic	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Arsenic (cont.)	FW	360	µg/L		Criterion; Acute; Inorganic Arsenic	Quebec	MDEQ 1996
Arsenic (dissolved)	FW	12.5	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	150	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	150	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	150	µg/L		Criterion; Continuous (over 4 days); Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	190.0	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	190	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	190	µg/L		Regulation; Chronic Criterion for Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	FW	340	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	340	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	340	µg/L		Standard; Acute	New York State	NYSDEC 1998
	FW	360.0	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	360	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	360	µg/L		Regulation; Acute Criterion for Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
Arsenic (III)	FW	190	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	190	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW	190	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	360	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	360	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	360	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
Arsenic (III; dissolved)	FW	190	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	360	µg/L		Standard; Acute Criterion	Virginia	COV 1997
Arsenic (total)	FW	16	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW/SW	50.0	µg/L		Guideline	Australia	ANZECC 1992
	FW	50	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
Arsenic (V)	FW	48	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	850	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Atrazine	FW	1.8	µg/L		Guideline	Nova Scotia	NSDOE 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Atrazine (cont.)	FW	1.8	µg/L		Guideline	Canada	Environment Canada 1999
	FW	2	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Atrazine (dissolved)	FW	0.075	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Atrazine (total)	FW	0.075	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Azinphos-ethyl (dissolved)	FW	0.05	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Azinphos-ethyl (total)	FW	0.05	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Azinphos-methyl	FW	0.005	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	0.005	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.01	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.01	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.01	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.01	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW/SW	0.010	µg/L		Guideline	Australia	ANZECC 1992
Azinphos-methyl (dissolved)	FW	0.015	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Azinphos-methyl (total)	FW	0.015	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Barium	FW	1	mg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	Equation	µg/L		Criterion = e[1.95(ln hardness)-3.66]; Chronic	Quebec	MDEQ 1996
Barium (total)	FW	1	mg/L	TTA	30-day average	British Columbia	Nagpal et al. 1995
	FW	5	mg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
Benthic Sedimentation (induced)	FW	Narrative			Criterion; Accumulation by weight (95% confidence level); For salmonid spawning; None for particles < 3mm	British Columbia	BCMOELP 1998
	FW	Narrative			Criterion; For mariculture; None	British Columbia	BCMOELP 1998
Benzanthracene, 1,2-	FW	0.018	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	0.018	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.03	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	0.1	µg/L	TTA	Criterion; Phototoxic	British Columbia	Nagpal et al. 1995
	FW	0.1	µg/L	TTA	Criterion; Chronic	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Benzanthracene, 1,2- (cont.)	FW	0.23	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
Benzanthracene, 1,2- (dissolved)	FW	0.0034	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Benzanthracene, 1,2- (total)	FW	0.006	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Benzene	FW	5.9	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	26	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	100	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	210	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	265	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW/SW	300.0	µg/L		Guideline	Australia	ANZECC 1992
	FW	370	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	370	µg/L		Guideline	Canada	Environment Canada 1999
	FW	590	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	760	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	FW	5300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	5300	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	5300	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Benzene (dissolved)	FW	9	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Benzene (total)	FW	9	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Benzidine	FW	0.1	µg/L		Guidance value; Chronic and Acute; Aquaculture	New York State	NYSDEC 1998
	FW	0.1	µg/L		Criterion	Colorado	USEPA 1988a
	FW	0.1	µg/L		Criterion	Maryland	USEPA 1988a
	FW	2500	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	2500	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Benzo(a)pyrene	FW	0.01	µg/L	TTA	Criterion; Chronic	British Columbia	BCMOELP 1998
	FW	0.015	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.015	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Benzo(a)pyrene (dissolved)	FW	0.0015	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Benzo(a)pyrene (total)	FW	0.0044	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Benzo(ghi)perylene (dissolved)	FW	0.00043	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Benzo(ghi)perylene (total)	FW	0.0036	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Benzo(k)fluoranthene (dissolved)	FW	0.0041	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Benzo(k)fluoranthene (total)	FW	0.012	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Benzofluoranthene, 3,4- (dissolved)	FW	0.0010	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Benzofluoranthene, 3,4- (total)	FW	0.0087	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Benzyl Alcohol	FW	22	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Beryllium	FW	0.17	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	5.3	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	5.3	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	5.3	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	7.5	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	7.5	µg/L		Criterion; Interim; Acute; At a hardness of 20	Quebec	MDEQ 1996
	FW	11	µg/L		Guidance value; Chronic; When hardness is less than or equal to 75 ppm; Aquaculture	New York State	NYSDEC 1998
	FW	130	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	130	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	130	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW/EST	150	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	1100	µg/L		Guidance value; Chronic; When hardness is greater than 75 ppm;	New York State	NYSDEC 1998
	FW	Equation	µg/L		Criterion = e[2.2175(ln hardness)-10.3779]; Chronic	Quebec	MDEQ 1996
Beryllium (total)	FW	4.0	µg/L		Guideline; Higher values may be accepted in harder waters	Australia	ANZECC 1992
	FW	5.3	µg/L	TTA	Criterion; Chronic	British Columbia	Nagpal et al. 1995
Bifenthrin (dissolved)	FW	0.0014	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Bifenthrin (total)	FW	0.028	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Biological Oxygen Demand	FW	1	mg/L		Standard; Rivers Class AA	Japan	JWQB 1998
	FW	2	mg/L		Standard; Rivers Class A	Japan	JWQB 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Biological Oxygen Demand (cont.)	FW	3	mg/L		Guide level for salmonid waters	Europe	CEC 1988
	FW	3	mg/L		Criterion; Maximum tolerable deficit; At 21C; Chronic	Quebec	MDEQ 1996
	FW	3	mg/L		Standard; Rivers Class B	Japan	JWQB 1998
	FW	5	mg/L		Standard; Rivers Class C	Japan	JWQB 1998
	FW	6	mg/L		Guide level for cyprinid waters	Europe	CEC 1988
	FW	10	mg/L		Standard; Rivers Class E	Japan	JWQB 1998
	FW	Narrative			Objective; Dependent on the assimilative capacity of the receiving water, must not exceed a limit which would create a dissolve oxygen content of	Saskatchewan	SDEPS1988
	FW	Narrative			Dependent on the assimilative capacity of the receiving water, must not exceed a limit which would create a dissolve oxygen content of <5000 µg/L	Alberta	Alberta Environment 1977
Bis(2-chloroethoxy)methane	FW	238000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Bis(2-chloroisopropyl) Ether	FW	238000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Bis(2-ethylhexyl) Phthalate	FW	0.6	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	0.6	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.6	µg/L		Guideline	Australia	ANZECC 1992
	FW	1	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	3	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	12	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	16	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	16	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	100.0	µg/L		Criterion	Oklahoma	USEPA 1988a
	FW	555	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	555	µg/L		Acute Criterion	Rhode Island	USEPA 1988a
	FW	940	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	1100	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Boron	FW	0.5	mg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	1.4	mg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	10	mg/L		Standard; Chronic; Value applies to acid-soluble form; Aquaculture	New York State	NYSDEC 1998
Bromacil	FW	5.0	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	5.0	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	5	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
Bromine	FW	0.17	µg/L		Criterion; Chronic	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Bromodichloromethane	FW	11000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Bromoform	FW	33	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	65	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1465	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	1500	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	11000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	11000	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
Bromoxynil	FW	5.0	µg/L		Guideline	Canada	Environment Canada 1999
	FW	5.0	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	5	µg/L		Criterion; Chronic; Total Bromoxynil	Quebec	MDEQ 1996
Butyl Alcohol, n-	FW	4000	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	90000	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Butyl Phthalate, N-	FW	3	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	4.0	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	19	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	19	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	19	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	36.5	µg/L		Criterion	Oklahoma	USEPA 1988a
	FW	940	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Butylbenzyl Phthalate	FW	1.9	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	3	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	3.8	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	85	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	85	µg/L		Acute Criterion	Rhode Island	USEPA 1988a
	FW	85	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	200.0	µg/L		Criterion	Oklahoma	USEPA 1988a
	FW	940	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Cadmium	FW	0.017	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.017	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	0.15	µg/L	TTA	Proposed Provincial Water Quality Objective; At hardness <=100 mg/L	Ontario	OMEE 1994
	FW	0.2	µg/L	TTA	Provincial Water Quality Objective; At hardness >100 mg/L CaCO3	Ontario	OMEE 1994
	FW	0.2	µg/L		Proposed guideline; Hardness of 0 to 100 mg/L CaCO3	Ontario	Environment Ontario 1989

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Cadmium (cont.)	FW	0.45	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	0.5	µg/L		Proposed guideline; Hardness >100 mg/L CaCO3	Ontario	Environment Ontario 1989
	FW	0.7766	µg/L	TTA	Criterion; Final Chronic Value	Great Lakes	USEPA 1992
	FW	1.1	µg/L		Criterion; Chronic; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	1.1	µg/L	TTA	Criterion; Chronic; Hardness dependent; 100 mg/L CaCO3 used	United States	USEPA 1993
	FW	1.1	µg/L		Criterion; For ambient surface waters; Chronic toxicity Hardness and pH dependent	Maryland	MDOE 1997
	FW	2.1	µg/L	TTA	Criterion; Maximum	Great Lakes	USEPA 1992
	FW	3.9	µg/L	TTA	Criterion; Acute; Hardness dependent; 100 mg/L CaCO3 used	United States	USEPA 1993
	FW	3.9	µg/L		Criterion; Acute; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	3.9	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	4.25	µg/L	TTA	Criterion; Final Acute Value	Great Lakes	USEPA 1992
	FW	Equation	µg/L		Criterion = e[1.128(ln hardness)-3.828]; Acute	Quebec	MDEQ 1996
	FW	Equation	µg/L		Criterion = e[0.7852(ln hardness)-3.490]; Chronic	Delaware	DDNREC 1993
	FW	Equation	µg/L		Criterion = e[1.128(ln hardness)-3.828]; Acute	Delaware	DDNREC 1993
	FW	Equation	µg/L		Criterion = e[0.7852(ln hardness)-3.49]; Chronic	Quebec	MDEQ 1996
	FW	Equation	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; <=1.136672-[(ln hardness)(0.041838)][e(1.128{ln(hardness)}-	Washington	Washington State 1997
	FW	Equation	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; <=1.101672-[(ln hardness)(0.041838)][e(0.7852{ln(hardness)}-3.490]	Washington	Washington State 1997
Cadmium (dissolved)	FW	0.025	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	0.38	µg/L		Regulation; Chronic Criterion for a Water Effect Ratio of 1.0; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	0.82	µg/L		Regulation; Acute Criterion for a Water Effect Ratio of 1.0; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	1.1	µg/L		Standard; Chronic Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[0.7852(ln(hardness))-3.490]	Virginia	COV 1997
	FW	2.2	µg/L		Criterion; Continuous; At hardness = 100 mg/L	United States	USEPA 1998a
	FW	2.2	µg/L		Criterion; Continuous; At hardness = 100 mg/L Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	3.9	µg/L		Standard; Acute Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[1.128(ln(hardness))-3.828]	Virginia	COV 1997
	FW	4.3	µg/L		Criterion; Maximum; At hardness = 100 mg/L; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	4.3	µg/L		Criterion; Maximum; At hardness = 100 mg/L	United States	USEPA 1998a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Cadmium (dissolved; cont.)	FW	Equation	µg/L		Standard; Acute value = (0.85)exp(1.128[ln(ppm hardness)]-3.6867)	New York State	NYSDEC 1998
	FW	Equation	µg/L		Standard; Chronic value = (0.85)exp(0.7852[ln(ppm hardness)]-2.715); Aquaculture	New York State	NYSDEC 1998
	FW	Equation	µg/L		Criterion = 1.136672-[(ln hardness) 0.041838]x e[1.128(ln hardness)+(-3.828)]; Acute	Rhode Island	RIDEM 1997
	FW	Equation	µg/L		Criterion = 1.101672-[(ln hardness) 0.041838]x e[0.7852(ln hardness)+(-3.49)]; Chronic	Rhode Island	RIDEM 1997
Cadmium (total)	FW	0.13	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	0.2	µg/L	TTA	Criterion; At hardness 0-60 mg/L CaCO3	British Columbia	Nagpal et al. 1995
	FW	0.2–2.0	µg/L		Guideline; Hardness dependent	Australia	ANZECC 1992
	FW	0.8	µg/L	TTA	Criterion; At hardness 60-120 mg/L CaCO3	British Columbia	Nagpal et al. 1995
	FW	1	µg/L		Must be reported to Commission if not complied with on national network; Arithmetic mean over year	Europe	CEC 1988
	FW	1	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	1.3	µg/L	TTA	Criterion; At hardness 120-180 mg/L CaCO3	British Columbia	Nagpal et al. 1995
	FW	1.8	µg/L	TTA	Criterion; At hardness >180 mg/L CaCO3	British Columbia	Nagpal et al. 1995
	FW	5	µg/L		Maximum in inland surface waters affected by discharges; Arithmetic mean over one year	Europe	CEC 1988
	FW	10	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	Equation	µg/L		Guideline; Coldwater, = e[0.83 (ln hardness) - 4.84]; Where hardness is expressed as mg/L CaCO3; Chronic value	Michigan	MDNR 1989
	FW	Equation	µg/L		Objective; Acid-soluble; = e[0.7852 (ln hardness) -3.490] where hardness is expressed as mg/L CaCO3; For cool and cold water aquatic life	Manitoba	Williamson 1988
Captafol (dissolved)	FW	0.2	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Captafol (total)	FW	0.2	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Captan	FW	1.3	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	1.3	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1.3	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Captan (dissolved)	FW	0.3	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Captan (total)	FW	0.3	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Carbaryl	FW	0.20	µg/L		Guideline	Canada	Environment Canada 1999

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Carbaryl (cont.)	FW	0.20	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	0.2	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Carbendazim (dissolved)	FW	0.27	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Carbendazim (total)	FW	0.27	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Carbofuran	FW	1.0	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	1.75	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	1.75	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
	FW	1.8	µg/L		Guideline	Canada	Environment Canada 1999
	FW	1.8	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	10	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
Carbon Tetrachloride	FW	13	µg/L	TTA	Criterion; Interim maximum	British Columbia	Nagpal et al. 1995
	FW	13.3	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	13.3	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	30	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	78	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1365	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	1800	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	35200	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	35200	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	35200	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
	FW	35200	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Carbon Tetrachloride (dissolved)	FW	17	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Carbon Tetrachloride (total)	FW	17	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Chemical Oxygen Demand	FW-Lakes	1	mg/L		Standard; Lakes Class AA	Japan	JWQB 1998
	FW-Lakes	3	mg/L		Standard; Lakes Class A	Japan	JWQB 1998
	FW-Lakes	5	mg/L		Standard; Lakes Class B	Japan	JWQB 1998
	FW-Lakes	8	mg/L		Standard; Lakes Class C	Japan	JWQB 1998
Chlordane	FW	0.00053	µg/L		Guideline; Cancer risk value	Michigan	MDNR 1989
	FW/SW	0.004	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.0043	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996

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Chlordane (cont.)	FW	0.0043	µg/L		Criterion; Chronic;24-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	0.0043	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.0043	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.0043	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.0043	µg/L		Criterion; Continuous	California	USEPA 1997c
	FW	0.0043	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.0043	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	0.0043	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.0043	µg/L		Criterion; Chronic	United States	USEPA 1990
	FW/EST	0.0043	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	0.06	µg/L		Objective; Unfiltered sample	Ontario	Environment Ontario 1989
	FW	0.06	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	1.2	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	2.4	µg/L		Criterion; Maximum	California	USEPA 1997c
	FW	2.4	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	2.4	µg/L		Criterion; Acute	United States	USEPA 1990
	FW	2.4	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	2.4	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997
	FW	2.4	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	2.4	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	2.4	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	2.4	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Chlordane (dissolved)	FW	0.0008	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Chlordane (total)	FW	0.0022	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Chlordecone	FW	0	µg/L		Standard; Chronic Criterion; Value is zero	Virginia	COV 1997
Chloride	FW	0.23	mg/L		Criterion; Chronic	United States	USEPA 1990
	FW	0.86	mg/L		Criterion; Acute	United States	USEPA 1990
	FW	230	mg/L		Proposed Criterion; Chronic; 4-day average	Alaska	ADEC 1998b
	FW	230	mg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	230	mg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	230	mg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	860	mg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	860	mg/L		Criterion; Maximum	United States	USEPA 1998a

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chloride (cont.)	FW	860	mg/L		Proposed Criterion; Acute; 1-houraverage	Alaska	ADEC 1998b
	FW	860	mg/L		Standard; Acute Criterion	Virginia	COV 1997
Chloride (dissolved)	FW	230	mg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	860	mg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
Chlorides	FW	230	mg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	230	mg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	860	mg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	860	mg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Chlorinated Naphthalenes	FW	1600	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	1600	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	1600	µg/L		Criterion; Acute; Based on Lowest Observed Effect Level	United States	USEPA 1990
Chlorine	FW	2	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	2	µg/L		Criterion; Average Concentration; For continuous exposure; As total residual chlorine	British Columbia	BCMOELP 1998
	FW	5.8	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	11.0	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; Total residual	Washington	Washington State 1997
	FW	11	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	11	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	11	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	11	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	11	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	19.0	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; Total residual	Washington	Washington State 1997
	FW	19	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	19	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	19	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	19	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	100	µg/L		Criterion; Maximum; Regardless of exposure; As total residual chlorine	British Columbia	BCMOELP 1998
	FW	100	µg/L		Criterion; Maximum; Acute; Total residual chlorine	Quebec	MDEQ 1996
	FW	Equation	µg/L		Criterion = 1074x(hardness to the power of -0.74); Acute; Total residual	Quebec	MDEQ 1996

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chlorine (cont.)	FW	Equation	µg/L		Criterion; Average Concentration; For controlled intermittent exposure; As total residual chlorine; Value = 1074(duration) power-0.74	British Columbia	BCMOELP 1998
Chlorine (total, residual)	FW/SW	2.0	µg/L		Standard; Maximum; For salmonid fish; Aquaculture	Alaska	ADEC 1998a
	FW/EST/SW	2	µg/L		Provisional Objective; Maximum for Main Arm of Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
	FW	5	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW/SW	10.0	µg/L		Standard; Maximum; For other organisms besides salmonid fish; Aquaculture	Alaska	ADEC 1998a
	FW	11	µg/L		Criterion; 4 day average Maximum	Idaho	IDH&W 1998
	FW	11	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	11	µg/L		Objective; Maximum	Manitoba	Williamson 1988
	FW	19	µg/L		Standard; Acute	New York State	NYSDEC 1998
	FW	19	µg/L		Criterion; 1 hour average Maximum	Idaho	IDH&W 1998
	FW	19	µg/L		Standard; Acute Criterion	Virginia	COV 1997
Chloro-2-Methyl Phenoxy	FW	2.6	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Acetic Acid, 4-	FW	2.6	µg/L		Interim Guideline	Canada	Environment Canada 1999
Chloroalkyl Ethers	FW	238000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Chloroaniline, m- (dissolved)	FW	15	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Chloroaniline, m- (total)	FW	15	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Chlorobenzene	FW	1.3	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1.3	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	1.3	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	5	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	15	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	18	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	50	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	250	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	795	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
Chlorobenzenes	FW	50	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	50	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	250	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	250	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chlorodibromomethane	FW	11000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Chloroform	FW	1.8	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	1.8	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	2	µg/L	TTA	Criterion; Interim maximum	British Columbia	Nagpal et al. 1995
	FW	32	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	43	µg/L		Guideline; Cancer risk value	Michigan	MDNR 1989
	FW	80	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1240	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	1240	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	FW	1240	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	1240	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	1445	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	1800	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	28900	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	28900	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	28900	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
Chloroform (dissolved)	FW	0.6	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Chloroform (total)	FW	0.6	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Chloro-m-cresol, 4-	FW	4.4	µg/L		Guideline; Chronic value	Michigan	MDNR 1989
	FW	4.4	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	30	µg/L		Criterion; Acute; Based on Lowest Observed Effect Level	United States	USEPA 1990
	FW	30	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	30	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Chloronaphthalene, 1-	FW	1.8	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	2.5	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	57	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	80	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
Chloronaphthalene, 2-	FW	1600	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Chloronitrobenzene, m- (dissolved)	FW	12	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Chloronitrobenzene, m- (total)	FW	12	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chloronitrobenzene, p- (dissolved)	FW	0.37	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Chloronitrobenzene, p- (total)	FW	0.38	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Chlorophenol	FW	1	µg/L		Criterion	Colorado	USEPA 1988a
Chlorophenol, 2-	FW	0.90	µg/L	TTA	Criterion; Interim	British Columbia	Nagpal et al. 1995
	FW	2.9	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	8.8	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	10	µg/L		Guideline; Chronic value	Michigan	MDNR 1989
	FW/SW	17	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
	FW/EST	100	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	129	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	200	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	2000	µg/L		Criterion; Chronic; Based on Lowest Observed Effect Level	United States	USEPA 1990
	FW	2000	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	2000	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	4380	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	4380	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	4380	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Chlorophenol, 3-	FW	0.50	µg/L	TTA	Criterion; Interim	British Columbia	Nagpal et al. 1995
	FW/SW	15	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Chlorophenol, 4-	FW	0.70	µg/L	TTA	Criterion; Interim	British Columbia	Nagpal et al. 1995
	FW	4.3	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW/SW	7.8	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
	FW	8.5	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	9.3	µg/L		Guideline; Chronic value	Michigan	MDNR 1989
	FW	190	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	192	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
Chlorophenols	FW	0.2	µg/L		Provisional Objective; Maximum for Fraser River	British Columbia	Swain and Holms 1985
	FW	1	µg/L		Criterion; Chronic	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chlorophyll a	FW	100000	µg/m2		Criterion; Maximum in streams; This applies to naturally-growing periphytic algae	British Columbia	BCMOELP 1998
Chlorothalonil	FW	0.18	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.18	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	0.18	µg/L		Criterion; Interim; Chronic; Total chlorothalonil	Quebec	MDEQ 1996
Chlorpyrifos	FW/SW	0.001	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.0035	µg/L		Guideline	Canada	Environment Canada 1999
	FW	0.0035	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.0035	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	0.041	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.041	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	0.041	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.041	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.041	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.041	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.083	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	0.083	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	0.083	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	0.083	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	0.083	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	0.083	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	0.083	µg/L		Criterion; Maximum	United States	USEPA 1998a
Chromium	FW	2	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	50	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	100	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
Chromium (dissolved)	FW	2.5	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	Equation	µg/L		Standard; Acute value = (0.316)exp(0.819[ln(ppm hardness)]+3.7256); Excludes hexavalent chromium	New York State	NYSDEC 1998
	FW	Equation	µg/L		Standard; Chronic value = (0.85)exp(0.819[ln(ppm hardness)]+0.6848); Excludes hexavalent chromium; Aquaculture	New York State	NYSDEC 1998
Chromium (III)	FW	8.9	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chromium (III; cont.)	FW	8.9	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	48.86	µg/L	TTA	Criterion; Final Chronic Value; Toxicity is hardness related. The criterion is at a hardness of 5000 µg/L CaCO3	Great Lakes	USEPA 1992
	FW	210	µg/L		Criterion; Chronic; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	210	µg/L		Criterion; For ambient surface waters; Chronic toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	1022	µg/L	TTA	Criterion; Maximum; Hardness of 50000 µg/L CaCO3	Great Lakes	USEPA 1992
	FW	1700	µg/L		Criterion; Acute; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	1700	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	2044	µg/L	TTA	Criterion; Final Acute Value; Toxicity is hardness related. The criterion is at a hardness of 5000 µg/L CaCO3	Great Lakes	USEPA 1992
	FW	Equation	µg/L		Objective; Maximum; Acid soluble; E(0.8190[ln(hardness)]+1.561)	Manitoba	Williamson 1988
	FW	Equation	µg/L		Criterion = e[0.819(ln hardness)+3.688]; Acute	Quebec	MDEQ 1996
	FW	Equation	µg/L		Criterion = e[0.8190(ln hardness)+3.688]; Acute	Delaware	DDNREC 1993
	FW	Equation	µg/L		Criterion = e[0.8190(ln hardness)+1.561]; Chronic	Delaware	DDNREC 1993
	FW	Equation	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; <=(0.316)e(0.8190[ln(hardness)]+3.688)	Washington	Washington State 1997
	FW	Equation	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; <=(0.860)e(0.8190[ln(hardness)]+1.561)	Washington	Washington State 1997
Chromium (III; dissolved)	FW	57	µg/L		Regulation; Chronic Criterion at Water Effect Ratio of 1.0; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	74	µg/L		Criterion; Continuous; At hardness = 100 mg/L	United States	USEPA 1998a
	FW	176	µg/L		Regulation; Acute Criterion at Water Effect Ratio of 1.0; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	180	µg/L		Criterion; Continuous; At hardness = 100 mg/L Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	210	µg/L		Standard; Chronic Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[0.8190(ln(hardness))+1.561]	Virginia	COV 1997
	FW	550	µg/L		Criterion; Maximum; At hardness = 100 mg/L; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	570	µg/L		Criterion; Maximum; At hardness = 100 mg/L	United States	USEPA 1998a
	FW	1700	µg/L		Standard; Acute Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[0.8190(ln(hardness))+3.688]	Virginia	COV 1997
	FW	Equation	µg/L		Criterion = 0.86 x e[0.819(ln hardness)+(1.561)]; Chronic	Rhode Island	RIDEM 1997
	FW	Equation	µg/L		Criterion = 0.316 x e[0.8190(ln hardness)+(3.688)]; Acute	Rhode Island	RIDEM 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chromium (total)	FW	2	µg/L	TTA	Maximum for phyto- and zooplankton	British Columbia	Nagpal et al. 1995
	FW	20	µg/L	TTA	Maximum for fish	British Columbia	Nagpal et al. 1995
	FW	24	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Chromium (VI)	FW	1.0	µg/L		Guideline	Canada	Environment Canada 1999
	FW	1.0	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	10.0	µg/L		Guideline; Total	Australia	ANZECC 1992
	FW/EST	10	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	10.98	µg/L	TTA	Criterion; Final Chronic Value	Great Lakes	USEPA 1992
	FW	11	µg/L	TTA	Criterion; Chronic	United States	USEPA 1993
	FW	11	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	11	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW	11	µg/L		Objective; Maximum; Acid soluble	Manitoba	Williamson 1988
	FW	11	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	16	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	16	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	16	µg/L	TTA	Criterion; Maximum	Great Lakes	USEPA 1992
	FW	16	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	FW	16	µg/L	TTA	Criterion; Acute	United States	USEPA 1993
	FW	16	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	32.04	µg/L	TTA	Criterion; Final Acute Value	Great Lakes	USEPA 1992
Chromium (VI; dissolved)	FW	10.0	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	10	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	10	µg/L		Regulation; Chronic Criterion at Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	FW	11	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	11	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	11	µg/L		Criterion; Continuous (over 4 days); Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	11	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	15.0	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; At low salinity this may not be sufficient	Washington	Washington State 1997
	FW	15	µg/L		Regulation; Acute Criterion at Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	FW	15	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	16	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	16	µg/L		Criterion; Maximum	United States	USEPA 1998a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chromium (VI; dissolved; cont.)	FW	16	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	16	µg/L		Standard; Acute	New York State	NYSDEC 1998
Chrysene (dissolved)	FW	0.0034	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Chrysene (total)	FW	0.0060	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Cobalt	FW	0.4	µg/L	TTA	Proposed Guideline; Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	5	µg/L		Standard; Chronic; Applies to acid-soluble form; Aquaculture	New York State	NYSDEC 1998
	FW	5	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	110	µg/L		Guidance value; Acute; Applies to acid-soluble form	New York State	NYSDEC 1998
Cobalt (total)	FW	50	µg/L	TTA	Lowest reported level causing effects	British Columbia	Nagpal et al. 1995
Coliforms (total)	FW	50	MPN/100mL		Standard; Rivers Class AA; Lakes Class AA	Japan	JWQB 1998
	FW	100	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 500 MPN/100mL; Class A	Rhode Island	RIDEM 1997
	FW	1000	MPN/100mL		Standard; Rivers Class A; Lakes Class A	Japan	JWQB 1998
	FW	1000	MPN/100mL		Criterion; Maximum geometric mean; With no more than 20% of samples exceeding 2400 MPN/100mL; Class B and B1	Rhode Island	RIDEM 1997
	FW	5000	MPN/100mL		Standard; Rivers Class B	Japan	JWQB 1998
Colour	FW	50	colour units		Standard; Maximum; Or the natural condition; Aquaculture	Alaska	ADEC 1998a
	FW/SW	50	colour units		Standard; Maximum; Or the natural condition; For all waters without a seasonally established norm for aquatic life; Aquaculture	Alaska	ADEC 1998a
	FW/SW	Narrative			Standard; Color or apparent color may not reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonally established norm for aquatic life	Alaska	ADEC 1998a
Copper	FW	0.5	µg/L		Proposed guideline; Hardness > 20 mg/L CaCO3	Ontario	Environment Ontario 1989
	FW	1	µg/L	TTA	Proposed Provincial Water Quality Objective; At hardness <=20 mg/L	Ontario	OMEE 1994
	FW	2	µg/L		Guideline; At [CaCO3]=0-120 mg/L	Canada	Environment Canada 1999
	FW	2	µg/L		Guideline; At [CaCO3]=0-120 mg/L	Nova Scotia	NSDOE 1998
	FW	3	µg/L		Guideline; At [CaCO3]=120-180 mg/L	Nova Scotia	NSDOE 1998
	FW	3	µg/L		Guideline; At [CaCO3]=120-180 mg/L	Canada	Environment Canada 1999
	FW	4	µg/L		Guideline; At [CaCO3]>180 mg/L	Canada	Environment Canada 1999
	FW	4	µg/L		Guideline; At [CaCO3]>180 mg/L	Nova Scotia	NSDOE 1998
	FW	5	µg/L	TTA	Provincial Water Quality Objective; At hardness >20 mg/L CaCO3	Ontario	OMEE 1994

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Copper (cont.)	FW	5.16	µg/L	TTA	Criterion; Final Chronic Value; Toxicity is hardness related. The criterion is at a hardness of 5000 µg/L CaCO3	Great Lakes	USEPA 1992
	FW	7.3	µg/L	TTA	Criterion; Maximum; Toxicity is hardness related. The criterion is at a hardness of 5000 µg/L CaCO3	Great Lakes	USEPA 1992
	FW	12	µg/L	TTA	Criterion; Chronic; Hardness dependent; Used 100 mg/L CaCO3	United States	USEPA 1993
	FW	12	µg/L		Criterion; For ambient surface waters; Chronic toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	12	µg/L		Criterion; Chronic; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	14.57	µg/L	TTA	Criterion; Final Acute Value; Toxicity is hardness related. The criterion is at a hardness of 50000 µg/L CaCO3	Great Lakes	USEPA 1992
	FW	18	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	18	µg/L		Criterion; Acute; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	18	µg/L	TTA	Criterion; Acute; Hardness dependent; 100 mg/L CaCO3 used	United States	USEPA 1993
	FW	Equation	µg/L		Criterion = 0.2e[0.8545(ln hardness)-1.465]; Chronic	Quebec	MDEQ 1996
	FW	Equation	µg/L		Objective; Acid-soluble; = e[0.8545 (ln hardness) -1.465] where hardness is expressed as mg/L CaCO3; For cool and cold water	Manitoba	Williamson 1988
	FW	Equation	µg/L		Criterion = e[0.9422(ln hardness)-1.464]; Acute	Delaware	DDNREC 1993
	FW	Equation	µg/L		Criterion = e[0.9422(ln hardness)-1.464]; Acute	Quebec	MDEQ 1996
	FW	Equation	µg/L		Criterion = e[0.8545(ln hardness)-1.465]; Chronic	Delaware	DDNREC 1993
Copper (dissolved)	FW	1.3	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	3.5	µg/L		Regulation; Chronic Criterion at Water Effect Ratio of 1.0; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	4.6	µg/L		Regulation; Acute Criterion at Water Effect Ratio of 1.0; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	9.0	µg/L		Criterion; Continuous (over 4 days); At hardness = 100 mg/L; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	9.0	µg/L		Criterion; Continuous; At hardness = 100 mg/L; Water effect ratios may	United States	USEPA 1998a
	FW	12	µg/L		Standard; Chronic Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[0.8545(ln(hardness))-1.465]	Virginia	COV 1997
	FW	13	µg/L		Criterion; Maximum; At hardness = 100 mg/L; Water effect ratios may apply	United States	USEPA 1998a
	FW	13	µg/L		Criterion; Maximum; At hardness = 100 mg/L; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	18	µg/L		Standard; Acute Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[0.9422(ln(hardness))-1.464]	Virginia	COV 1997
	FW	Equation	µg/L		Criterion = 0.96 x e[0.9422(ln hardness)+(-1.464)]; Acute	Rhode Island	RIDEM 1997

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Copper (dissolved; cont.)	FW	Equation	µg/L		Standard; Chronic value = (0.96)exp(0.8545[ln(ppm hardness)]-1.702); Aquaculture	New York State	NYSDEC 1998
	FW	Equation	µg/L		Criterion = 0.96 x e[0.8545(ln hardness)+(-1.465)]; Chronic	Rhode Island	RIDEM 1997
	FW	Equation	µg/L		Standard; Acute value = (0.96)exp(0.9422[ln(ppm hardness)]-1.7)	New York State	NYSDEC 1998
	FW	Equation	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; <=(0.960)e(0.9422[ln(hardness)]-1.464)	Washington	Washington State 1997
	FW	Equation	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; <=(0.960)e(0.8545[ln(hardness)]-1.465)	Washington	Washington State 1997
Copper (total)	FW	<=0.04	µg/L	TTA	Criterion; 30-day average; When average water hardness is >50 mg/L CaCO3	British Columbia	BCMOELP 1998
	FW	<=2	µg/L	TTA	Criterion; 30-day average; When average water hardness is <= 50 mg/L	British Columbia	BCMOELP 1998
	FW	2.0–5.0	µg/L		Guideline; Hardness dependent	Australia	ANZECC 1992
	FW	3.1	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	4	µg/L		Provisional Objective; Maximum when hardness <= 35 mg/L for North, Middle, and Main Arms of the Fraser River; or 3 µg/L average, or 20 % maximum increase, whichever is greater	British Columbia	Swain and Holms 1985
	FW	6	µg/L		Provisional Objective; Maximum when hardness > 35 mg/L for North, Middle, and Main Arms of the Fraser River; or 4 µg/L average, or 20 % maximum increase, whichever is greater	British Columbia	Swain and Holms 1985
	FW	10	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	20	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	40	µg/L		Guide level for salmonid and cyprinid waters, dissolved, water hardness of 100 mg/L CaCO3	Europe	CEC 1988
	FW	Equation	µg/L		Criterion; Maximum; Where water hardness is reported as mg/L CaCO3; Value = 0.094(hardness)+2	British Columbia	BCMOELP 1998
	FW	Equation	µg/L		Guideline; Coldwater, = e[0.94 (ln hardness) - 1.3]; Where hardness is expressed as mg/L CaCO3; Chronic value	Michigan	MDNR 1989
Coumaphos (dissolved)	FW	0.002	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Coumaphos (total)	FW	0.002	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Cresol, o-	FW	38	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Cresol, p-	FW	6.2	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Cumene	FW	2.6	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	23	µg/L		Standard; Acute	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Cyanazine	FW	2.0	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	2.0	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	2	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
Cyanide	FW/EST	3	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	<=5	µg/L	TTA	Criterion;30-day average; Weak-acid dissociable CN	British Columbia	BCMOELP 1998
	FW/SW	5.0	µg/L		Guideline; Free cyanide	Australia	ANZECC 1992
	FW	5	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	5	µg/L		Guideline; As free	Nova Scotia	NSDOE 1998
	FW	5	µg/L		Water Quality Objective; 30-day average; Weak-acid dissociable cyanide	Similkameen River Basin,	Zeman 1990
	FW	5	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	5	µg/L		Guideline; As free	Canada	Environment Canada 1999
	FW	5.2	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	5.2	µg/L		Criterion; Apply only in those waters designated as recreational and natural trout waters, and public water supply; Chronic toxicity	Maryland	MDOE 1997
	FW	5.2	µg/L	TTA	Criterion; Chronic	United States	USEPA 1993
	FW	5.2	µg/L		Criterion; Continuous (over 4 days); Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	5.2	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	5.2	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	5.2	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	5.2	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	5.2	µg/L		Standard; Chronic; As free cyanide; Aquaculture	New York State	NYSDEC 1998
	FW	5.2	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	5.2	µg/L		Criterion; Continuous; Free cyanide	United States	USEPA 1998a
	FW	5.221	µg/L	TTA	Criterion; Final Chronic Value (free cyanide)	Great Lakes	USEPA 1992
	FW	7.3	µg/L		Criterion; Apply in those waters NOT designated as recreational and natural trout waters, and public water supply; Chronic toxicity	Maryland	MDOE 1997
	FW	10	µg/L		Water Quality Objective; Maximum; Weak-acid dissociable cyanide	Similkameen River Basin,	Zeman 1990
	FW	10	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	10	µg/L	TTA	Criterion; Maximum; Weak-acid dissociable CN	British Columbia	BCMOELP 1998
	FW	22.0	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	22	µg/L	TTA	Criterion; Maximum (free cyanide)	Great Lakes	USEPA 1992
	FW	22	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	22	µg/L		Standard; Acute; As free cyanide	New York State	NYSDEC 1998
	FW	22	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Cyanide (cont.)	FW	22	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	22	µg/L		Criterion; Apply only in those waters designated as recreational and natural trout waters, and public water supply; Acute toxicity	Maryland	MDOE 1997
	FW	22	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	22	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	22	µg/L		Criterion; Maximum; Free cyanide	United States	USEPA 1998a
	FW	22	µg/L	TTA	Criterion; Acute	United States	USEPA 1993
	FW	22	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	22	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	31.3	µg/L		Criterion; Apply in those waters NOT designated as recreational and natural trout waters, and public water supply; Acute toxicity	Maryland	MDOE 1997
	FW	44.73	µg/L	TTA	Criterion; Final Acute Value (free cyanide)	Great Lakes	USEPA 1992
Cyanides	FW	5.2	µg/L		Objective; Maximum; Free, sum of HCN and CN - expressed as CN	Manitoba	Williamson 1988
Cypermethrin (dissolved)	FW	0.005	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Cypermethrin (total)	FW	0.01	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
D, 2,4-	FW	4	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	4	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	4.0	µg/L		Objective; Unfiltered sample	Ontario	Environment Ontario 1989
	FW	47	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
D, 2,4- (dissolved)	FW	11	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
D, 2,4- (total)	FW	11	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dieldrin	FW	0.0000315	µg/L		Guideline; Cancer risk value	Michigan	MDNR 1989
DDD	FW	0.06	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	0.06	µg/L		Criterion; Acute; Based on Lowest Observed Effect Level	United States	USEPA 1990
	FW	0.06	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	0.55	µg/L		Criterion; Acute	Quebec	MDEQ 1996
DDE	FW/SW	0.014	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.55	µg/L		Criterion; Acute	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
DDE (cont.)	FW	1050	µg/L		Criterion; Acute; Based on Lowest Observed Effect Level	United States	USEPA 1990
	FW	1050	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	1050	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
DDT	FW	0.0010	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.001	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW	0.001	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.001	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.001	µg/L		Criterion; Continuous	California	USEPA 1997c
	FW	0.001	µg/L		Criterion; Chronic; Maximum 24-hour average; And metabolites	Washington	Washington State 1997
	FW	0.001	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW/SW	0.001	µg/L		Guideline	Australia	ANZECC 1992
	FW	1.1	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	1.1	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	FW	1.1	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	1.1	µg/L		Criterion; Maximum	California	USEPA 1997c
	FW	1.1	µg/L		Criterion; Acute; Maximum; Instantaneous; And metabolites	Washington	Washington State 1997
	FW	1.1	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	1.1	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	10	µg/L		Isomer para-para-DDT; The concentration in the aquatic environment must not increase significantly with time	Europe	CEC 1988
DDT and metabolites	FW	0.0010	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.003	µg/L		Objective; Unfiltered sample	Ontario	Environment Ontario 1989
	FW	0.55	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	1.1	µg/L		Criterion; Acute	Delaware	DDNREC 1993
DDTs	FW/EST	0.001	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
DDTs (sum)	FW	0.00013	µg/L		Guideline; Cancer risk value	Michigan	MDNR 1989
	FW	0.001	µg/L		Criterion; Chronic	United States	USEPA 1990
	FW	1.1	µg/L		Criterion; Acute	United States	USEPA 1990
	FW	25	µg/L		The concentration in the aquatic environment must not increase significantly with time	Europe	CEC 1988
DDTs (total dissolved)	FW	0.0003	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
DDTs (total)	FW	0.0010	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
DDTs (total; cont.)	FW	0.001	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	0.003	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
Deltamethrin	FW	0.0004	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	0.0004	µg/L		Guideline	Canada	Environment Canada 1999
	FW	0.0004	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Deltamethrin (dissolved)	FW	0.0013	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Deltamethrin (total)	FW	0.009	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Demeton	FW/SW	0.100	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.10	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.1	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.1	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	0.1	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.1	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.1	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.1	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
Demeton (dissolved)	FW	0.35	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Demeton (total)	FW	0.35	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Diazinon	FW	0.002	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.08	µg/L		Standard	New York State	NYSDEC 1998
	FW	0.08	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
Diazinon (dissolved)	FW	0.03	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Diazinon (total)	FW	0.03	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dibenzanthracene, 1,2:5,6-	FW	0.0018	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
(dissolved)	FW	0.005	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dibromo-3-nitrilopropionamide, 2,2-	FW	4.4	µg/L		Criterion; Chronic	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dibromo-3-nitrilopropionamide, 2,2-	FW	20	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
and Dibromoacetonitrile	FW	50	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
Dicamba	FW	10	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	10	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	10	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	200	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	200	µg/L		Objective; Unfiltered sample	Ontario	Environment Ontario 1989
Dichloro-6-methylphenol, 2,4-	FW	0.48	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.96	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	22	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	22	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Dichlorobenzene, m-	FW	2.5	µg/L		Guideline	Australia	ANZECC 1992
	FW	2.5	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	8.7	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	150	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	150	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	150	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	390	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	763	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	1120	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichlorobenzene, o-	FW	0.7	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	0.7	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	1.8	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	2.5	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	2.5	µg/L		Guideline	Australia	ANZECC 1992
	FW	79	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	763	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	1120	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichlorobenzene, p-	FW	1.2	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	4.0	µg/L		Guideline	Australia	ANZECC 1992
	FW	4	µg/L	TTA	Guideline; Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	26	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	26	µg/L		Interim Guideline	Canada	Environment Canada 1999

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichlorobenzene, p- (cont.)	FW	26	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	56	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	110	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	763	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	1120	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichlorobenzenes	FW	0.7	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	5	µg/L		Standard; Chronic; Aquaculture; Applies to the sum of 1,2-, 1,3-, and 1,4-Dichlorobenzene	New York State	NYSDEC 1998
	FW	160	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	763	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	763	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	763	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	1120	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	1120	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	1120	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Dichlorobenzenes (dissolved)	FW	2.1	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dichlorobenzenes (total)	FW	2.2	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dichlorobenzidine, 3,3'- (dissolved)	FW	0.075	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dichlorobenzidine, 3,3'- (total)	FW	0.075	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dichlorodifluoromethane	FW	11000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichloroethyl Ether, sym-	FW	0.31	µg/L		Criterion; For the consumption of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	14	µg/L		Criterion; For the consumption of fish only; Class A	Rhode Island	RIDEM 1997
	FW	238000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichloroethylene, 1,2- (cis)	FW	200	µg/L	TTA	Guideline; Provincial Water Quality	Ontario	OMEE 1994
Dichloroethylene, 1,2- (trans)	FW	200	µg/L	TTA	Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	300	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	11600	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichloroethylenes	FW	11600	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichloroethylenes (cont.)	FW	11600	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	FW	11600	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	11600	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
Dichloroisopropyl Ether, Bis-2,	FW	1400	µg/L		Criterion; For the consumption of fish and water; Class A	Rhode Island	RIDEM 1997
	FW/SW	170000	µg/L		Criterion; For the consumption of fish only; Class A	Rhode Island	RIDEM 1997
Dichloromethyl Ether, sym-	FW	238000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichlorophenol, 2,3-	FW	0.20	µg/L	TTA	Criterion; Interim	British Columbia	Nagpal et al. 1995
	FW/SW	5.1	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Dichlorophenol, 2,4-	FW	0.2	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.30	µg/L	TTA	Criterion; Interim	British Columbia	Nagpal et al. 1995
	FW	2.2	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW/SW	2.6	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
	FW	6.2	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	101	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	140	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW/EST	200.0	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	365	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	365	µg/L		Criterion; Chronic; Based on Lowest Observed Effect Level	United States	USEPA 1990
	FW	365	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	2020	µg/L		Criterion; Acute; Based on Lowest Observed Effect Level	United States	USEPA 1990
	FW	2020	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	2020	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	Equation	µg/L		Guideline; Chronic value, = e[0.3589pH + 0.7595]	Michigan	MDNR 1989
Dichlorophenol, 2,5-	FW	0.30	µg/L	TTA	Criterion; Interim	British Columbia	Nagpal et al. 1995
	FW/SW	2.3	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Dichlorophenol, 2,6-	FW	0.30	µg/L	TTA	Criterion; Interim; PH<7.9	British Columbia	Nagpal et al. 1995
	FW	0.90	µg/L	TTA	Criterion; Interim; PH >= 7.9	British Columbia	Nagpal et al. 1995
	FW/SW	9.1	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichlorophenol, 3,4-	FW	0.20	µg/L	TTA	Criterion; Interim	British Columbia	Nagpal et al. 1995
	FW/SW	2.7	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Dichlorophenol, 3,5-	FW	0.12	µg/L	TTA	Criterion; Interim; PH< 8.1	British Columbia	Nagpal et al. 1995
	FW	0.35	µg/L	TTA	Criterion; Interim; PH >= 8.1	British Columbia	Nagpal et al. 1995
	FW/SW	2.0	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Dichlorophenols	FW	0.2	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	0.2	µg/L		Guideline	Canada	Environment Canada 1999
	FW	0.2	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	0.2	µg/L		Objective; All isomers	Ontario	Environment Ontario 1989
Dichlorophenols (dissolved)	FW	0.08	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dichlorophenols (total)	FW	0.08	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dichloropropane	FW	26	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	1150	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	5700	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	FW	5700	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	23000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Dichloropropane, 1,3-	FW	6.7	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	260	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	303	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	5900	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Dichloropropene	FW	224	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	FW	244	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	6060	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Dichloropropene, 1,3-	FW	3	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	10	µg/L		Criterion; For the consumption of fish and water; Class A	Rhode Island	RIDEM 1997
	FW	244	µg/L		Criterion; For the consumption of fish only; Class A	New Hampshire	NHDES 1996
	FW/SW	1700	µg/L		Criterion; For the consumption of fish only; Class A	Rhode Island	RIDEM 1997
	FW	6060	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichloropropene, 1,3- (dissolved)	FW	1.2	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dichloropropene, 1,3- (total)	FW	1.2	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dichlorvos (dissolved)	FW	0.002	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dichlorvos (total)	FW	0.002	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Diclofop-Methyl	FW	6.1	µg/L		Guideline	Canada	Environment Canada 1999
	FW	6.1	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	6.1	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Didecyldimethylammonium Chloride	FW	1.5	µg/L		Guideline	Canada	Environment Canada 1999
	FW	1.5	µg/L		Guideline	Nova Scotia	NSDOE 1998
Dieldrin	FW	0.0019	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.0019	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.0019	µg/L		Criterion; Chronic	United States	USEPA 1990
	FW	0.0019	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	0.0019	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.0019	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW	0.0019	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.0019	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW/EST	0.0019	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW/SW	0.002	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.056	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	0.056	µg/L		Criterion; Continuous	California	USEPA 1997c
	FW	0.056	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.056	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.0561	µg/L	TTA	Criterion; Final Chronic Value	Great Lakes	USEPA 1992
	FW	0.24	µg/L	TTA	Criterion; Maximum	Great Lakes	USEPA 1992
	FW	0.24	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	0.24	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	0.24	µg/L		Criterion; Maximum	California	USEPA 1997c
	FW	0.24	µg/L		Standard; Acute	New York State	NYSDEC 1998
	FW	0.4781	µg/L	TTA	Criterion; Final Acute Value	Great Lakes	USEPA 1992
	FW	2.5	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	2.5	µg/L		Criterion; Acute	United States	USEPA 1990

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dieldrin (cont.)	FW	2.5	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	2.5	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	FW	2.5	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	2.5	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	2.5	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Diethyl Phthalate	FW	58	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	120	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	2600	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	2605	µg/L		Acute Criterion	Rhode Island	USEPA 1988a
	FW	2605	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	4910.0	µg/L		Criterion	Oklahoma	USEPA 1988a
Dimethoate	FW	6.2	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	6.2	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	6.2	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Dimethyl Phthalate	FW	3	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	37	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	73	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	940	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	1650	µg/L		Acute Criterion	Rhode Island	USEPA 1988a
	FW	1650	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	1700	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	2475.0	µg/L		Criterion	Oklahoma	USEPA 1988a
Dimethylnaphthalene, 1,3-	FW	0.09	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
Dimethylnaphthalene, 2,6-	FW	0.02	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
Dimethylphenol, 2,4-	FW	2.4	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	4.7	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	10.5	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	106	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	110	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW/EST	200.0	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	530	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	1300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dimethylphenol, 2,4- (cont.)	FW	2120	µg/L		Criterion; Acute; Based on Lowest Observed Effect Level	United States	USEPA 1990
	FW	2120	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Dimethylphenol, 2,6-	FW	8.4	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
Dimethylphenol, 3,4-	FW	17.5	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
Di-n-butyl phthalate	FW	4.0	µg/L		Guideline	Australia	ANZECC 1992
Dinitrobenzene, m-	FW	1	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	16	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	350	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Dinitrobenzene, o-	FW	1	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
Dinitrobenzene, p-	FW	2	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
Dinitrocresol	FW	0.2	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	0.29	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	6.6	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	150	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	230	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dinitrocresol (dissolved)	FW	0.30	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dinitrocresol (total)	FW	0.30	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dinitrocresol, 2,4-	FW	150	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	230	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dinitrophenol, 2,4-	FW	0.69	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	1.7	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	31	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	39	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	150	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	230	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dinitrophenols	FW	150	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dinitrophenols (cont.)	FW	230	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dinitrotoluene	FW	230	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	330	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Dinitrotoluene, 2,3-	FW	0.37	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.73	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	17	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	17	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Dinitrotoluene, 2,4-	FW	4	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	20	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	34	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	230	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	330	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	1200	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	1550	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
Dinitrotoluene, 2,5-	FW	2.9	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	65	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Dinitrotoluene, 2,6-	FW	3	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	41	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	230	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	330	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	930	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Dinitrotoluene, 3,4-	FW	3.3	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	75	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Dinitrotoluene, 3,5-	FW	47	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1100	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Dinitrotoluenes	FW	230	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	330	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dinoseb	FW	0.05	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	0.05	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dinoseb (cont.)	FW	0.05	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.05	µg/L		Guideline	Canada	Environment Canada 1999
Dinoseb (dissolved)	FW	0.023	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Dinoseb (total)	FW	0.023	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Diphenylhydrazine, 1,2-	FW	0.31	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.56	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	13	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	14	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	270	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	270	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Diquat	FW	0.5	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.5	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Dissolved Oxygen	FW	2	mg/L		Standard; Rivers Class E; Lakes Class C	Japan	JWQB 1998
	FW	3	mg/L		Standard; For Class C; At any time unless background is lower, and 5000 µg/L minimum during 16 of 24 hours	Massachusetts	COM 1996
	FW	4	mg/L		Standard; Minimum; Nontidal water	Virginia	COV 1997
	FW	4	mg/L		Standard; Minimum; Mountainous	Virginia	COV 1997
	FW/EST	4	mg/L		Standard; Lower value	District of Columbia	USEPA 1988d
	FW/SW	4	mg/L		Standard; Lower value; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters	Delaware	USEPA 1988c
	FW	4	mg/L		Minimum; Imperative for cyprinid waters; 100% of samples (7 mg/L for 50% of samples); Monthly sampling	Europe	CEC 1988
	FW	4.0–7.0	mg/L		Objective; Temperature dependent; For warm water biota	Ontario	Environment Ontario 1984
	FW	5	mg/L		Interim Guideline; Minimum at any time	Alberta	AEP 1997
	FW	5	mg/L		Guideline; For warm-water biota; Life stages other than early	Canada	Environment Canada 1999
	FW	5	mg/L		Standard; For Class B; Minimum in warm water fisheries	Massachusetts	COM 1996
	FW	5	mg/L		Guideline; For warm-water biota; Life stages other than early	Nova Scotia	NSDOE 1998
	FW	5	mg/L		Standard; Minimum; For waters not used by anadromous or resident fish	Alaska	ADEC 1998a
	FW	5	mg/L		Standard; Rivers Class B and C; Lakes Class B	Japan	JWQB 1998
	FW	5	mg/L		Minimum; Guide level for cyprinid waters; 100% of samples (8 mg/L for 50% of samples); Monthly sampling	Europe	CEC 1988
	FW	5	mg/L		Objective; Minimum; protection of life stages of warm water biota other than early life stages	Saskatchewan	SDEPS1988

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dissolved Oxygen (cont.)	FW	5	mg/L		Standard; Minimum; For waters used by anadromous and resident fish, to a depth of 20 cm in interstitial waters of gravel utilized for spawning	Alaska	ADEC 1998a
	FW	5	mg/L		Criterion; Instantaneous Minimum; Warm and cold water; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW	5	mg/L		Standard; Daily average; Mountainous	Virginia	COV 1997
	FW	5	mg/L		Criterion; 1 day Minimum for intergravel oxygen of spawning salmonid	Idaho	IDH&W 1998
	FW	5	mg/L		Standard; Daily average; Nontidal water	Virginia	COV 1997
	FW	5	mg/L		Criterion; Lower value for warm water biota except for lakes and reservoirs	Idaho	IDH&W 1998
	FW	5	mg/L		Standard; Lower value for B-3 and C-3 Classifications	Montana	USEPA 1988e
	FW	5	mg/L		Standard; Minimum; Stockable trout waters	Virginia	COV 1997
	FW	5	mg/L		Regulation; Lower value; Lakes, ponds, impoundments and reservoirs	New Hampshire	NHDES 1996
	FW	5	mg/L		Standard; Lower value; Class C	Maine	USEPA 1988g
	FW/EST/SW	5	mg/L		Criterion; Instantaneous minimum concentration; For all life stage other than buried embryo/alevins	British Columbia	BCMOELP 1998
	FW/SW	5	mg/L		Regulation; Lower value; Based on daily average and an instantaneous minimum; Class B waters (See reference)	New Hampshire	NHDES 1996
	FW/SW	5	mg/L		Criterion; Minimum at any time; Use III and IV waters - Natural and recreational trout waters	Maryland	MDOE 1997
	FW/SW	5	mg/L		Criterion; Minimum at any time; Use I waters	Maryland	MDOE 1997
	FW	5.0–8.0	mg/L		Objective; Temperature dependent; For cold water biota	Ontario	Environment Ontario 1984
	FW	6	mg/L		Minimum; Imperative for salmonid waters; 100% of samples (9 mg/L for 50% of samples); Monthly sampling	Europe	CEC 1988
	FW	6	mg/L		Standard; For Class B; Minimum in cold water fisheries	Massachusetts	COM 1996
	FW	6	mg/L		Objective; Minimum; protection of early life stages of warm water biota	Saskatchewan	SDEPS1988
	FW	6	mg/L		Guideline; For warm-water biota; Early life stages	Canada	Environment Canada 1999
	FW	6	mg/L		Guideline; For warm-water biota; Early life stages	Nova Scotia	NSDOE 1998
	FW	6	mg/L		Standard; For Class A; Minimum unless background is lower	Massachusetts	COM 1996
	FW	6	mg/L		Standard; Minimum; Natural trout waters	Virginia	COV 1997
	FW	6	mg/L		Standard; Daily average; Stockable trout waters	Virginia	COV 1997
	FW	6	mg/L		Criterion; Lower value for cold water biota	Idaho	IDH&W 1998
	FW	6	mg/L		Criterion; 7 day mean minimum for Intergravel Oxygen Spawning Salmonid	Idaho	IDH&W 1998
	FW	6	mg/L		Criterion; 1 day minimum for Water-Column of Spawning Salmon; Or 90%, whichever is greater	Idaho	IDH&W 1998
	FW/SW	6	mg/L		Guideline; Minimum (>80-90% saturation)	Australia	ANZECC 1992
	FW/SW	6	mg/L		Criterion; Minimum daily average; Use III and IV waters; Natural and recreational trout waters	Maryland	MDOE 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dissolved Oxygen (cont.)	FW/SW	6	mg/L		Regulation; Lower value for not less than 16 hours per day or at any place or time except as naturally occurs; Class A waters (See reference)	New Hampshire	NHDES 1996
	FW/EST/SW	6	mg/L		Criterion; Instantaneous minimum concentration; For buried embryo/alevins in interstitial water	British Columbia	BCMOELP 1998
	FW	6.5	mg/L		Guideline; For cold-water biota; Life stages other than early	Nova Scotia	NSDOE 1998
	FW	6.5	mg/L		Guideline; For cold-water biota; Life stages other than early	Canada	Environment Canada 1999
	FW	6.5	mg/L		Objective; Minimum; protection of life stages of cold water biota other than early life stages	Saskatchewan	SDEPS1988
	FW	6.5	mg/L		Standard; Minimum; Class B (good)	Washington	Washington State 1997
	FW	7	mg/L		Standard; Lower value; Class A	Maine	USEPA 1988g
	FW	7	mg/L		Standard; Lower value for A-1, B-1 and C-1 Classification	Montana	USEPA 1988e
	FW	7	mg/L		Standard; Lower value for B-2 and C-2 Classifications	Montana	USEPA 1988e
	FW	7	mg/L		Standard; Daily average; Natural trout waters	Virginia	COV 1997
	FW	7	mg/L		Standard; Lower value; Class B	Maine	USEPA 1988g
	FW	7	mg/L		Standard; Minimum; For anadromous and resident fish; Aquaculture; May not exceed 110 % of sat. at any point of sample collection	Alaska	ADEC 1998a
	FW	7	mg/L		Guide level for salmonid waters; Minimum; 100% of samples (9 mg/L for 50% of samples); Monthly sampling	Europe	CEC 1988
	FW	7.5	mg/L		Standard; Rivers Class AA and A; Lakes Class AA and A	Japan	JWQB 1998
	FW	7.75	mg/L		Provisional Objective; Minimum for Fraser River	British Columbia	Swain and Holms 1985
	FW	8	mg/L		Standard; Minimum; Class A (excellent)	Washington	Washington State 1997
	FW/EST/SW	8	mg/L		Criterion; 30-day average concentration; For buried embryo/alevins in interstitial water	British Columbia	BCMOELP 1998
	FW/EST/SW	8	mg/L		Criterion; 30-day average concentration; For all life stages other than buried embryo/alevins	British Columbia	BCMOELP 1998
	FW/EST/SW	9	mg/L		Criterion; Instantaneous minimum concentration in water column; For buried embryo/alevins	British Columbia	BCMOELP 1998
	FW	9.5	mg/L		Guideline; For cold-water biota; Early life stages	Nova Scotia	NSDOE 1998
	FW	9.5	mg/L		Minimum; Protection of early life stages of cold water biota	Saskatchewan	SDEPS1988
	FW	9.5	mg/L		Standard; Minimum; Class AA (extraordinary)	Washington	Washington State 1997
	FW	9.5	mg/L		Guideline; For cold-water biota; Early life stages	Canada	Environment Canada 1999
	FW/EST/SW	11	mg/L		Criterion; 30-day average concentration; For buried embryo/alevins in the water column	British Columbia	BCMOELP 1998
	FW/SW	17	mg/L		Standard; Maximum	Alaska	ADEC 1998a
	FW	47	%		Objective; Instantaneous minimum; For cool water	Manitoba	Williamson 1988
	FW	60	%		Objective; Instantaneous minimum, For cold water	Manitoba	Williamson 1988
	FW	60	%		Criterion; Minimum saturation; Based on a daily average; Warm water; Class A, B, B1, and C	Rhode Island	RIDEM 1997

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dissolved Oxygen (cont.)	FW	75	%		Criterion; Minimum saturation; Based on a daily average; Cold water; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW	110	%		Standard; Maximum; At any point of sample collection	Alaska	ADEC 1998a
	FW	Narrative			Objective; In some hypolimnetic waters, DO is naturally lower than the specified concentrations. Such a condition should not be altered by adding oxygen demanding materials causing a depletion of DO	Ontario	Environment Ontario 1984
	FW-Lakes	Narrative			Standard; No measurable decrease from natural conditions; Lake Class	Washington	Washington State 1997
Disulfoton (dissolved)	FW	1.3	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Disulfoton (total)	FW	1.3	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Diuron	FW	1.6	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	1.6	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Endosulfan	FW	0.003	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.009	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW/EST	0.01	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW/SW	0.010	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.02	µg/L		Guideline	Canada	Environment Canada 1999
	FW	0.02	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	0.02	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.056	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.056	µg/L		Criterion; Chronic; Maximum 24-hour average	Washington	Washington State 1997
	FW	0.056	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.056	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.11	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	0.22	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	0.22	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	0.22	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	0.22	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997
	FW	0.22	µg/L		Standard; Acute	New York State	NYSDEC 1998
Endosulfan-alpha	FW	0.056	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.056	µg/L		Criterion; Continuous	California	USEPA 1997c
	FW	0.056	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.056	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.22	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Endosulfan-alpha (cont.)	FW	0.22	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	0.22	µg/L		Criterion; Maximum	California	USEPA 1997c
	FW	0.22	µg/L		Criterion; Maximum	United States	USEPA 1998a
Endosulfan-alpha + Endosulfan-alpha Sulphate (dissolved)	FW	0.013	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Endosulfan-alpha + Endosulfan-alpha Sulphate (total)	FW	0.014	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Endosulfan-beta	FW	0.056	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.056	µg/L		Criterion; Continuous	California	USEPA 1997c
	FW	0.056	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.056	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.22	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	0.22	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	0.22	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	0.22	µg/L		Criterion; Maximum	California	USEPA 1997c
Endrin	FW	0.002	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.0023	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.0023	µg/L		Criterion; Chronic; Maximum 24-hour average	Washington	Washington State 1997
	FW	0.0023	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.0023	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.0023	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.0023	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW	0.0023	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW/EST	0.0023	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW/SW	0.003	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.036	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.036	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	0.036	µg/L		Criterion; Continuous	California	USEPA 1997c
	FW	0.036	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.0373	µg/L	TTA	Criterion; Final Chronic Value	Great Lakes	USEPA 1992
	FW	0.086	µg/L		Standard; Acute	New York State	NYSDEC 1998
	FW	0.086	µg/L		Criterion; Maximum	California	USEPA 1997c
	FW	0.086	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	0.086	µg/L		Criterion; Maximum	United States	USEPA 1998a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Endrin (cont.)	FW	0.09	µg/L	TTA	Criterion; Maximum	Great Lakes	USEPA 1992
	FW	0.1792	µg/L	TTA	Criterion; Final Acute Value	Great Lakes	USEPA 1992
	FW	0.18	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	FW	0.18	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	0.18	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	0.18	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	0.18	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997
	FW	0.18	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	0.18	µg/L		Criterion; Acute	Oregon	ODEQ 1996
Endrin + Isodrin (dissolved)	FW	0.0044	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Endrin + Isodrin (total)	FW	0.0072	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Enterococci	FW/SW	<=4	Colonies/100mL		Criterion; Median; For shellfish harvesting	British Columbia	BCMOELP 1998
	FW/SW	<=11	Colonies/100mL		Criterion; 90th Percentile; For shellfish harvesting	British Columbia	BCMOELP 1998
Escherichia coli	FW/SW	<=14	Colonies/100mL		Criterion; Median; Shellfish harvesting	British Columbia	BCMOELP 1998
	FW/SW	<=43	Colonies/100mL		Criterion; 90th Percentile; Shellfish harvesting	British Columbia	BCMOELP 1998
Ethyl Alcohol	FW	44000	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1000000	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Ethyl Parathion	FW	0.02	µg/L	TTA	Ecotoxicological value; Total	Netherlands	Stortelder et al. 1989
	FW	0.02	µg/L	TTA	Ecotoxicological value; Dissolved	Netherlands	Stortelder et al. 1989
Ethylbenzene	FW	8	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	17	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	36	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	90	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	90	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	90	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	140	µg/L		Guideline	Australia	ANZECC 1992
	FW	150	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	FW	420	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	1600	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	32000	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	32000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ethylbenzene (cont.)	FW	32000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Ethylbenzene (dissolved)	FW	11	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Ethylbenzene (total)	FW	11	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Ethylene Dichloride	FW	100	µg/L	TTA	Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	100	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	100	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	100	µg/L	TTA	Criterion; Interim maximum	British Columbia	Nagpal et al. 1995
	FW	100	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	131	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	5900	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	12000	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	20000	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	FW	20000	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	20000	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	20000	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	118000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	118000	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	118000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Ethylene Dichloride (dissolved)	FW	103	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Ethylene Dichloride (total)	FW	103	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Ethylene Glycol	FW	192000	µg/L		Guideline	Canada	Environment Canada 1999
	FW	192000	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	192000	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	500000	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	1000000	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
Ethylidene Chloride	FW	200	µg/L	TTA	Guideline; Provincial Water Quality	Ontario	OMEE 1994
Fecal Coliforms	FW/SW	<=14	FC/100mL		Criterion; Median; For shellfish harvesting	British Columbia	BCMOELP 1998
	FW	20	FC/100mL		Standard; For Class A; At any time, and 10% of all samples: Maximum = 100 FC/100mL	Massachusetts	COM 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fecal Coliforms (cont.)	FW	20	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 200 MPN/100mL; Class A	Rhode Island	RIDEM 1997
	FW/SW	<=43	FC/100mL		Criterion; 90th Percentile; For shellfish harvesting	British Columbia	BCMOELP 1998
	FW	50	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Class AA (extraordinary)	Washington	Washington State 1997
	FW-Lakes	50	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Lake Class	Washington	Washington State 1997
	FW	100	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100mL; Class A (excellent)	Washington	Washington State 1997
	FW	200	MPN/100mL		Criterion; Maximum geometric mean; With no more than 20% of samples exceeding 500 MPN/100mL; Class B and B1	Rhode Island	RIDEM 1997
	FW	200	FC/100mL		Standard; For Class B; At any time, and 10% of all samples: Maximum = 400 FC/100mL	Massachusetts	COM 1996
	FW	200	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 400 Col/100mL; Class B (good)	Washington	Washington State 1997
	FW/EST/SW	200	FC/100mL		Standard; Geometric mean; For 2 or more samples in a 30 day period; Except shellfish waters	Virginia	COV 1997
	FW/SW	200	FC/100mL		Standard; Maximum; With no more than 10% of samples exceeding	Alaska	ADEC 1998a
	FW/SW	200	FC/100mL		Criterion; 30-day average; Log mean; Use III and IV waters - Natural and recreational trout waters	Maryland	MDOE 1997
	FW/SW	200	FC/100mL		Criterion; 30-day average; Log mean; Use I waters	Maryland	MDOE 1997
	FW/SW	400	FC/100mL		Criterion; 10% of samples during 30-days; Use I waters	Maryland	MDOE 1997
	FW/SW	400	FC/100mL		Criterion; 10% of samples during 30-days; Use III and IV waters - Natural and recreational trout waters	Maryland	MDOE 1997
	FW	1000	FC/100mL		Standard; For Class C; At any time, and 10% of all samples: Maximum = 2000 FC/100mL	Massachusetts	COM 1996
	FW/EST/SW	1000	FC/100mL		Standard; For any time; Except shellfish waters	Virginia	COV 1997
Fenitrothion (dissolved)	FW	0.05	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Fenitrothion (total)	FW	0.05	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Fenthion	FW	0.006	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.006	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
Fenthion (dissolved)	FW	0.02	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Fenthion (total)	FW	0.02	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fluoranthene	FW	0.04	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	0.04	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.1	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	0.2	µg/L	TTA	Criterion; Phototoxic	British Columbia	BCMOELP 1998
	FW	2.3	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	4	µg/L	TTA	Criterion; Chronic	British Columbia	BCMOELP 1998
	FW	4.4	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	199	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	3980	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	3980	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	3980	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Fluoranthene (dissolved)	FW	0.058	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Fluoranthene (total)	FW	0.072	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Fluoride	FW	1.5	mg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	Equation	mg/L		Guidance value; Acute value = [(0.1)exp(0.907[ln(ppm hardness)]+7.394)]/1000	New York State	NYSDEC 1998
	FW	Equation	mg/L		Guidance value; Chronic value = [(0.02)exp(0.907[ln(ppm hardness)]+7.394)]/1000; Aquaculture	New York State	NYSDEC 1998
Fluoride (total)	FW	0.2	mg/L		Tentative Criterion; Maximum where water hardness < 50000 µg/L as CaCO3	British Columbia	BCMOELP 1998
	FW	0.3	mg/L		Tentative Criterion; Maximum where water hardness >= 50000 µg/L as	British Columbia	BCMOELP 1998
Fluorine	FW	0.54	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	3.0	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	3.0	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	4.8	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	FW	12	µg/L	TTA	Criterion; Chronic	British Columbia	BCMOELP 1998
Formaldehyde	FW	9.5	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	210	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Gas Pressure (total)	FW	103	%		Criterion; Maximum Excess at sea level for hatchery environment	British Columbia	BCMOELP 1998
	FW	103	%		Criterion; Maximum Excess at sea level; When water column depth of 0.0 m	British Columbia	BCMOELP 1998
	FW	106	%		Criterion; Maximum Excess at sea level; When water column depth of 0.2m	British Columbia	BCMOELP 1998
	FW	107	%		Criterion; Maximum Excess at sea level; When water column depth of 0.4m	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Gas Pressure (total; cont.)	FW	109	%		Criterion; Maximum Excess at sea level; When water column depth of 0.6m	British Columbia	BCMOELP 1998
	FW	110	%		Criterion; Maximum	Idaho	IDH&W 1998
	FW	110	%		Criterion; Maximum Excess at sea level; When water column depth of 0.8m	British Columbia	BCMOELP 1998
	FW	110	%		Criterion; Maximum Excess at sea level; When water column depth > 1.0 m	British Columbia	BCMOELP 1998
	FW	Narrative			Criterion; Maximum Excess at sea level; No change when background exceeds recommended criterion	British Columbia	BCMOELP 1998
Glyphosate	FW	65	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	65	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	65	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Haloethers	FW	122	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	360	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Halomethanes	FW	11000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	11000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Heptachlor	FW	0.0038	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.0038	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.0038	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.0038	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.0038	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.0038	µg/L		Criterion; Continuous	California	USEPA 1997c
	FW	0.0038	µg/L		Criterion; Chronic; Maximum 24-hour average	Washington	Washington State 1997
	FW	0.0038	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW/EST	0.0038	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW/SW	0.010	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.26	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	0.52	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997
	FW	0.52	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	0.52	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	0.52	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	0.52	µg/L		Criterion; Maximum	California	USEPA 1997c
	FW	0.52	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	0.52	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	0.52	µg/L		Criterion; Acute	Oregon	ODEQ 1996
Heptachlor + Heptachlor Epoxide	FW	0.001	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994

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Heptachlor + Heptachlor Epoxide (dissolved)	FW	0.007	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Heptachlor + Heptachlor Epoxide (total)	FW	0.0084	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Heptachlor Epoxide	FW	0.0038	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.0038	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.0038	µg/L		Criterion; Continuous	California	USEPA 1997c
	FW	0.0038	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.26	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	0.52	µg/L		Criterion; Maximum	California	USEPA 1997c
	FW	0.52	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	0.52	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	0.52	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachlorobenzene	FW	0.0065	µg/L		Objective; Maximum	Ontario	Environment Ontario 1989
	FW	0.0065	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.007	µg/L		Guideline	Australia	ANZECC 1992
	FW	3.68	µg/L	TTA	Proposed Criterion; Chronic	United States	USEPA 1993
	FW	6.0	µg/L	TTA	Proposed Criterion; Acute	United States	USEPA 1993
	FW	50	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	250	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachlorobenzene (dissolved)	FW	0.00009	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Hexachlorobenzene (total)	FW	0.00035	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Hexachlorobutadiene	FW	0.07	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	0.1	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.43	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1.0	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	1.3	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	1.3	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	9.3	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	9.3	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	9.7	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	10	µg/L		Standard; Acute	New York State	NYSDEC 1998

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Hexachlorobutadiene (cont.)	FW	90	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	90	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachlorobutadiene (dissolved)	FW	0.12	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Hexachlorobutadiene (total)	FW	0.122	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Hexachlorocyclohexane (all isomers)	FW	0.05	µg/L		Must be reported to Commission if not complied with on national network; Arithmetic mean over one year	Europe	CEC 1988
	FW	0.1	µg/L		Inland waters affected by discharges; Arithmetic mean over year	Europe	CEC 1988
	FW	100	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachlorocyclohexane-Alpha	FW	100	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachlorocyclohexane-Beta	FW	100	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachlorocyclohexane-Delta	FW	100	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachlorocyclopentadiene	FW	0.008	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.016	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	0.35	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	0.35	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	0.45	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	4.5	µg/L		Standard; Acute	New York State	NYSDEC 1998
	FW	5.2	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	5.2	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	7	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	7.0	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachloroethane	FW	0.5	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	1.1	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	4	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	49	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	89	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	540	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	540	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	540	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	FW	980	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Hexachloroethane (cont.)	FW	980	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Hexachloroethane (dissolved)	FW	0.7	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Hexachloroethane (total)	FW	0.7	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Hydrazine	FW	0.4	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	50	µg/L		Standard; Chronic; Aquaculture; At less than 50 ppm hardness	New York State	NYSDEC 1998
	FW	50	µg/L		Criterion; Acute; At hardness <50 mg/L	Quebec	MDEQ 1996
	FW	100	µg/L		Standard; Acute; At greater than or equal to 50 ppm hardness	New York State	NYSDEC 1998
	FW	100	µg/L		Criterion; Acute; At hardness >=50 mg/L	Quebec	MDEQ 1996
Hydrocarbons (total aqueous)	FW/SW	15	µg/L		Standard; Maximum	Alaska	ADEC 1998a
Hydrocarbons, Aromatic (total)	FW/SW	10	µg/L		Standard; Maximum	Alaska	ADEC 1998a
Hydrocarbons, Petroleum	FW/SW	Narrative			Standard; There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life	Alaska	ADEC 1998a
	FW/SW	Narrative			Standard; Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration	Alaska	ADEC 1998a
H2S	FW	2	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	2	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	2	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	2.0	µg/L		Standard; Chronic; Undissociated form; Aquaculture	New York State	NYSDEC 1998
	FW	2.0	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	2.0	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	2.0	µg/L	TTA	Criterion; Chronic	United States	USEPA 1993
Hydroquinone	FW	0.2	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	2.2	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	4.4	µg/L		Standard; Acute	New York State	NYSDEC 1998
	FW	4.4	µg/L		Criterion; Acute	Quebec	MDEQ 1996
Indeno(1,2,3-cd)pyrene (dissolved)	FW	0.00067	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Indeno(1,2,3-cd)pyrene (total)	FW	0.0038	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Iodo-2-Propynyl Butyl Carbamate, 3-	FW	1.9	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	1.9	µg/L		Guideline	Canada	Environment Canada 1999
Iron	FW	300	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	300	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	300	µg/L		Standard; Acute	New York State	NYSDEC 1998
	FW	300	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	300	µg/L		Guideline	Canada	Environment Canada 1999
	FW	300	µg/L		Objective; Unfiltered sample	Ontario	Environment Ontario 1989
	FW	300	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	1000	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	1000	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	1000	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	1000	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	1000	µg/L	TTA	Criterion; Chronic	United States	USEPA 1993
	FW/EST	1000	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Iron (total)	FW	300	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	300	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
	FW	1000	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	1000	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	1000.0	µg/L		Guideline; Provided Fe (II) is not present	Australia	ANZECC 1992
Isodecyldiphenyl Phosphate	FW	1.7	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	1.7	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	22	µg/L		Standard; Acute	New York State	NYSDEC 1998
	FW	22	µg/L		Criterion; Acute	Quebec	MDEQ 1996
Isophorone	FW	130	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	270	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	5850	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	6000	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	117000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	117000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	117000	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
Isopropyl Alcohol	FW	21000	µg/L		Criterion; Chronic	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Isothiazolones (total)	FW	1	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	10	µg/L		Standard; Acute	New York State	NYSDEC 1998
Lead	FW	1	µg/L		Guideline; At [CaCO3]=0-60 mg/L	Nova Scotia	NSDOE 1998
	FW	1	µg/L		Guideline; At [CaCO3]=0-60 mg/L	Canada	Environment Canada 1999
	FW	1	µg/L	TTA	Proposed Guideline; Provincial Water Quality; At hardness <= 30 mg/L	Ontario	OMEE 1994
	FW	2	µg/L		Guideline; At [CaCO3]=60-120 mg/L	Nova Scotia	NSDOE 1998
	FW	2	µg/L		Guideline; At [CaCO3]=60-120 mg/L	Canada	Environment Canada 1999
	FW	3	µg/L	TTA	Proposed Guideline; Provincial Water Quality; At hardness 30-80 mg/L	Ontario	OMEE 1994
	FW	3.2	µg/L	TTA	Criterion; Chronic; Hardness dependent; 100 mg/L CaCO3 used	United States	USEPA 1993
	FW	3.2	µg/L		Criterion; For ambient surface waters; Chronic toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	3.2	µg/L		Criterion; Chronic; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	4	µg/L		Guideline; At [CaCO3]=120-180 mg/L	Canada	Environment Canada 1999
	FW	4	µg/L		Guideline; At [CaCO3]=120-180 mg/L	Nova Scotia	NSDOE 1998
	FW	5	µg/L		Proposed guideline; Hardness >80 mg/L CaCO3	Ontario	Environment Ontario 1989
	FW	5	µg/L	TTA	Proposed Guideline; Provincial Water Quality; At hardness > 80 mg/L	Ontario	OMEE 1994
	FW	7	µg/L		Guideline; At [CaCO3]=>180 mg/L	Nova Scotia	NSDOE 1998
	FW	7	µg/L		Guideline; At [CaCO3]=>180 mg/L	Canada	Environment Canada 1999
	FW	82	µg/L		Criterion; Acute; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	82	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	83	µg/L	TTA	Criterion; Acute; Hardness dependent; 100 mg/L CaCO3 used	United States	USEPA 1993
	FW	Equation	µg/L		Criterion = e[1.273(ln hardness)-4.705]; Chronic	Delaware	DDNREC 1993
	FW	Equation	µg/L		Criterion = e[0.8545(ln hardness)-1.465]; Acute	Delaware	DDNREC 1993
	FW	Equation	µg/L		Criterion = e[1.273(ln hardness)-4.705]; Chronic	Quebec	MDEQ 1996
	FW	Equation	µg/L		Criterion = e[1.273(ln hardness)-1.46]; Acute	Quebec	MDEQ 1996
Lead (dissolved)	FW	0.55	µg/L		Regulation; Chronic Criterion for Water Effect Ratio of 1.0; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	1.3	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	2.5	µg/L		Criterion; Continuous (over 4 days); At hardness = 100 mg/L; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	2.5	µg/L		Criterion; Continuous; At hardness = 100 mg/L	United States	USEPA 1998a
	FW	14	µg/L		Standard; Chronic Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[1.273(ln(hardness))-3.259]	Virginia	COV 1997

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Lead (dissolved; cont.)	FW	14	µg/L		Regulation; Acute Criterion for Water Effect Ratio of 1.0; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	65	µg/L		Criterion; Maximum; At hardness = 100 mg/L; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	65	µg/L		Criterion; Maximum; At hardness = 100 mg/L	United States	USEPA 1998a
	FW	120	µg/L		Standard; Acute Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[1.273(ln(hardness))-1.084]	Virginia	COV 1997
	FW	Equation	µg/L		Criterion = [1.46203 - (ln hardness) x 0.145712] x e [1.273 (ln hardness) - 1.46]; Acute	Rhode Island	RIDEM 1997
	FW	Equation	µg/L		Criterion = [1.46203 - (ln hardness) x 0.145712] x e [1.273 (ln hardness) - 4.705]; Chronic	Rhode Island	RIDEM 1997
	FW	Equation	µg/L		Standard; Chronic value = {1.46203-[ln(hardness)(0.145712)]}exp(1.273[ln(hardness)]-4.297); Aquaculture	New York State	NYSDEC 1998
	FW	Equation	µg/L		Standard; Acute value = {1.46203-[ln(hardness)(0.145712)]}exp(1.273[ln(hardness)]-1.052)	New York State	NYSDEC 1998
	FW	Equation	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; <={(1.46203-[(ln hardness)(0.145712)]}{e(1.273[ln(hardness)]-4.705)}	Washington	Washington State 1997
	FW	Equation	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; <={(1.46203-[(ln hardness)(0.145712)]}{e(1.273[ln(hardness)]-	Washington	Washington State 1997
Lead (total)	FW	1.0–5.0	µg/L		Guideline; Hardness dependent	Australia	ANZECC 1992
	FW	3	µg/L		Provisional Objective; Average for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	FW	3	µg/L	TTA	Criterion; Maximum; Hardness <= 8 mg/L CaCO3	British Columbia	BCMOELP 1998
	FW	10	µg/L		Provisional Objective; Maximum for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	FW	20	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	25	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	50	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	Equation	µg/L		Guideline; = e[1.75 (In hardness) - 7.0]; Where hardness is expressed as mg/L CaCO3; Chronic value	Michigan	MDNR 1989
	FW	Equation	µg/L		Objective; Acid-soluble; = e[1.273 (ln hardness) -4.705] where hardness is expressed as mg/L CaCO3; For cool and cold water	Manitoba	Williamson 1988
	FW	Equation	µg/L		Criterion; To calculate 30-day average concentration = <= 3.31 + exp (1.273 ln (average hardness) - 4.705) at hardness >8 mg/L CaCO3; 80%; See report for table of detailed criteria	British Columbia	BCMOELP 1998

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Lead (total; cont.)	FW	Equation	µg/L		Criterion; To calculate Maximum = exp (1.273 ln (hardness) - 1.460) at hardness >8 mg/L CaCO3; See report for table of detailed criteria	British Columbia	BCMOELP 1998
Lindane	FW/SW	0.003	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.01	µg/L		Objective; Unfiltered sample	Ontario	Environment Ontario 1989
	FW	0.01	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.0569	µg/L	TTA	Criterion; Final Chronic Value; PH of 6.5	Great Lakes	USEPA 1992
	FW	0.08	µg/L		Criterion; Chronic	United States	USEPA 1990
	FW	0.08	µg/L		Criterion; Chronic; Maximum 24-hour average	Washington	Washington State 1997
	FW	0.08	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.08	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.08	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.08	µg/L		Criterion; Chronic; Hexachlorocyclohexane	Oregon	ODEQ 1996
	FW	0.08	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW	0.08	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.080	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	0.080	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.097	µg/L		Guideline; Cancer risk value	Michigan	MDNR 1989
	FW	0.1	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	0.95	µg/L	TTA	Criterion; Maximum; PH of 6.5	Great Lakes	USEPA 1992
	FW	0.95	µg/L		Criterion; Maximum	California	USEPA 1997c
	FW	0.95	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	0.95	µg/L		Standard; Acute	New York State	NYSDEC 1998
	FW	1	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	1.902	µg/L	TTA	Criterion; Final Acute Value; PH of 6.5	Great Lakes	USEPA 1992
	FW	2	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	FW	2	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	2.0	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	2.0	µg/L		Criterion; Acute; Hexachlorocyclohexane	Oregon	ODEQ 1996
	FW	2.0	µg/L		Criterion; Acute	United States	USEPA 1990
	FW	2.0	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	2.0	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997
	FW	2.0	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Lindane (dissolved)	FW	0.099	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Lindane (total)	FW	0.1	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	100	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Linuron	FW	7.0	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	7.0	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Linuron (dissolved)	FW	0.75	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Linuron (total)	FW	0.75	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	7	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
Lithium	FW	67	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Malathion	FW	0.070	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.1	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.1	µg/L		Objective; Unfiltered sample	Ontario	Environment Ontario 1989
	FW	0.1	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.1	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.1	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.1	µg/L		Criterion; Chronic	United States	USEPA 1990
	FW	0.1	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.1	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	0.1	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.1	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.1	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Malathion (dissolved)	FW	0.02	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Malathion (total)	FW	0.02	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Maneb (dissolved)	FW	1.0	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Maneb (total)	FW	1.0	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Manganese	FW	50	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Manganese (total)	FW	100–1000	µg/L	TTA	Criterion	British Columbia	Nagpal et al. 1995
MCPA (dissolved)	FW	0.16	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
MCPA (total)	FW	0.16	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	2.6	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Mecoprop (dissolved)	FW	0.11	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Mecoprop (total)	FW	0.11	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Mercury	FW	0.012	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW	0.012	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.012	µg/L	TTA	Criterion; Chronic	United States	USEPA 1993
	FW	0.012	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.1	µg/L		Guideline	Canada	Environment Canada 1999
	FW	0.1	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	0.2	µg/L		Objective; Filtered water sample	Ontario	Environment Ontario 1989
	FW	0.2	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.442	µg/L	TTA	Criterion; Final Chronic Value; Valence 2	Great Lakes	USEPA 1992
	FW	0.83	µg/L	TTA	Criterion; Maximum; Valence 2	Great Lakes	USEPA 1992
	FW	0.9081	µg/L		Criterion; Chronic; Inorganic mercury (Hg II)	Quebec	MDEQ 1996
	FW	1.652	µg/L	TTA	Criterion; Final Acute Value; Hg II	Great Lakes	USEPA 1992
	FW	1.694	µg/L		Criterion; Acute; Inorganic mercury (Hg II)	Quebec	MDEQ 1996
	FW	2.4	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	2.4	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	2.4	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	FW	2.4	µg/L	TTA	Criterion; Acute	United States	USEPA 1993
Mercury (dissolved)	FW	0.005	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	0.012	µg/L		Standard; Chronic Criterion; Methyl mercury	Virginia	COV 1997
	FW	0.0122	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.77	µg/L		Criterion; Continuous; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	0.77	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	0.77	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	1.4	µg/L		Standard; Acute	New York State	NYSDEC 1998
	FW	1.4	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	1.4	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	2.04	µg/L		Regulation; Acute Criterion for Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	FW	2.1	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	2.1	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	2.4	µg/L		Standard; Acute Criterion	Virginia	COV 1997

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Mercury (total)	FW	0.0006	µg/L		Guideline; Methyl, Human life-cycle safe concentration	Michigan	MDNR 1989
Mercury (total; cont.)	FW	0.006	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	0.012	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.012	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; Total recoverable	Washington	Washington State 1997
	FW/EST/SW	0.02	µg/L	TTA	Criterion; 30-day average	British Columbia	BCMOELP 1998
	FW	0.03	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	0.1	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	0.1	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	0.1	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW/SW	0.1	µg/L		Guideline	Australia	ANZECC 1992
	FW	1	µg/L		As the arithmetic mean of the results obtained over a year, inland waters affected by discharges relating to the chlor-alkali electrolysis industry	Europe	CEC 1988
Metham Sodium (dissolved)	FW	0.008	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Metham Sodium (total)	FW	0.008	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Methanol	FW	68000	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1500000	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Methoxychlor	FW	0.03	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.03	µg/L		Criterion; Chronic	United States	USEPA 1990
	FW	0.03	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.03	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.03	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	0.03	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.03	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.03	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.04	µg/L		Objective; Unfiltered sample	Ontario	Environment Ontario 1989
	FW	0.04	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW/SW	0.040	µg/L		Guideline	Australia	ANZECC 1992
Methyl Bromide	FW	11	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	11000	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
	FW	11000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Methyl Chloride	FW	11000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Methyl Chloride (cont.)	FW	11000	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
Methyl Ethyl Ketone	FW	7200	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Methyl Parathion	FW	0.008	µg/L		Standard; Chronic; Aquaculture; As part of sum of parathion and methyl parathion	New York State	NYSDEC 1998
Methyl Parathion (dissolved)	FW	0.2	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Methyl Parathion (total)	FW	0.2	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Methyl-4-chlorophenol, 2-	FW	0.32	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.64	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	15	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	15	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
Methylamine	FW	42	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Methylene Chloride	FW	98	µg/L	TTA	Criterion; Interim maximum	British Columbia	Nagpal et al. 1995
	FW	98.1	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	98.1	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	214	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	560	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	9650	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	11000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	11000	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
	FW	13000	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Methylene Dithiocyanate	FW	1	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	1.0	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
Methylnaphthalene, 1-	FW	2	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
Methylnaphthalene, 2-	FW	2	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	4.7	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	42	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
Methyl-t-Butyl Ether	FW	380	µg/L		Criterion; Chronic	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Metolachlor	FW	7.8	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	7.8	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	8	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
Metribuzin	FW	1	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1.0	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	1.0	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Mevinphos (dissolved)	FW	0.005	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Mevinphos (total)	FW	0.005	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Mirex	FW	0	µg/L		Standard; Chronic Criterion; Value is zero	Virginia	COV 1997
	FW	0.001	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.001	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.001	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.001	µg/L		Criterion; Chronic	United States	USEPA 1990
	FW	0.001	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.001	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.001	µg/L		Standard; Acute	New York State	NYSDEC 1998
	FW	0.001	µg/L		Objective; Maximum	Ontario	Environment Ontario 1989
	FW	0.001	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	0.001	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW/SW	0.001	µg/L		Guideline	Australia	ANZECC 1992
Molybdenum	FW	10	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	73	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	73	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	1000	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	2000	µg/L		Criterion; Acute	Quebec	MDEQ 1996
Molybdenum (total)	FW	180	µg/L		Guideline; Chronic value	Michigan	MDNR 1989
	FW	<=1000	µg/L	TTA	Criterion; 30-day average	British Columbia	BCMOELP 1998
	FW	2000	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
Monochlorophenols	FW	7	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	7	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	7	µg/L		Objective; All isomers	Ontario	Environment Ontario 1989

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Monochlorophenols (cont.)	FW	7	µg/L		Guideline	Canada	Environment Canada 1999
	FW	7.0	µg/L		Guideline	Australia	ANZECC 1992
Monochlorophenols (dissolved)	FW	9	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Monochlorophenols (total)	FW	9	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Monohydric Phenol	FW	500	µg/L		Criterion	Colorado	USEPA 1988a
Morpholine	FW	480	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	11000	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Myclobutanil	FW	11	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	240	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Naphthalene	FW	1	µg/L	TTA	Criterion; Chronic	British Columbia	BCMOELP 1998
	FW	1.1	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	1.1	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	2.6	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	13	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	15	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	29	µg/L		Guideline; Chronic value	Michigan	MDNR 1989
	FW	110	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	FW	115	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	340	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	620	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	620	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	620	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	2300	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	2300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	2300	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Nickel	FW	25	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	25	µg/L		Guideline; At [CaCO3]=0-60 mg/L	Nova Scotia	NSDOE 1998
	FW	25	µg/L		Guideline; At [CaCO3]=0-60 mg/L	Canada	Environment Canada 1999
	FW	28.96	µg/L	TTA	Criterion; Final Chronic Value; Hardness of 50000 µg/L CaCO3	Great Lakes	USEPA 1992
	FW	65	µg/L		Guideline; At [CaCO3]=60-120 mg/L	Nova Scotia	NSDOE 1998
	FW	65	µg/L		Guideline; At [CaCO3]=60-120 mg/L	Canada	Environment Canada 1999
	FW/EST	100	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nickel (cont.)	FW	110	µg/L		Guideline; At [CaCO3]=120-180 mg/L	Canada	Environment Canada 1999
	FW	110	µg/L		Guideline; At [CaCO3]=120-180 mg/L	Nova Scotia	NSDOE 1998
	FW	150	µg/L		Guideline; At [CaCO3]=>180 mg/L	Canada	Environment Canada 1999
	FW	150	µg/L		Guideline; At [CaCO3]=>180 mg/L	Nova Scotia	NSDOE 1998
	FW	160	µg/L	TTA	Criterion; Chronic; Hardness dependent; 100 mg/L CaCO3 used	United States	USEPA 1993
	FW	160	µg/L		Criterion; Chronic; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	160	µg/L		Criterion; For ambient surface waters; Chronic toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	160	µg/L		Proposed Criterion; Chronic; At 100 mg/L hardness	Alaska	ADEC 1998b
	FW	260	µg/L	TTA	Criterion; Maximum; Hardness of 50000 µg/L CaCO3	Great Lakes	USEPA 1992
	FW	521	µg/L	TTA	Criterion; Final Acute Value; Hardness of 50000 µg/L CaCO3	Great Lakes	USEPA 1992
	FW	1400	µg/L		Criterion; Acute; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	1400	µg/L	TTA	Criterion; Acute; Hardness dependent; 100 mg/L CaCO3 used	United States	USEPA 1993
	FW	1400	µg/L		Proposed Criterion; Acute; At 100 mg/L hardness	Alaska	ADEC 1998b
	FW	14000	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	Equation	µg/L		Criterion = e[0.8460(ln hardness)+3.3612]; Acute	Delaware	DDNREC 1993
	FW	Equation	µg/L		Criterion = e[0.8460(ln hardness)+1.1645]; Chronic	Delaware	DDNREC 1993
	FW	Equation	µg/L		Criterion = e[0.846(ln hardness)+3.3612]; Acute	Quebec	MDEQ 1996
	FW	Equation	µg/L		Criterion = e[0.846(ln hardness) +1.1645]; Chronic	Quebec	MDEQ 1996
Nickel (dissolved)	FW	7.5	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	20	µg/L		Standard; Chronic Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[0.8460(ln(hardness))-0.8840]	Virginia	COV 1997
	FW	48.7	µg/L		Regulation; Chronic Criterion for Water Effect Ratio of 1.0; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	52	µg/L		Criterion; Continuous; At hardness = 100 mg/L	United States	USEPA 1998a
	FW	52	µg/L		Criterion; Continuous (over 4 days); At hardness = 100 mg/L; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	180	µg/L		Standard; Acute Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[0.8460(ln(hardness))+1.312]	Virginia	COV 1997
	FW	438	µg/L		Regulation; Acute Criterion for Water Effect Ratio of 1.0; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	470	µg/L		Criterion; Maximum; At hardness = 100 mg/L	United States	USEPA 1998a
	FW	470	µg/L		Criterion; Maximum; At hardness = 100 mg/L; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	Equation	µg/L		Criterion = 0.997 x e [0.846 (ln hardness) + 1.1645]; Chronic	Rhode Island	RIDEM 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nickel (dissolved; cont.)	FW	Equation	µg/L		Standard; Chronic value = (0.997)exp(0.846[ln(ppm hardness)]+0.0584); Aquaculture	New York State	NYSDEC 1998
	FW	Equation	µg/L		Standard; Acute value = (0.998)exp(0.846[ln(ppm hardness)]+2.255)	New York State	NYSDEC 1998
	FW	Equation	µg/L		Criterion = 0.998 x e [0.846 (ln hardness) + 3.3612]; Acute	Rhode Island	RIDEM 1997
	FW	Equation	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; <=(0.998){e(0.8460[ln(hardness)]+3.3612)}	Washington	Washington State 1997
	FW	Equation	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; <=(0.997){e(0.8460[ln(hardness)]+1.1645)}	Washington	Washington State 1997
Nickel (total)	FW	9.3	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	15.0–150.0	µg/L		Guideline; Hardness dependent	Australia	ANZECC 1992
	FW	25	µg/L	TTA	Criterion; Maximum; Hardness 0-60 mg/L CaCO3	British Columbia	Nagpal et al. 1995
	FW	65	µg/L	TTA	Criterion; Maximum; Hardness 60-120 mg/L CaCO3	British Columbia	Nagpal et al. 1995
	FW	110	µg/L	TTA	Criterion; Maximum; Hardness 120-180 mg/L CaCO3	British Columbia	Nagpal et al. 1995
	FW	150	µg/L	TTA	Criterion; Maximum; Hardness 120-180 mg/L CaCO3	British Columbia	Nagpal et al. 1995
Nitrate	FW	Narrative			Guideline; Concentrations that stimulate weed growth should be avoided	Canada	Environment Canada 1999
	FW	Narrative			Guideline; Concentrations that stimulate weed growth should be avoided	Nova Scotia	NSDOE 1998
Nitrates	FW	40	mg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	200	mg/L		Criterion; Acute	Quebec	MDEQ 1996
Nitrilotriacetic Acid	FW	5000	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	5000	µg/L		Standard; Chronic; Aquaculture; Applies to nitrilotriacetate	New York State	NYSDEC 1998
Nitrilotriacetic Acid (dissolved)	FW	200	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Nitrilotriacetic Acid (total)	FW	200	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Nitrite	FW	0.01	mg/L		Guide level for salmonid waters	Europe	CEC 1988
	FW	0.02	mg/L		Criterion; Average Concentration when chloride concentration is <2000 µg/L	British Columbia	BCMOELP 1998
	FW	0.02	mg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.02	mg/L		Standard; Chronic; Aquaculture; Cold water fishery waters; As N	New York State	NYSDEC 1998
	FW	0.03	mg/L		Guide level for cyprinid waters	Europe	CEC 1988
	FW	0.04	mg/L		Criterion; Average Concentration when chloride concentration is 2000-4000 µg/L	British Columbia	BCMOELP 1998
	FW	0.06	mg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	0.06	mg/L	TTA	Criterion; Maximum (as N); When chloride concentration - <2000 µg/L	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrite (cont.)	FW	0.06	mg/L		Criterion; Average Concentration when chloride concentration is 4000-6000 µg/L	British Columbia	BCMOELP 1998
	FW	0.06	mg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	0.06	mg/L		Guideline	Canada	Environment Canada 1999
	FW	0.08	mg/L		Criterion; Average Concentration when chloride concentration is 6000-8000 µg/L	British Columbia	BCMOELP 1998
	FW	0.08	mg/L		Maximum allowable concentration in water reservoirs designated as commercial fisheries, or 20 µg/L N	USSR	UNEP 1982
	FW	0.1	mg/L		Criterion; Average Concentration when chloride concentration is 8000-10000 µg/L	British Columbia	BCMOELP 1998
	FW	0.1	mg/L		Standard; Chronic; Aquaculture; Warm water fishery waters; As N	New York State	NYSDEC 1998
	FW	0.12	mg/L	TTA	Criterion; Maximum (as N); When chloride concentration - 2000-4000 µg/L	British Columbia	BCMOELP 1998
	FW	0.18	mg/L	TTA	Criterion; Maximum (as N); When chloride concentration - 4000-6000 µg/L	British Columbia	BCMOELP 1998
	FW	0.2	mg/L		Criterion; Average Concentration when chloride concentration is >10000	British Columbia	BCMOELP 1998
	FW	0.24	mg/L	TTA	Criterion; Maximum (as N); When chloride concentration - 6000-8000 µg/L	British Columbia	BCMOELP 1998
	FW	0.3	mg/L	TTA	Criterion; Maximum (as N); When chloride concentration - 8000-10000 µg/L	British Columbia	BCMOELP 1998
	FW	0.6	mg/L	TTA	Criterion; Maximum (as N); When chloride concentration - >10000 µg/L	British Columbia	BCMOELP 1998
Nitrobenzene	FW	0.02	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	1	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	30	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	1350	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	1400	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	27000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	27000	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	27000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrogen	FW	1	mg/L		Interim Guideline; Maximum; Total inorganic and organic	Alberta	AEP 1997
Nitrogen (total)	FW-Lakes	0.1	mg/L		Standard; Lakes Class I	Japan	JWQB 1998
	FW-Lakes	0.2	mg/L		Standard; Lakes Class II	Japan	JWQB 1998
	FW-Lakes	0.6	mg/L		Standard; Lakes Class IV	Japan	JWQB 1998
	FW-Lakes	1	mg/L		Standard; Lakes Class V	Japan	JWQB 1998
Nitroglycerin	FW	38	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	860	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Nitrophenol, o-	FW	0.5	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrophenol, o- (cont.)	FW	150	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	230	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrophenol, p-	FW	25	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	48	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	150	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	230	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	570	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Nitrophenols	FW/EST	20.0	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	150	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	150	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	230	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	230	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Nitrosamines	FW	5850	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	5850	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	5850	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Nitrosodibutylamine, N-	FW	5850	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrosodimethylamine, N-	FW	5850	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	6.5	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	17	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	293	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	390	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	5850	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrosopyrrolidine, N-	FW	5850	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrotoluene, m-	FW	64	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1400	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Nitrotoluene, o-	FW	83	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1900	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Nitrotoluene, p-	FW	26	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	580	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Non-filterable residue	FW	10	NTU		Criterion; When background <=100 mg/L	British Columbia	BCMOELP 1998
	FW	10	%		Criterion; When background >100 mg/L	British Columbia	BCMOELP 1998
Nonyl Phenol	FW	0.3	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	6.8	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Nutrients	FW	Narrative			Objective; Concentrations should not be altered from natural levels by discharges of effluents such that nuisance growths of algae or aquatic weeds	Saskatchewan	SDEPS1988
Octyl Phthalate, N-	FW	3	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	940	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Oil and grease	FW	Narrative			Interim Guideline; Substantially absent, no iridescent sheen	Alberta	AEP 1997
	FW	Narrative			Standard; For Class A; Free from oil, grease, petrochemicals and other volatile or synthetic organic pollutants	Massachusetts	COM 1996
Oxamyl (dissolved)	FW	0.63	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Oxamyl (total)	FW	0.63	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PAHs	FW/SW	0.30	µg/L		Guideline	Australia	ANZECC 1992
Paraquat	FW	16	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Parathion	FW/SW	0.004	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.008	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.008	µg/L		Standard; Chronic; As part of sum of parathion and methyl parathion	New York State	NYSDEC 1998
	FW	0.0128	µg/L	TTA	Criterion; Final Chronic Value	Great Lakes	USEPA 1992
	FW	0.013	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.013	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	0.013	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.013	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.013	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.013	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.013	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.065	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	0.065	µg/L		Standard; Acute	New York State	NYSDEC 1998

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Parathion (cont.)	FW	0.065	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	0.065	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	0.065	µg/L	TTA	Criterion; Maximum	Great Lakes	USEPA 1992
	FW	0.065	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	0.065	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	0.065	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	0.065	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	0.1298	µg/L	TTA	Criterion; Final Acute Value	Great Lakes	USEPA 1992
Parathion + Methyl Parathion	FW	0.008	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
PCB 101 (dissolved)	FW	0.00012	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 101 (total)	FW	0.00042	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 105	FW/SW	0.00009	µg/L	TTA	Criterion; Recommended; Maximum	British Columbia	BCMOELP 1998
PCB 118 (dissolved)	FW	0.00001	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 118 (total)	FW	0.00031	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 126	FW/SW	0.00000025	µg/L	TTA	Criterion; Recommended; Maximum	British Columbia	BCMOELP 1998
PCB 138 (dissolved)	FW	0.00008	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 138 (total)	FW	0.00045	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 153 (dissolved)	FW	0.00005	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 153 (total)	FW	0.00043	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 169	FW/SW	0.00006	µg/L	TTA	Criterion; Recommended; Maximum	British Columbia	BCMOELP 1998
PCB 180 (dissolved)	FW	0.00005	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 180 (total)	FW	0.00049	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
PCB 28 (dissolved)	FW	0.00048	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 28 (total)	FW	0.00085	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 52 (dissolved)	FW	0.00006	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 52 (total)	FW	0.00021	µg/L	TRA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
PCB 77	FW/SW	0.00004	µg/L	TTA	Criterion; Recommended; Maximum	British Columbia	BCMOELP 1998
PCBs	FW	0.00	µg/L		Criterion	Oklahoma	USEPA 1988a
	FW	0.0000079	µg/L		Criterion	Missouri	USEPA 1988a
	FW	0.001	µg/L		Criterion	West Virginia	USEPA 1988a
	FW	0.001	µg/L		Criterion	Florida	USEPA 1988a
	FW	0.001	µg/L		Criterion	South Dakota	USEPA 1988a
	FW	0.001	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.001	µg/L		Criterion; Grand Calumet River; Indiana Harbor	Indiana	USEPA 1988a
	FW	0.001	µg/L		Criterion	Arizona	USEPA 1988a
	FW	0.001	µg/L		Criterion	Colorado	USEPA 1988a
	FW	0.001	µg/L		Criterion	Nevada	USEPA 1988a
	FW	0.001	µg/L		Criterion; Cold water, warm water, and exceptional warm water	Ohio	USEPA 1988a
	FW	0.001	µg/L		Criterion	New York State	USEPA 1988a
	FW	0.001	µg/L		Criterion; Lake Michigan and Contiguous Harbor	Indiana	USEPA 1988a
	FW	0.001	µg/L		Criterion	Maryland	USEPA 1988a
	FW	0.0014	µg/L		Criterion	Kentucky	USEPA 1988a
	FW/EST	0.01	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	0.014	µg/L		Criterion; Chronic; Maximum 24-hour average	Washington	Washington State 1997
	FW	0.014	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.014	µg/L		Chronic criterion	Virginia	USEPA 1988a
	FW	0.014	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.014	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW	0.014	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.014	µg/L		Criterion; 24-houraverage concentration	Indiana	USEPA 1988a
	FW	0.014	µg/L	TTA	Criterion; Chronic	United States	USEPA 1993
	FW	0.014	µg/L		Criterion; Continuous	California	USEPA 1997c
	FW	0.014	µg/L		Criterion; Total PCBs as a 24-houraverage	Arkansas	USEPA 1988a
	FW	0.014	µg/L		Criterion; 24-houraverage	Louisiana	USEPA 1988a
	FW	0.014	µg/L		Criterion	Kansas	USEPA 1988a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
PCBs (cont.)	FW	0.014	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	1	µg/L		Criterion; Ohio River main stem, interstate portion of the Wabash River	Indiana	USEPA 1988a
	FW	2	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	FW	2.0	µg/L		Criterion; Acute; Maximum 24-hour average	Washington	Washington State 1997
	FW	2.0	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	2.0	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	2.0	µg/L		Criterion; Maximum	Louisiana	USEPA 1988a
	FW	2.0	µg/L	TTA	Criterion; Acute	United States	USEPA 1993
PCBs (total)	FW/SW	0.0001	µg/L	TTA	Criterion; Recommended; Maximum	British Columbia	BCMOELP 1998
	FW	0.001	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	0.001	µg/L		Objective; Unfiltered sample	Ontario	Environment Ontario 1989
	FW	0.001	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.014	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.014	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	2.0	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Pentachlorobenzene	FW	0.03	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.03	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.28	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	6	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	6.0	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	6.0	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	13	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	25	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	50	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	250	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Pentachlorobenzenes (dissolved)	FW	0.044	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Pentachlorobenzenes (total)	FW	0.060	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Pentachloroethane	FW	8.0	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	15	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	330	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	362	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	1100	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	1100	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Pentachloroethane (cont.)	FW	1100	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	7240	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	7240	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Pentachlorophenol	FW	0.05	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.4	µg/L		Criterion	New York State	USEPA 1988a
	FW	0.5	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	0.5	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.5	µg/L		Objective; All isomers	Ontario	Environment Ontario 1989
	FW	2	µg/L		Total of all isomers	Europe	CEC 1988
	FW	3.338	µg/L	TTA	Criterion; Final Chronic Value; PH of 6.5	Great Lakes	USEPA 1992
	FW	3.46	µg/L		Regulation; Chronic Criterion at pH 6.5; Value is a function of pH (See	New Hampshire	NHDES 1996
	FW	5.3	µg/L	TTA	Criterion; Maximum; PH of 6.5	Great Lakes	USEPA 1992
	FW	5.48	µg/L		Regulation; Acute Criterion at pH 6.5; Value is a function of pH (See	New Hampshire	NHDES 1996
	FW	6.69	µg/L		Guidance value at pH 7; Chronic; Value = exp[1.005(pH)-5.134];	New York State	NYSDEC 1998
	FW/EST	7.0	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	8.72	µg/L		Guidance value at pH 7; Acute; Value = exp[1.005(pH)-4.869]	New York State	NYSDEC 1998
	FW	10.57	µg/L	TTA	Criterion; Final Acute Value; PH of 6.5	Great Lakes	USEPA 1992
	FW	13	µg/L		Criterion; Chronic; At pH of 7.8	Oregon	ODEQ 1996
	FW	13	µg/L	TTA	Criterion; Chronic; PH dependent; Used 7.8 pH	United States	USEPA 1993
	FW	13	µg/L		Criterion; For ambient surface waters; Chronic toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	13	µg/L		Proposed Criterion; Chronic; At pH of 7.8	Alaska	ADEC 1998b
	FW	15	µg/L		Criterion; Continuous at pH = 7.8; See reference at different conditions	United States	USEPA 1998a
	FW	15	µg/L		Criterion; Continuous at pH = 7.8; See reference at different conditions	California	USEPA 1997c
	FW	19	µg/L		Criterion; Maximum at pH = 7.8; See reference at different conditions	United States	USEPA 1998a
	FW	19	µg/L		Criterion; Maximum at pH = 7.8; See reference at different conditions	California	USEPA 1997c
	FW	20	µg/L		Proposed Criterion; Acute; At pH of 7.8	Alaska	ADEC 1998b
	FW	20	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	20	µg/L	TTA	Criterion; Acute; PH dependent; Used 7.8 pH	United States	USEPA 1993
	FW	20	µg/L		Criterion; Acute; At pH of 7.8	Oregon	ODEQ 1996
	FW	23	µg/L		Guideline; Human life-cycle safe concentration; PH > 8.1	Michigan	MDNR 1989
	FW	Equation	µg/L		Criterion = e[1.005(pH)-5.290]; Chronic	Delaware	DDNREC 1993
	FW	Equation	µg/L		Criterion = e[1.005(pH)-4.830]; Acute	Delaware	DDNREC 1993
	FW	Equation	µg/L		Standard; Chronic Criterion; Value = exp(1.005(pH)-5.290)	Virginia	COV 1997
	FW	Equation	µg/L		Guideline; Chronic value; = e[1.0051pH - 5.0336]; PH <= 8.1	Michigan	MDNR 1989
	FW	Equation	µg/L		Criterion = e[1.005 (ln hardness) - 4.83]; Acute	Rhode Island	RIDEM 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Pentachlorophenol (cont.)	FW	Equation	µg/L		Criterion = e[1.005 (ln hardness) - 5.29]; Chronic	Rhode Island	RIDEM 1997
	FW	Equation	µg/L		Standard; Acute Criterion; Value = exp(1.005(pH)-4.830)	Virginia	COV 1997
	FW	Equation	µg/L		Criterion = e[1.005(pH)-4.830]; Acute	Quebec	MDEQ 1996
	FW	Equation	µg/L		Criterion = e[1.005(pH)-5.290]; Chronic	Quebec	MDEQ 1996
	FW	Equation	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; <=e[1.005(pH)-5.290]	Washington	Washington State 1997
	FW	Equation	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; <=e[1.005(pH)-4.830]	Washington	Washington State 1997
Pentachlorophenol (dissolved)	FW	0.4	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Pentachlorophenol (total)	FW	0.4	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Pentachlorophenol, 2,3,4,5,6-	FW	0.02	µg/L	TTA	Criterion; Interim; PH < 6.9	British Columbia	Nagpal et al. 1995
	FW	0.10	µg/L	TTA	Criterion; Interim; PH 6.9-7.9	British Columbia	Nagpal et al. 1995
	FW	0.30	µg/L	TTA	Criterion; Interim; PH > 7.9	British Columbia	Nagpal et al. 1995
	FW/SW	0.7	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Pentachlorophenols	FW	0.5	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	0.5	µg/L		Guideline	Canada	Environment Canada 1999
Permethrin (dissolved)	FW	0.0014	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Permethrin (total)	FW	0.015	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Pesticides	FW	Narrative			An application shall not exceed 1/100 of the48-hour median threshold limit (LC50). Any pesticide used on, in, or near water (within100 linear feet) must be approved by DOE	Alberta	AEP 1997
	FW	Narrative			Objective; To provide reasonably safe concentrations of substances not specifically addressed, a general Objective of 1/100 of the 96-hour LC50 of such substances shall be applied	Saskatchewan	SDEPS1988
pH	FW	5.0 – 9.5			Criterion; Acute	Quebec	MDEQ 1996
	FW	6.0			Standard; Lower value; Class B	Maine	USEPA 1988g
	FW	6.0			Standard; Lower value; Natural trout waters	Virginia	COV 1997
	FW	6.0			Standard; Lower value; Stockable trout waters	Virginia	COV 1997
	FW	6.0			Standard; Lower value; Nontidal water	Virginia	COV 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
pH (cont.)	FW	6.0			Standard; Lower value; Mountainous	Virginia	COV 1997
	FW	6.0			Standard; Lower value; Class C	Maine	USEPA 1988g
	FW/EST	6.0			Standard; Lower value	District of Columbia	USEPA 1988d
	FW	6.0 – 8.5			Standard; Rivers Class E; Lakes Class C	Japan	JWQB 1998
	FW	6 – 9			Imperative, salmonid and cyprinid waters, artificial variations shall not exceed 0.5 units from natural levels within the range, minimum monthly	Europe	CEC 1988
	FW	6.0 – 9.0		WBA	Class 2 Protection, for water below salinity of 5 ppt = no change in excess of 0.5 units from normal; Class 3 Protection = no change in excess of 1.0 unit from normal	Western Australia	WADCE 1981
	FW	6.1			Standard; Lower value for B-2 Classification	Montana	USEPA 1988e
	FW	6.5			Standard; Lower value for A-1, B-1 and C-1 Classification	Montana	USEPA 1988e
	FW	6.5			Criterion; Lower value	Idaho	IDH&W 1998
	FW	6.5			Standard; Lower value for B-3, C-2 and C-3 Classifications	Montana	USEPA 1988e
	FW/SW	6.5			Standard; Lower value; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters	Delaware	USEPA 1988c
	FW	6.5 – 8.3			Standard; For Class A; And not more than 0.5 units outside background	Massachusetts	COM 1996
	FW	6.5 – 8.3			Standard; For Class B; And not more than 0.5 units outside background	Massachusetts	COM 1996
	FW	6.5 – 8.5			Objective; And not altered by more than 0.5 units from ambient values	Saskatchewan	SDEPS1988
	FW	6.5 – 8.5		TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	6.5 – 8.5			Standard; May not vary more than 0.5 pH unit from natural conditions; Aquaculture	Alaska	ADEC 1998a
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class B (good)	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent)	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary)	Washington	Washington State 1997
	FW	6.5 – 8.5			Objective	Ontario	Environment Ontario 1989
	FW	6.5 – 8.5			Standard; Rivers Class AA, A, B and C; Lakes Class AA, A and B	Japan	JWQB 1998
	FW	6.5 – 8.5			Interim Guideline; Not altered by more than 0.5 units from background	Alberta	AEP 1997
	FW	6.5 – 8.5			Provisional Objective; Fraser River including the Main Stem, North, Middle, and Main Arms	British Columbia	Swain and Holms 1985
	FW	6.5 – 8.5			Standard; < 0.5 units change from natural conditions; For aquaculture	Alaska	ADEC 1998a
	FW/SW	6.5 – 8.5			Criterion; Use III and IV waters - Natural and recreational trout waters	Maryland	MDOE 1997
	FW/SW	6.5 – 8.5			Criterion; Use I waters	Maryland	MDOE 1997
	FW	6.5 – 9			Criterion; Continuous	United States	USEPA 1998a
	FW	6.5 – 9			Standard; < 0.5 units change from natural conditions	Alaska	ADEC 1998a
	FW	6.5 – 9			Criterion; Chronic	United States	USEPA 1990

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
pH (cont.)	FW	6.5 – 9.0			Guideline	Australia	ANZECC 1992
	FW	6.5 – 9.0			Objective; For cool and cold water	Manitoba	Williamson 1988
	FW	6.5 – 9.0			Standard; For Class C; And not more than 1.0 units outside background	Massachusetts	COM 1996
	FW	6.5 – 9.0			Criterion; Chronic	Quebec	MDEQ 1996
	FW	6.5 – 9.0			Guideline	Nova Scotia	NSDOE 1998
	FW	6.5 – 9.0			Criterion; Range; Or as it naturally occurs; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW	6.5 – 9.0			Guideline	Canada	Environment Canada 1999
	FW	8.5			Standard; Upper value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	8.5			Standard; Upper value; Class B	Maine	USEPA 1988g
	FW	8.5			Standard; Upper value; Class C	Maine	USEPA 1988g
	FW/EST	8.5			Standard; Upper value	District of Columbia	USEPA 1988d
	FW/SW	8.5			Standard; Upper value; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters	Delaware	USEPA 1988c
	FW	9.0			Standard; Upper value; Natural trout waters	Virginia	COV 1997
	FW	9.0			Standard; Upper value; Stockable trout waters	Virginia	COV 1997
	FW	9.0			Standard; Upper value; Mountainous	Virginia	COV 1997
	FW	9.0			Standard; Upper value; Nontidal water	Virginia	COV 1997
	FW	9.0			Standard; Upper value for B-2, B-3, C-2 and C-3 Classifications	Montana	USEPA 1988e
	FW	9.5			Criterion; Upper value	Idaho	IDH&W 1998
	FW	Narrative			Criterion; > 9.0: no statistically significant increase from background	British Columbia	BCMOELP 1998
	FW	Narrative			Criterion; Between 6.5 - 9.0: unrestricted change permitted	British Columbia	BCMOELP 1998
	FW	Narrative			Criterion; < 6.5: no statistically significant decrease from background	British Columbia	BCMOELP 1998
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State 1997
Phenanthrene	FW	0.3	µg/L	TTA	Criterion; Chronic	British Columbia	BCMOELP 1998
	FW	0.4	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.4	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	5.0	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	6.3	µg/L	TTA	Proposed Criterion; Chronic	United States	USEPA 1993
	FW	6.3	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	30	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	30	µg/L	TTA	Proposed Criterion; Acute	United States	USEPA 1993
	FW	45	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
Phenanthrene (dissolved)	FW	0.029	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Phenanthrene (total)	FW	0.031	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Phenol	FW	1.0	µg/L		Chronic criterion	Virginia	USEPA 1988a
	FW	1.00	µg/L		Criterion	Puerto Rico	USEPA 1988a
	FW	5	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	5.01	µg/L		Criterion	Georgia, USA	USEPA 1988a
	FW	5.6	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	10	µg/L		Criterion	Utah	USEPA 1988a
	FW/SW	10.0	µg/L		Criterion	Puerto Rico	USEPA 1988a
	FW	20	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	50	µg/L		Criterion	Mississippi	USEPA 1988a
	FW	50	µg/L		Criterion	Iowa	USEPA 1988a
	FW/SW	50.0	µg/L		Guideline	Australia	ANZECC 1992
	FW	100	µg/L		Criterion	Missouri	USEPA 1988a
	FW/EST	100	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	115.7	µg/L	TTA	Criterion; Final Chronic Value	Great Lakes	USEPA 1992
	FW	135	µg/L		Guideline; Human life-cycle safe concentration	Michigan	MDNR 1989
	FW/SW	200	µg/L		Standard; Upper value; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters	Delaware	USEPA 1988c
	FW	251	µg/L		Acute Criterion	Rhode Island	USEPA 1988a
	FW	251	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	490	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	575.0	µg/L		Criterion	Oklahoma	USEPA 1988a
	FW	2560	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	2560	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	2560	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	3700	µg/L	TTA	Criterion; Maximum	Great Lakes	USEPA 1992
	FW	7358	µg/L	TTA	Criterion; Final Acute Value	Great Lakes	USEPA 1992
	FW	10200	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	10200	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	10200	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
Phenol (dissolved)	FW	1.7	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Phenol (total)	FW	1.7	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Phenolics	FW	5	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	5	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Phenols	FW	1	µg/L		Criterion; Exceptional warm water and cold water	Ohio	USEPA 1988a

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Phenols (cont.)	FW	1	µg/L		Monthly Average; Lake Michigan and Contiguous Harbour	Indiana	USEPA 1988a
	FW	1	µg/L		Objective; To protect against tainting of edible fish flesh	Ontario	Environment Ontario 1989
	FW	1	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	1	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	1	µg/L		Criterion	Ohio	USEPA 1988a
	FW	1.0	µg/L		Criterion	Oregon	USEPA 1988a
	FW	1.0	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	1.0	µg/L		Criterion	Nevada	USEPA 1988a
	FW	3	µg/L		Daily Maximum; Lake Michigan and Contiguous Harbor	Indiana	USEPA 1988a
	FW	5	µg/L		Criterion	Kentucky	USEPA 1988a
	FW	5	µg/L		Criterion	Arizona	USEPA 1988a
	FW	5	µg/L		Criterion	West Virginia	USEPA 1988a
	FW	10	µg/L		Criterion; 30 day average	Ohio	USEPA 1988a
	FW	10	µg/L		Criterion; Grand Calumet River; Indiana Harbour	Indiana	USEPA 1988a
	FW	10	µg/L		Criterion; Ohio River	Ohio	USEPA 1988a
	FW	10	µg/L		Criterion; Ohio River main stem; Interstate portion of the Wabash River	Indiana	USEPA 1988a
	FW	50	µg/L		Criterion	Louisiana	USEPA 1988a
	FW	300	µg/L		Criterion; Indigenous	Illinois	USEPA 1988a
Phenols (mono and dihydric)	FW	4.0	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	4.0	µg/L		Guideline	Canada	Environment Canada 1999
Phenols (total chlorinated)	FW	1.0	µg/L		Criterion	New York State	USEPA 1988a
	FW/EST	3.0	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Phenols (total unchlorinated)	FW	5.0	µg/L		Criterion	New York State	USEPA 1988a
Phenols (total)	FW	1	µg/L	TTA	Criterion; Maximum; To prevent fish tainting	British Columbia	Nagpal et al. 1995
Phenoxy Herbicides	FW	4	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	4	µg/L		Guideline	Canada	Environment Canada 1999
Phosphorus (elemental)	FW	1.2	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Phosphorus (total)	FW-Lakes	5	µg/L		Standard; Lakes Class I	Japan	JWQB 1998
	FW-Lakes	5–15	µg/L		Criterion; Lakes only (with salmonids as predominant fish species)	British Columbia	BCMOELP 1998
	FW-Lakes	10	µg/L		Standard; Lakes Class II	Japan	JWQB 1998
	FW-Lakes	15	µg/L		Standard; Upper value; Class GPA - Lakes and Ponds	Maine	USEPA 1988g

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Phosphorus (total; cont.)	FW-Lakes	20	µg/L		Criterion; Chronic; For limiting growth of algae and aquatic plants in lakes	Quebec	MDEQ 1996
	FW	25	µg/L		Criterion; Maximum average; In any lake, pond, kettlehole, or reservoir; Class A, B, B1, C	Rhode Island	RIDEM 1997
	FW	30	µg/L		Criterion; Chronic; For limiting growth of algae and aquatic plants in streams/rivers	Quebec	MDEQ 1996
	FW-Lakes	50	µg/L		Standard; Lakes Class IV	Japan	JWQB 1998
	FW-Lakes	100	µg/L		Standard; Lakes Class V	Japan	JWQB 1998
	FW	150	µg/L		Interim Guideline; Maximum; Total inorganic and organic as PO4	Alberta	AEP 1997
	FW/SW	Narrative			Regulation; No phosphorus unless naturally occurring; Class A waters (See reference)	New Hampshire	NHDES 1996
Phoxim (dissolved)	FW	0.2	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Phoxim (total)	FW	0.2	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Phthalate Esters	FW	0.2	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.2	µg/L		Guideline	Australia	ANZECC 1992
	FW	3	µg/L		Criterion	Kentucky	USEPA 1988a
	FW	3	µg/L		Criterion; Lake Erie	Ohio	USEPA 1988a
	FW	3	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	3	µg/L		Criterion	Nevada	USEPA 1988a
	FW	3	µg/L		Criterion; Cold water, warm water, and exceptional warm water	Ohio	USEPA 1988a
	FW	3	µg/L		Criterion	Florida	USEPA 1988a
	FW	3	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	3	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	3.0	µg/L		Chronic criterion	Virginia	USEPA 1988a
	FW/EST	100	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	940	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	940	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	940	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
Picloram	FW	29	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	29	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	29	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Propachlor (dissolved)	FW	0.12	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Propachlor (total)	FW	0.12	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Propylene Dichloride	FW	120	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	2600	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	5700	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	23000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Propylidene Chloride	FW	51	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1200	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Propylene Glycol	FW	500000	µg/L		Guideline	Canada	Environment Canada 1999
	FW	500000	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	500000	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
Pseudocumene	FW	33	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	290	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
Pyrazophos (dissolved)	FW	0.002	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Pyrazophos (total)	FW	0.002	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Pyrene	FW	0.02	µg/L	TTA	Criterion; Phototoxic	British Columbia	BCMOELP 1998
	FW	0.025	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.025	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	4.2	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	FW	4.6	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
Pyrene (dissolved)	FW	0.0082	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Pyrene (total)	FW	0.01	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Pyridine	FW	20	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Quinoline	FW	3.4	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	3.4	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Radioactivity-Beta (gross)	FW	37.0	Bq/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW/SW	1000	pCi/L		Regulation; Upper value; Class A and B waters (See reference)	New Hampshire	NHDES 1996
Radium 226	FW	0.11	Bq/L		Interim Guideline; Maximum	Alberta	AEP 1997

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Radium 226 (cont.)	FW/SW	3	pCi/L		Regulation; Upper value; Class A and B waters (See reference)	New Hampshire	NHDES 1996
Residue (non-filterable)	FW	25000	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
Resin Acids	FW	77	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	100	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Salinity	FW	1000000	µg/L		Guideline; Maximum (about 1500 µS/cm)	Australia	ANZECC 1992
Selenium	FW	1	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	1	µg/L		Guideline	Canada	Environment Canada 1999
	FW	5	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	5	µg/L	TTA	Criterion; Acute	United States	USEPA 1993
	FW	5	µg/L		Proposed Criterion; Chronic	Alaska	ADEC 1998b
	FW	5	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW	5	µg/L		Criterion; Acute	United States	Canton and Vanderveer 19
	FW	5	µg/L		Criterion; Chronic	United States	Canton and Van Derveer 1
	FW	5	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	5.0	µg/L		Criterion; Continuous (over 4 days); Total recoverable metal	California	USEPA 1997c
	FW	5.0	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	5.0	µg/L		Criterion; Continuous; Total recoverable metal	United States	USEPA 1998a
	FW	10	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	20	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	20	µg/L		Proposed Criterion; Acute	Alaska	ADEC 1998b
	FW	20	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	20	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	20	µg/L	TTA	Criterion; Chronic	United States	USEPA 1993
	FW	20	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	FW	35	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW/EST	40	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	100	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	260	µg/L		Criterion; Acute	Oregon	ODEQ 1996
Selenium (dissolved)	FW	4.6	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	5	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	5.0	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	20	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	20	µg/L		Standard; Acute Criterion	Virginia	COV 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Selenium (IV)	FW	27.6	µg/L	TTA	Criterion; Final Chronic Value	Great Lakes	USEPA 1992
	FW	190	µg/L	TTA	Criterion; Maximum	Great Lakes	USEPA 1992
	FW	371.8	µg/L	TTA	Criterion; Final Acute Value	Great Lakes	USEPA 1992
Selenium (total)	FW	1	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	5	µg/L	TTA	Criterion; Final Chronic Value	Great Lakes	USEPA 1992
	FW	5.0	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; Total recoverable	Washington	Washington State 1997
	FW	5.0	µg/L		Guideline	Australia	ANZECC 1992
	FW	20	µg/L	TTA	Criterion; Maximum	Great Lakes	USEPA 1992
	FW	20.0	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; Total recoverable	Washington	Washington State 1997
	FW	39.96	µg/L	TTA	Criterion; Final Acute Value	Great Lakes	USEPA 1992
Selenium (VI)	FW	9.453	µg/L	TTA	Criterion; Final Chronic Value	Great Lakes	USEPA 1992
	FW	13	µg/L	TTA	Criterion; Maximum	Great Lakes	USEPA 1992
	FW	25.06	µg/L	TTA	Criterion; Final Acute Value	Great Lakes	USEPA 1992
Silver	FW	0.1	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.1	µg/L		Standard; Chronic; Aquaculture; Ionic Silver	New York State	NYSDEC 1998
	FW	0.1	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	0.1	µg/L		Guideline	Canada	Environment Canada 1999
	FW	0.1	µg/L	TTA	Criterion; Maximum; Hardness <= 100 CaCO3 mg/L	British Columbia	BCMOELP 1998
	FW	0.1	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.1168	µg/L	TTA	Criterion; Final Chronic Value	Great Lakes	USEPA 1992
	FW	0.12	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.12	µg/L	TTA	Criterion; Chronic	United States	USEPA 1993
	FW	0.12	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.9	µg/L	TTA	Criterion; Maximum	Great Lakes	USEPA 1992
	FW	0.92	µg/L	TTA	Proposed Criterion; Acute	United States	USEPA 1993
	FW/EST	1.0	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	1.833	µg/L	TTA	Criterion; Final Acute Value	Great Lakes	USEPA 1992
	FW	4.1	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	4.1	µg/L		Criterion; Acute; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	4.1	µg/L	TTA	Criterion; Acute; Hardness dependent; 100 mg/L CaCO3 used	United States	USEPA 1993
	FW	50	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW	Equation	µg/L		Standard; Acute; Value = exp(1.72[ln(ppm hardness)]-6.52); Acid-soluble	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Silver (cont.)	FW	Equation	µg/L		Criterion = e[1.72(ln hardness)-6.52]; Acute	Delaware	DDNREC 1993
	FW	Equation	µg/L		Criterion = e[1.72(ln hardness)-6.52]/2; Acute	Quebec	MDEQ 1996
Silver (dissolved)	FW	0.32	µg/L		Regulation; Acute Criterion; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	3.4	µg/L		Criterion; Maximum; At hardness = 100 mg/L	United States	USEPA 1998a
	FW	3.4	µg/L		Criterion; Maximum; At hardness = 100 mg/L; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	4.1	µg/L		Standard; Acute Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[1.72(ln(hardness))-6.52]	Virginia	COV 1997
	FW	Equation	µg/L		Criterion = 0.85 x e [1.72 (ln hardness) - 6.52]; Acute	Rhode Island	RIDEM 1997
	FW	Equation	µg/L		Criterion; Acute; Maximum; Instantaneous; <=(0.85){e(1.72[ln(hardness)]-6.52}	Washington	Washington State 1997
Silver (total)	FW	0.05	µg/L		Criterion; 30-day average when water hardness <=100000 µg/L CaCO3	British Columbia	BCMOELP 1998
	FW	0.1	µg/L		Guideline	Australia	ANZECC 1992
	FW	1.5	µg/L		Criterion; 30-day average when water hardness >100000 µg/L CaCO3	British Columbia	BCMOELP 1998
	FW	3.0	µg/L		Criterion; Maximum when water hardness >100000 µg/L CaCO3	British Columbia	BCMOELP 1998
Simazine	FW	10	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	10	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	10	µg/L		Guideline	Canada	Environment Canada 1999
	FW	10	µg/L		Guideline	Nova Scotia	NSDOE 1998
Simazine (dissolved)	FW	0.38	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Simazine (total)	FW	0.38	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Sodium	FW	30 – 75	%		Interim Guideline; Maximum as % cations	Alberta	AEP 1997
Sodium Azide	FW	3.1	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	70	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Solids (settleable)	FW	Narrative			Standard; Not increased by more than 5% of the natural conditions; For sediment range of 0.1-4.0 mm; In waters used by anadromous or resident fish	Alaska	ADEC 1998a
	FW	Narrative			Standard; In all other surface waters; No sediment loads (suspended or deposited) that can cause adverse effects on aquatic animal or plant life, their reproduction or habitat may be present	Alaska	ADEC 1998a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Solids (settleable; cont.)	FW	Narrative			Standard; Maximum 30% by weight; For sediment range of 0.1-4.0 mm; In waters used by anadromous or resident fish for spawning	Alaska	ADEC 1998a
	FW/SW	Narrative			Standard; No imposed loads that will interfere with established water supply treatment levels; Aquaculture	Alaska	ADEC 1998a
Strontium	FW	7	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
Strontium 90	FW	0.37	Bq/L		Interim Guideline; Maximum	Alberta	AEP 1997
	FW/SW	10	pCi/L		Regulation; Upper value; Class A and B waters (See reference)	New Hampshire	NHDES 1996
Styphnic Acid	FW	15000	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	340000	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Styrene	FW	4	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	70	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	72	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	72	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Sulphate	FW	300	mg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Sulphate (dissolved)	FW	100	mg/L	TTA	Criterion; Maximum (SO4); Tentative; Effects on some species/life stages	British Columbia	Nagpal et al. 1995
Sulphide	FW	2	µg/L		Objective; Undissociated H2S	Ontario	Environment Ontario 1989
	FW	2	µg/L		Objective; Undissociated H2S; For cool and cold water	Manitoba	Williamson 1988
	FW	2	µg/L		Criterion; Chronic; As H2S	United States	USEPA 1990
	FW	2.0	µg/L		Criterion; Continuous; As H2S	United States	USEPA 1998a
	FW/SW	2	µg/L	TTA	Criterion; Undissociated H2S; H2S is detectable in clean water at 0.025 to 0.25 µg/L; H2S can be calculated from total sulfide, pH, T, and salinity	British Columbia	Nagpal et al. 1995
	FW/SW	2.0	µg/L		Guideline; Undissociated H2S	Australia	ANZECC 1992
	FW	10	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	50	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997
Sulphides (total)	FW	2.0	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
Sulphite	FW	200	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
Sulphites	FW	200	µg/L		Criterion; Chronic	Quebec	MDEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Suspended Solids	FW-Lakes	1	mg/L		Standard; Lakes Class AA	Japan	JWQB 1998
	FW-Lakes	5	mg/L		Standard; Lakes Class A	Japan	JWQB 1998
	FW/SW	5	mg/L		Guideline; Clear flow; Maximum increase from background	Canada	Environment Canada 1999
	FW/SW	5	mg/L		Guideline; Clear flow; Maximum increase from background	Nova Scotia	NSDOE 1998
	FW	10	%		Provisional Objective; Maximum increase for Fraser River when upstream background >= 100000 µg/L	British Columbia	Swain and Holms 1985
	FW	10	mg/L		Provisional Objective; Maximum increase for Fraser River when upstream background <= 100000 µg/L	British Columbia	Swain and Holms 1985
	FW-Lakes	15	mg/L		Standard; Lakes Class B	Japan	JWQB 1998
	FW	25	mg/L		Standard; Rivers Class AA, A and B	Japan	JWQB 1998
	FW/SW	25	mg/L		Guideline; High flow; Maximum increase from background at any time when background between 25 -250 mg/L	Nova Scotia	NSDOE 1998
	FW/SW	25	mg/L		Guideline; Clear flow; Maximum increase form background during short term	Nova Scotia	NSDOE 1998
	FW/SW	25	mg/L		Guideline; High flow; Maximum increase from background at any time when background between 25 -250 mg/L	Canada	Environment Canada 1999
	FW/SW	25	mg/L		Guideline; Clear flow; Maximum increase from background during short term	Canada	Environment Canada 1999
	FW	50	mg/L		Standard; Rivers Class C	Japan	JWQB 1998
	FW	Narrative			Standard; Rivers Class E; Floating matter such as garbage should not be observed	Japan	JWQB 1998
	FW-Lakes	Narrative			Standard; Lakes Class C; Floating matter such as garbage shall not be	Japan	JWQB 1998
Suspended Solids (total)	FW	10	%		Objective; Maximum increase over background when background is > 100000 µg/L	Saskatchewan	SDEPS1988
	FW	10	mg/L		Objective; Maximum increase over background when background is > 100000 µg/L	Saskatchewan	SDEPS1988
	FW	10	mg/L		Interim Guideline; Maximum increase over background	Alberta	AEP 1997
	FW	25	mg/L		Guide level for salmonid and cyprinid waters; Average	Europe	CEC 1988
T3CDD (Dioxin)	FW	0.000038	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	0.01	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
T4CDD, 2,3,7,8-	FW	0.000000014	µg/L		Criterion; Fish consumption only; 10- 6 risk level	United States	USEPA 1990
	FW	0.000000014	µg/L		Guideline; Cancer risk value	Michigan	MDNR 1989
	FW	0.00000002	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	0.00001	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	0.01	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	1	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	0.0000002	µg/L		Proposed guideline	Ontario	Environment Ontario 1989

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
T4CDD, 2,3,7,8- (cont.)	FW	0.0000002	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	0.000002	µg/L		Criterion; Chronic; Based on Lowest Observed Effect Level	United States	USEPA 1990
Tebuthiuron	FW	1.6	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	1.6	µg/L		Interim Guideline	Canada	Environment Canada 1999
Temperature	FW	9	°C		Criterion; Maximum daily average for bull trout spawning	Idaho	IDH&W 1998
	FW	10 – 21.5	°C		Imperative for salmonid waters; Downstream of the point of thermal discharge (edge of mixing zone); weekly sampling upstream and downstream of point of thermal discharge	Europe	CEC 1988
	FW	10 – 28	°C		Imperative for cyprinid waters; Downstream of the point of thermal discharge (edge of mixing zone); weekly sampling upstream and downstream of point of thermal discharge	Europe	CEC 1988
	FW	12	°C		Criterion; Maximum daily average for juvenile bull trout rearing	Idaho	IDH&W 1998
	FW	13	°C		Standard; For spawning areas and egg & fry incubation; Includes aquaculture	Alaska	ADEC 1998a
	FW	13	°C		Criterion; Maximum for water-column spawning salmon; And maximum daily average <= 9 °C	Idaho	IDH&W 1998
	FW	15	°C		Standard; For migration routes and rearing areas; Includes aquaculture	Alaska	ADEC 1998a
	FW	16.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=23/[T+5] at any time; Class AA (extraordinary)	Washington	Washington State 1997
	FW	18.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=28/[T+7] at any time; Class A (excellent)	Washington	Washington State 1997
	FW	20	°C		Standard; Maximum; Natural trout waters	Virginia	COV 1997
	FW	20	°C		Standard; Maximum; Includes aquaculture	Alaska	ADEC 1998a
	FW	20	°C		Standard; For Class A; Maximum in cold water fisheries (or 68 F)	Massachusetts	COM 1996
	FW	20	°C		Standard; For Class B; Maximum in cold water fisheries; (or 68 F)	Massachusetts	COM 1996
	FW/SW	20	°C		Criterion; (68 F); Outside mixing zone; Or may not exceed ambient temperature, whichever is greater; Use III and IV waters - Natural trout waters	Maryland	MDOE 1997
	FW	21	°C		Standard; Maximum; Stockable trout waters	Virginia	COV 1997
	FW	21.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=34/[T+9]; Class B (good)	Washington	Washington State 1997
	FW	28.3	°C		Criterion; Maximum; Class A, B, B1, C; (83 F)	Rhode Island	RIDEM 1997
	FW	28.3	°C		Standard; For Class B; Maximum in warm water fisheries; (or 83 F)	Massachusetts	COM 1996
	FW	28.3	°C		Standard; For Class A; Maximum in warm water fisheries (or 83 F)	Massachusetts	COM 1996
	FW	29	°C		Criterion; Maximum daily average for waters 33 °C or less; Warm Water	Idaho	IDH&W 1998
	FW	29.4	°C		Standard; For Class C; At any time (or 85 F)	Massachusetts	COM 1996
	FW/SW	29.4	°C		Standard; Upper value; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters; (85 F)	Delaware	USEPA 1988c

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature (cont.)	FW	31	°C		Standard; Maximum; Mountainous	Virginia	COV 1997
	FW	32	°C		Standard; Maximum; Nontidal waters	Virginia	COV 1997
	FW/EST	32.2	°C		Standard; Upper value	District of Columbia	USEPA 1988d
	FW/SW	32.2	°C		Criterion; Use I waters - Primary contact (90 F); Outside mixing zone; Or may not exceed ambient temperature, whichever is greater	Maryland	MDOE 1997
	FW	Narrative			Objective; The natural thermal regime of any body of water shall not be altered so as to impair the quality of the natural environment. In particular, the diversity, distribution and abundance of plant and animal life shall not be significantly changed	Ontario	Environment Ontario 1989
	FW	Narrative			Guideline; Thermal additions should not alter thermal stratification or turnover dates, exceed maximum weekly average temperatures; Nor exceed maximum short-term	Canada	Environment Canada 1999
	FW	Narrative			Interim Guideline; Thermal additions should not alter thermal stratification or turnover dates, exceed maximum weekly average temperatures; Nor exceed maximum short-term	Nova Scotia	NSDOE 1998
Temperature (change)	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 21.0 C / 19.0 C for FW/SW respectively; Class B (good)	Washington	Washington State 1997
	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 16.0 C / 13.0 C for FW/SW respectively; Class AA (extraordinary)	Washington	Washington State 1997
	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed guideline; Class A (excellent)	Washington	Washington State 1997
	FW	0.3	°C		Standard; Secondary Upper Limit for B-2, B-3, C-2 and C-3 Classifications; (0.5 F)	Montana	USEPA 1988e
	FW	0.3	°C		Standard; Secondary Upper Limit for A-1, B-1 and C-1 Classification; (0.5 F)	Montana	USEPA 1988e
	FW	0.5	°C		Criterion; Maximum for bull trout waters (See reference)	Idaho	IDH&W 1998
	FW	0.6	°C		Standard; Upper value for A-1, B-1 and C-1 Classification; (1 F)	Montana	USEPA 1988e
	FW	0.6	°C		Standard; Upper value for B-2 and C-2 Classifications; (1 F)	Montana	USEPA 1988e
	FW	0.83	°C		Standard; For Class A; (or 1.5 F)	Massachusetts	COM 1996
	FW	1.5	°C		Maximum increase; Imperative for salmonid waters; Weekly measurements taken both upstream and downstream of the point of thermal discharge (edge of mixing zone)	Europe	CEC 1988
	FW	1.7	°C		Standard; For Class B; Maximum for lakes and ponds; (or 3 F)	Massachusetts	COM 1996
	FW	1.7	°C		Standard; For Class B; Maximum in cold water fisheries; (or 3 F)	Massachusetts	COM 1996
	FW	1.7	°C		Standard; Secondary Upper Limit; Class A; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; Upper value for B-3 and C-3 Classifications; (3 F)	Montana	USEPA 1988e
	FW	1.7	°C		Standard; Secondary Upper Limit; Class B; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; Secondary Upper Limit; Class C; (3 F)	Maine	USEPA 1988g

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature (change; cont.)	FW	1.7	°C		Standard; Secondary Upper Limit; Class AA; (3 F)	Maine	USEPA 1988g
	FW-Lakes	1.7	°C		Standard; Secondary Upper Limit; Class GPA - Lakes and Ponds; (3 F)	Maine	USEPA 1988g
	FW/SW	2	°C		Guideline; Maximum increase	Australia	ANZECC 1992
	FW	2.2	°C		Criterion; Maximum increase for receiving waters; Class A, B, B1, C; (4 F)	Rhode Island	RIDEM 1997
	FW/SW	2.2	°C		Standard; Secondary Upper Limit; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters; (4 F)	Delaware	USEPA 1988c
	FW	2.8	°C		Standard; Upper value; Class C; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; For Class B; Maximum in warm water fisheries; (or 5 F)	Massachusetts	COM 1996
	FW/EST	2.8	°C		Standard; Upper value for Temperature Change	District of Columbia	USEPA 1988d
	FW	2.8	°C		Standard; Upper value; Class A; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; Upper value; Class AA; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; Upper value; Class B; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; For Class C; (or 5 F)	Massachusetts	COM 1996
	FW/SW	2.8	°C		Standard; Upper value; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters; (5 F)	Delaware	USEPA 1988c
	FW-Lakes	2.8	°C		Standard; Upper value; Class GPA - Lakes and Ponds; (5 F)	Maine	USEPA 1988g
	FW	3	°C		Objective; Maximum increase above ambient water temperature	Saskatchewan	SDEPS1988
	FW	3	°C		Maximum increase, imperative for cyprinid waters, weekly measurements taken both upstream and downstream of the point of thermal discharge (edge of mixing zone)	Europe	CEC 1988
	FW	3	°C		Interim Guideline; Maximum increase above ambient conditions	Alberta	AEP 1997
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State 1997
Tetrachlorobenzene, 1,2,3,4-	FW	0.1	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.1	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	1.8	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	1.8	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	1.8	µg/L		Interim Guideline	Canada	Environment Canada 1999
Tetrachlorobenzene, 1,2,3,5-	FW	0.1	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.1	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	7.1	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	321	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
Tetrachlorobenzene, 1,2,4,5-	FW	0.15	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.2	µg/L		Guideline	Australia	ANZECC 1992
	FW	50	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	250	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Tetrachlorobenzenes (dissolved)	FW	0.15	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Tetrachlorobenzenes (total)	FW	0.16	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Tetrachloroethane	FW	10	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	21	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	70	µg/L	TTA	Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	466	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	470	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	2400	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	2400	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	2400	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
Tetrachloroethane, 1,1,1,2-	FW	22	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	44	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	980	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	1000	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Tetrachloroethanes	FW	9320	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	9320	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Tetrachloroethylene	FW	5	µg/L	TTA	Ecotoxicological value; Dissolved	Netherlands	Stortelder et al. 1989
	FW	5	µg/L	TTA	Ecotoxicological value; Total	Netherlands	Stortelder et al. 1989
	FW	5.3	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	50	µg/L	TTA	Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	110	µg/L	TTA	Criterion; Interim maximum	British Columbia	Nagpal et al. 1995
	FW	110	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	111	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	111	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	240	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	540	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	840	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	840	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	840	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	840	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	FW	5280	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	5280	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	5280	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Tetrachlorophenol, 2,3,4,5-	FW	0.04	µg/L	TTA	Criterion; Interim; PH < 7.5	British Columbia	Nagpal et al. 1995
	FW	0.20	µg/L	TTA	Criterion; Interim; PH >= 7.5	British Columbia	Nagpal et al. 1995
	FW/SW	1.7	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Tetrachlorophenol, 2,3,4,6-	FW	0.04	µg/L	TTA	Criterion; Interim; PH< 7.1	British Columbia	Nagpal et al. 1995
	FW	0.16	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.30	µg/L	TTA	Criterion; Interim; PH >= 7.1	British Columbia	Nagpal et al. 1995
	FW	0.31	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW/SW	4.9	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
	FW	7	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	7	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
Tetrachlorophenol, 2,3,5,6-	FW	0.02	µg/L	TTA	Criterion; Interim; PH < 7.1	British Columbia	Nagpal et al. 1995
	FW	0.10	µg/L	TTA	Criterion; Interim; PH 7.1-8.1	British Columbia	Nagpal et al. 1995
	FW	0.19	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.25	µg/L	TTA	Criterion; Interim; PH > 8.1	British Columbia	Nagpal et al. 1995
	FW	0.38	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW/SW	2.2	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
	FW	8.5	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	8.5	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
Tetrachlorophenols	FW	1	µg/L		Guideline	Canada	Environment Canada 1999
	FW	1	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	1	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	1.0	µg/L		Guideline	Australia	ANZECC 1992
	FW	1.0	µg/L		Objective; All isomers	Ontario	Environment Ontario 1989
Thallium	FW	0.3	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	0.8	µg/L		Guideline	Canada	Environment Canada 1999
	FW	0.8	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	1.0	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	4.0	µg/L		Guideline; Total	Australia	ANZECC 1992
	FW	8	µg/L		Standard; Chronic; Aquaculture; Acid-soluble form	New York State	NYSDEC 1998
	FW	8	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	20	µg/L		Criterion; Acute	Quebec	MDEQ 1996

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Thallium (cont.)	FW	20	µg/L		Standard; Acute; Acid-soluble form	New York State	NYSDEC 1998
	FW	40	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	40	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	46	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	1400	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	1400	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Thiocyanates	FW	90	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	2100	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Thiram (dissolved)	FW	0.018	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Thiram (total)	FW	0.018	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Titanium (total)	FW	100	µg/L	TTA	Criterion	British Columbia	Nagpal et al. 1995
Toluene	FW	0.8	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	2	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	2.0	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	2.0	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW/SW	14	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	100	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	300.0	µg/L		Guideline	Australia	ANZECC 1992
	FW	480	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	FW	580	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	635	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	17500	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	17500	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Total Dissolved Solids	FW	1000	mg/L		Standard; Proposed Maximum; Including natural conditions; There shall be no concentrations of TDS in water that cause an adverse effect to aquatic life; Includes aquaculture	Alaska	ADEC 1998b
	FW	1500	mg/L		Standard; Maximum	Alaska	ADEC 1998a
Toxaphene	FW	0.0002	µg/L		Criterion; Chronic	United States	USEPA 1990
	FW	0.0002	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW	0.0002	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW	0.0002	µg/L		Criterion; Continuous	California	USEPA 1997c

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Toxaphene (cont.)	FW	0.0002	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.0002	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	0.0002	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.0002	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.0002	µg/L		Proposed Criterion; Chronic	Alaska	ADEC 1998b
	FW	0.0002	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	FW	0.0002	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	FW	0.005	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	0.008	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.008	µg/L		Objective; Unfiltered sample	Ontario	Environment Ontario 1989
	FW/SW	0.008	µg/L		Guideline	Australia	ANZECC 1992
	FW/EST	0.01	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	0.013	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	0.73	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	0.73	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	0.73	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	FW	0.73	µg/L		Criterion; Acute	United States	USEPA 1990
	FW	0.73	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	0.73	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW	0.73	µg/L		Criterion; Maximum	California	USEPA 1997c
	FW	0.73	µg/L		Proposed Criterion; Acute	Alaska	ADEC 1998b
	FW	0.73	µg/L		Criterion; Maximum	United States	USEPA 1998a
	FW	0.73	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	FW	0.73	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; Channel catfish may be more acutely sensitive	Washington	Washington State 1997
	FW	0.78	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW	1.6	µg/L		Standard; Acute	New York State	NYSDEC 1998
Triallate	FW	0.24	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	0.24	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.24	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
Triazophos (dissolved)	FW	0.03	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Triazophos (total)	FW	0.03	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Tributyltin	FW	0.00004	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Tributyltin (cont.)	FW	0.008	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	0.008	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.008	µg/L	TTA	Criterion; Interim maximum	British Columbia	Nagpal et al. 1995
	FW	0.008	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.026	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW	0.026	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW	0.063	µg/L		Criterion; Continuous	United States	USEPA 1998a
	FW	0.46	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	FW	0.46	µg/L		Criterion; Maximum	United States	USEPA 1998a
Tributyltin Compounds (dissolved)	FW	0.006	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Tributyltin Compounds (total)	FW	0.006	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Trichlorfon (dissolved)	FW	0.005	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Trichlorfon (total)	FW	0.005	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Trichlorinated Ethanes	FW	18000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	18000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Trichlorobenzene, 1,2,3-	FW	0.9	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.9	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	8	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	8.0	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	8.0	µg/L		Interim Guideline	Canada	Environment Canada 1999
Trichlorobenzene, 1,2,4-	FW	0.5	µg/L		Guideline	Australia	ANZECC 1992
	FW	0.5	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	1.7	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	24	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	24	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	24	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	50	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	75	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW/SW	129	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	250	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichlorobenzene, 1,3,5-	FW	0.65	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	0.7	µg/L		Guideline	Australia	ANZECC 1992
Trichlorobenzenes	FW	5	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
Trichlorobenzenes (dissolved)	FW	0.44	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Trichlorobenzenes (total)	FW	0.43	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Trichloroethane, 1,1,1-	FW	89	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	2000	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Trichloroethane, 1,1,1- (dissolved)	FW	35	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Trichloroethane, 1,1,1- (total)	FW	37	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Trichloroethane, 1,1,2-	FW	20	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	21	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	21	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	100	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	800	µg/L	TTA	Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	900	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	2400	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	9400	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	9400	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	9400	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
Trichloroethylene	FW	20	µg/L	TTA	Criterion	British Columbia	Nagpal et al. 1995
	FW	20	µg/L	TTA	Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	20	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	43	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	590	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	1950	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	21900	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW	21900	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	21900	µg/L	TTA	Criterion; Chronic; Lowest Observed Effect Level	United States	USEPA 1993
	FW	45000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	FW	45000	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichloroethylene (cont.)	FW	45000	µg/L	TTA	Criterion; Acute; Lowest Observed Effect Level	United States	USEPA 1993
	FW	45000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Trichloroethylene (dissolved)	FW	1	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Trichloroethylene (total)	FW	1	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Trichlorofluoromethane	FW	580	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	11000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Trichlorophenol, 2,3,4-	FW	0.10	µg/L	TTA	Criterion; Interim; PH < 7.9	British Columbia	Nagpal et al. 1995
	FW	0.30	µg/L	TTA	Criterion; Interim; PH >= 7.9	British Columbia	Nagpal et al. 1995
	FW/SW	2.2	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Trichlorophenol, 2,3,5-	FW	0.08	µg/L	TTA	Criterion; Interim; PH < 7.9	British Columbia	Nagpal et al. 1995
	FW	0.25	µg/L	TTA	Criterion; Interim; PH >= 7.9	British Columbia	Nagpal et al. 1995
	FW/SW	2.2	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Trichlorophenol, 2,3,6-	FW	0.06	µg/L	TTA	Criterion; Interim; PH < 7.3	British Columbia	Nagpal et al. 1995
	FW	0.32	µg/L	TTA	Criterion; Interim; PH >= 7.3	British Columbia	Nagpal et al. 1995
	FW/SW	7.2	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Trichlorophenol, 2,4,5-	FW	0.08	µg/L	TTA	Criterion; Interim; PH < 7.9	British Columbia	Nagpal et al. 1995
	FW	0.24	µg/L	TTA	Criterion; Interim; PH >= 7.9	British Columbia	Nagpal et al. 1995
	FW	0.51	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	2	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW/SW	2.0	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
	FW	23	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	46	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Trichlorophenol, 2,4,6-	FW	0.12	µg/L	TTA	Criterion; Interim; PH < 7.5	British Columbia	Nagpal et al. 1995
	FW	0.36	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	0.50	µg/L	TTA	Criterion; Interim; PH >= 7.5	British Columbia	Nagpal et al. 1995
	FW	1.6	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichlorophenol, 2,4,6- (cont.)	FW	3.6	µg/L		Criterion; Fish consumption only; 10- 6 risk level	United States	USEPA 1990
	FW/SW	5.3	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
	FW	16	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	36	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	970	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW	970	µg/L		Criterion; Chronic; Based on Lowest Observed Effect Level	United States	USEPA 1990
	FW	970	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
Trichlorophenol, 3,4,5-	FW	0.06	µg/L	TTA	Criterion; Interim; And pH	British Columbia	Nagpal et al. 1995
	FW/SW	0.9	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Trichlorophenols	FW	18	µg/L		Guideline	Canada	Environment Canada 1999
	FW	18	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	18	µg/L		Objective; All isomers	Ontario	Environment Ontario 1989
	FW	18	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
Trichlorophenols (dissolved)	FW	10	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Trichlorophenols (total)	FW	11	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	18.0	µg/L		Guideline	Australia	ANZECC 1992
Trifluralin	FW	0.1	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	0.20	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	0.20	µg/L		Guideline	Canada	Environment Canada 1999
	FW	0.3	µg/L		Maximum allowable concentration in basins used for fish breeding purposes	USSR	UNEP 1985
	FW	860	µg/L		Maximum allowable concentration in open basins	USSR	UNEP 1985
	FW	Narrative			Treatment of fields adjoining fish breeding or fish-containing basins is	USSR	UNEP 1985
Trifluralin (dissolved)	FW	0.24	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Trifluralin (total)	FW	0.24	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Trinitrobenzene, sym-	FW	2.4	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	55	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Trinitrotoluene, 2,3,6-	FW	0.24	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trinitrotoluene, 2,3,6- (cont.)	FW	5.5	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Trinitrotoluene, 2,4,6-	FW	5.3	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	120	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Triphenyl Phosphate	FW	4	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW	4	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	40	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	FW	40	µg/L		Criterion; Acute	Quebec	MDEQ 1996
Triphenyltin	FW	0.022	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.022	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Triphenyltin Compounds (dissolved)	FW	0.0075	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Triphenyltin Compounds (total)	FW	0.0075	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Turbidity	FW/SW	10	NTU		Regulation; Upper value; Class B waters (See reference)	New Hampshire	NHDES 1996
	FW/SW	150	NTU		Criterion; At any time; Use III and IV waters - Natural and recreational trout waters	Maryland	MDOE 1997
	FW/SW	150	NTU		Criterion; Use I waters; At any time	Maryland	MDOE 1997
	FW	Narrative			Objective; Suspended matter should not be added to surface water in concentrations that will change the natural Secchi disc reading by more than 10%	Ontario	Environment Ontario 1989
	FW/SW	Narrative			Regulation; No turbidity unless naturally occurring; Class A waters (See reference)	New Hampshire	NHDES 1996
Turbidity (change)	FW	5	NTU		Criterion; Maximum increase over background; Class A	Rhode Island	RIDEM 1997
	FW/SW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW/SW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class A (excellent)	Washington	Washington State 1997
	FW-Lakes	5	NTU		Standard; Maximum increase over background conditions; Lake Class	Washington	Washington State 1997
	FW-Lakes	5	NTU		Standard; Maximum increase above natural conditions; Includes aquaculture	Alaska	ADEC 1998a
	FW/SW	8	NTU		Guideline; Clear flow; Maximum increase from background at any time for any short term exposure	Nova Scotia	NSDOE 1998
	FW/SW	8	NTU		Guideline; High flow or turbid waters; Maximum increase from background at any time when background level between 8 and 80 NTU	Canada	Environment Canada 1999

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Turbidity (change; cont.)	FW/SW	8	NTU		Guideline; Clear flow; Maximum increase from background at any time for any short term exposure	Canada	Environment Canada 1999
	FW/SW	8	NTU		Guideline; High flow or turbid waters; Maximum increase from background at any time when background level between 8 and 80 NTU	Nova Scotia	NSDOE 1998
	FW/SW	<10	%		Guideline; Seasonal mean	Australia	ANZECC 1992
	FW	10	NTU		Criterion; Maximum increase over background; Class B, B1, and C	Rhode Island	RIDEM 1997
	FW/SW	10	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW/SW	10	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class B (good)	Washington	Washington State 1997
	FW/SW	10	%		Standard; Maximum increase when background turbidity is >50; Class A (excellent)	Washington	Washington State 1997
	FW/SW	20	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class B (good)	Washington	Washington State 1997
	FW	25	NTU		Standard; Maximum increase; Includes aquaculture	Alaska	ADEC 1998a
	FW	25	NTU		Criterion; Maximum exceedence of background for 10 consecutive days	Idaho	IDH&W 1998
	FW	25	JTU		Objective; Maximum increase above ambient value	Saskatchewan	SDEPS1988
	FW	25	JTU		Interim Guideline; Maximum increase over natural turbidity	Alberta	AEP 1997
	FW	50	NTU		Criterion; Instantaneous Maximum exceedence of background	Idaho	IDH&W 1998
	FW/SW	50	NTU		Criterion; Change from monthly average; Use III and IV waters - Natural and recreational trout waters	Maryland	MDOE 1997
	FW/SW	50	NTU		Criterion; Use I waters; Change from monthly average	Maryland	MDOE 1997
Turbidity (induced)	FW	5	NTU		Criterion; When background <=50 NTU	British Columbia	BCMOELP 1998
	FW	10	%		Criterion; When background >50 NTU	British Columbia	BCMOELP 1998
Vanadium	FW	7	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	8	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	FW	14	µg/L		Guidance value; Chronic; Aquaculture; Acid-soluble form	New York State	NYSDEC 1998
	FW	190	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW	190	µg/L		Guidance value; Acute; Acid-soluble form	New York State	NYSDEC 1998
Vinyl Acetate	FW	33	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	750	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Vinylidene Chloride	FW	13	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	FW	40	µg/L	TTA	Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	67	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Vinylidene Chloride (cont.)	FW	580	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	FW	1500	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	FW	11600	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Xylene	FW	36	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	FW	820	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Xylene, m-	FW	2	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	65	µg/L		Standard; Chronic; As part of sum of 1,2-, 1,3-, and 1,4-xylene	New York State	NYSDEC 1998
	FW	590	µg/L		Standard; Acute; As part of sum of 1,2-, 1,3-, and 1,4-xylene	New York State	NYSDEC 1998
Xylene, o-	FW	40	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	65	µg/L		Standard; Chronic; As part of sum of 1,2-, 1,3-, and 1,4-xylene	New York State	NYSDEC 1998
	FW	590	µg/L		Standard; Acute; As part of sum of 1,2-, 1,3-, and 1,4-xylene	New York State	NYSDEC 1998
Xylene, p-	FW	30	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	65	µg/L		Standard; Chronic; Sum of 1,2-, 1,3-, and 1,4-xylene	New York State	NYSDEC 1998
	FW	590	µg/L		Standard; Acute; Sum of 1,2-, 1,3-, and 1,4-xylene	New York State	NYSDEC 1998
Zinc	FW	10	µg/L		Maximum allowable concentration in water of fish-breeding reservoirs	USSR	UNEP 1985
	FW	20	µg/L	TTA	Proposed Guideline; Provincial Water Quality	Ontario	OMEE 1994
	FW	30	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	30	µg/L		Objective; Unfiltered sample	Ontario	Environment Ontario 1989
	FW	30	µg/L	TTA	Provincial Water Quality Objective	Ontario	OMEE 1994
	FW	30	µg/L		Guideline	Canada	Environment Canada 1999
	FW/EST	50	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	60.33	µg/L	TTA	Criterion Chronic Concentration; Hardness 50000 µg/L CaCO3	Great Lakes	USEPA 1992
	FW	67	µg/L	TTA	Criterion; Maximum; Hardness 50000 µg/L CaCO3	Great Lakes	USEPA 1992
	FW	110	µg/L		Proposed Criterion; Chronic; At 100 mg/L hardness	Alaska	ADEC 1998b
	FW	110	µg/L	TTA	Criterion; Chronic; Hardness dependent; 100 mg/L CaCO3 used	United States	USEPA 1993
	FW	110	µg/L		Criterion; Chronic; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	110	µg/L		Criterion; For ambient surface waters; Chronic toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	120	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	FW	120	µg/L		Criterion; Acute; At hardness of 100 mg/L	Oregon	ODEQ 1996
	FW	120	µg/L	TTA	Criterion; Acute; Hardness dependent; 100 mg/L CaCO3 used	United States	USEPA 1993
	FW	120	µg/L		Proposed Criterion; Acute; At 100 mg/L hardness	Alaska	ADEC 1998b

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Zinc (cont.)	FW	133.2	µg/L	TTA	Criterion; Final Acute Value; Hardness 50000 µg/L CaCO3	Great Lakes	USEPA 1992
	FW	Equation	µg/L		Criterion = e[0.8473(ln hardness)+0.8604]; Acute	Delaware	DDNREC 1993
	FW	Equation	µg/L		Criterion = e[0.8473(ln hardness)+0.7614]; Chronic	Quebec	MDEQ 1996
	FW	Equation	µg/L		Criterion = e[0.8473(ln hardness)+0.8604] Acute	Quebec	MDEQ 1996
	FW	Equation	µg/L		Criterion = e[0.8473(ln hardness)+0.7614]; Chronic	Delaware	DDNREC 1993
	FW	Equation	µg/L		Guidance value; Chronic; Value = exp(0.85[ln(ppm hardness)]+0.50)	New York State	NYSDEC 1998
	FW	Equation	µg/L		Guidance value; Acute; Value = 0.978exp(0.8473[ln(ppm hardness)]+0.884)	New York State	NYSDEC 1998
Zinc (dissolved)	FW	6.5	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	32.2	µg/L		Regulation; Chronic Criterion for Water Effect Ratio of 1.0; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	35.4	µg/L		Regulation; Acute Criterion for Water Effect Ratio of 1.0; Value is a function of hardness (See reference)	New Hampshire	NHDES 1996
	FW	110	µg/L		Standard; Chronic Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[0.8473(ln(hardness))+0.7614]	Virginia	COV 1997
	FW	120	µg/L		Criterion; Maximum; At hardness = 100 mg/L; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	120	µg/L		Criterion; Continuous; At hardness = 100 mg/L	United States	USEPA 1998a
	FW	120	µg/L		Standard; Acute Criterion for Water Effect Ratio of 1.0 and total hardness of 100 mg/L; Value = (Water Effect Ratio) exp[0.8473(ln(hardness))+0.8604]	Virginia	COV 1997
	FW	120	µg/L		Criterion; Continuous (over 4 days); At hardness = 100 mg/L; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	FW	120	µg/L		Criterion; Maximum; At hardness = 100 mg/L	United States	USEPA 1998a
	FW	Equation	µg/L		Criterion = 0.978 x e [0.8473 (ln hardness) + 0.8604]; Acute	Rhode Island	RIDEM 1997
	FW	Equation	µg/L		Criterion = 0.986 x e [0.8473 (ln hardness) + 0.7614]; Chronic	Rhode Island	RIDEM 1997
	FW	Equation	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; <= (0.986){e(0.8473[ln(hardness)]+0.7614)}	Washington	Washington State 1997
	FW	Equation	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; <= (0.978){e(0.8473[ln(hardness)]+0.8604)}	Washington	Washington State 1997
Zinc (total)	FW	0.00003	µg/L	TTA	Maximum Tentative Criterion; Phytoplankton affected at levels as low as 14 µg/L	British Columbia	Nagpal et al. 1995
	FW	5.0–50.0	µg/L		Guideline	Australia	ANZECC 1992
	FW	28	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
	FW	47	µg/L		Objective; Recoverable; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	50	µg/L		Provisional Objective; Average for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	FW	50	µg/L		Interim Guideline; Maximum	Alberta	AEP 1997

Appendix 2-4. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Zinc (total; cont.)	FW	50	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	100	µg/L		Provisional Objective; Maximum for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	FW	300	µg/L		Imperative value for salmonid waters; Monthly sampling; Water hardness of 100 mg/L CaCO3	Europe	CEC 1988
	FW	1000	µg/L		Imperative value for cyprinid waters; Monthly sampling; Water hardness of 100 mg/L CaCO3	Europe	CEC 1988
	FW	Equation	µg/L		Guideline; = e[0.85 (In hardness) + 0.67]; Where hardness is expressed as mg/L CaC03; Chronic value	Michigan	MDNR 1989
Zineb (dissolved)	FW	0.56	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989
Zineb (total)	FW	0.56	µg/L	TTA	Ecotoxicological value	Netherlands	Stortelder et al. 1989

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A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life

Appendix 2-5. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Acenaphthene	SW	6	µg/L		Criterion	British Columbia	BCMOELP 1998
	SW	6.6	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	60	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	SW	710	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	710	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	970	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	970	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Acrolein	FW/SW	0.2	µg/L		Guideline	Australia	ANZECC 1992
	SW	55	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	55	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Aldicarb	SW	0.15	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	0.15	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Aldicarb (total)	SW	0.15	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
Aldrin	FW/SW	0.01	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.13	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.65	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	FW/EST	0.4	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	EST/SW	1.3	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	SW	1.3	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	1.3	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	1.3	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	1.3	µg/L		Criterion; Acute; Instantaneous	Rhode Island	RIDEM 1997
	SW	1.3	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	1.3	µg/L		Criterion; Maximum	California	USEPA 1997c
	SW	1.3	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Aldrin + Dieldrin	SW	0.0019	µg/L		Criterion; Chronic; Maximum 24-hour average	Washington	Washington State 1997
	SW	0.71	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997
Aluminum (total)	SW	20	%		Maximum increase; Kitimat Arm; Except for initial dilution zones (See reference)	British Columbia	Warrington 1987
Ammonia	SW	20	mg/L		Standard; Chronic Criterion at 10 °C, pH 7.00; Value is dependent on temperature and pH (See reference); For salinity of 10g/kg	Virginia	COV 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ammonia (cont.)	SW	21	mg/L		Standard; Chronic Criterion at 10 °C, pH 7.00; Value is dependent on temperature and pH (See reference); For salinity of 20g/kg	Virginia	COV 1997
	SW	22	mg/L		Standard; Chronic Criterion at 10 °C, pH 7.00; Value is dependent on temperature and pH (See reference); For salinity of 30g/kg	Virginia	COV 1997
	SW	131	mg/L		Standard; Acute Criterion at 10 °C, pH 7.00; Value is dependent on temperature and pH (See reference); For salinity of 10g/kg	Virginia	COV 1997
	SW	137	mg/L		Standard; Acute Criterion at 10 °C, pH 7.00; Value is dependent on temperature and pH (See reference); For salinity of 20g/kg	Virginia	COV 1997
	SW	148	mg/L		Standard; Acute Criterion at 10 °C, pH 7.00; Value is dependent on temperature and pH (See reference); For salinity of 30g/kg	Virginia	COV 1997
Ammonia (total)	SW	1	mg/L		Average; Kitimat Arm; Except for initial dilution zones (See reference); As N	British Columbia	Warrington 1987
	EST	1.84	mg/L		Average 30 day at pH 7.0 and 10°C; With no more than one in five of the measured values can be greater than 1.5 times this value; Kitimat River downstream from the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); As N	British Columbia	Warrington 1987
	SW	2.5	mg/L		Maximum; Kitimat Arm; Except for initial dilution zones (See reference); As N	British Columbia	Warrington 1987
	EST	20.5	mg/L		Maximum at pH 7.0 and 10°C; Kitimat River downstream from the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); As N	British Columbia	Warrington 1987
	SW	21	mg/L		Criterion; Chronic; At pH of 7.0; 10C; Salinity = 20 g/kg	Rhode Island	RIDEM 1997
	SW	21	mg/L		Criterion; Chronic; At pH =7; 10C; Salinity = 20g/kg	Quebec	MDEQ 1996
	SW	137	mg/L		Criterion; Acute; At pH of 7.0; 10C; Salinity = 20 g/kg	Rhode Island	RIDEM 1997
	SW	137	mg/L		Criterion; Acute; At pH=7; 10C; Salinity = 20g/kg	Quebec	MDEQ 1996
Ammonia (total-N unionized)	SW	0.035	mg/L		Proposed Criterion; Chronic; 4-day average	Alaska	ADEC 1998b
	SW	0.035	mg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	0.233	mg/L		Proposed Criterion; Acute; 1-houraverage	Alaska	ADEC 1998b
	SW	0.233	mg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
Ammonia (unionized)	FW/EST/SW	0.007	mg/L	TTA	Provisional Objective; Average; North, Middle, Main Arms of the Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
	FW/EST/SW	0.03	mg/L	TTA	Provisional Objective; Maximum; North, Middle, Main Arms of the Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
Ammonia Nitrogen	SW	20	mg/L		Criterion; 30 -day average at pH = 7.0, temperature = 10 C and salinity = 10 g/kg; See reference at other conditions	British Columbia	BCMOELP 1998
	SW	21	mg/L		Criterion; 30 -day average at pH = 7.0, temperature = 10 C and salinity = 20 g/kg; See reference at other conditions	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ammonia Nitrogen (cont.)	SW	22	mg/L		Criterion; 30 -day average at pH = 7.0, temperature = 10 C and salinity = 30 g/kg; See reference at other conditions	British Columbia	BCMOELP 1998
	SW	131	mg/L		Criterion; Maximum at pH = 7.0, temperature = 10 C and salinity = 10 g/kg; See reference at other conditions	British Columbia	BCMOELP 1998
	SW	137	mg/L		Criterion; Maximum at pH = 7.0, temperature = 10 C and salinity = 20 g/kg; See reference at other conditions	British Columbia	BCMOELP 1998
	SW	148	mg/L		Criterion; Maximum at pH = 7.0, temperature = 10 C and salinity = 30 g/kg; See reference at other conditions	British Columbia	BCMOELP 1998
Aniline	SW	37	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	37	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	SW	77	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	77	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
Anthracene	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Antimony	SW	500	µg/L		Criterion; Chronic; Sb III (See reference)	Quebec	MDEQ 1996
	SW	1500	µg/L		Criterion; Acute; Sb III (See reference)	Quebec	MDEQ 1996
Antimony (total)	SW	500	µg/L		Guideline	Australia	ANZECC 1992
Aroclor 1016	SW	0.03	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.03	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	SW	0.03	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	10	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Aroclor 1221	SW	0.03	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.03	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	SW	0.03	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	10	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Aroclor 1232	SW	0.03	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.03	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	SW	0.03	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	10	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Aroclor 1242	SW	0.03	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.03	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Aroclor 1242 (cont.)	SW	0.03	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	10	µg/L		Criterion; Lower Observed Toxicity Level; Acute	Quebec	MDEQ 1996
	SW	10	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Aroclor 1248	SW	0.03	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.03	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	SW	0.03	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	10	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Aroclor 1254	SW	0.03	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.03	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	SW	0.03	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	10	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Aroclor 1260	SW	0.03	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.03	µg/L		Criterion; Maximum concentration; Acute; 1-hour average	United States	USEPA 1998b
	SW	0.03	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	10	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Arsenic	SW	12.5	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	12.5	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	SW	36	µg/L		Criterion; Chronic; Inorganic Arsenic	Quebec	MDEQ 1996
	SW	69	µg/L		Criterion; Acute; Inorganic Arsenic	Quebec	MDEQ 1996
	FW/EST	90	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
Arsenic (dissolved)	SW	25	µg/L		Annual average	United Kingdom	Mance and O'Donnell 1984
	SW	36	µg/L		Regulation; Chronic Criterion for Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	36	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	36	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	36	µg/L		Criterion; Continuous (over 4 days); Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	36	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; Ambient maximum of 21 µg/L	Washington	Washington State 1997
	SW	63	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	69	µg/L		Regulation; Acute Criterion for Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	69	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	69	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	69	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Arsenic (dissolved; cont.)	SW	69	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	120	µg/L		Standard; Acute	New York State	NYSDEC 1998
Arsenic (III)	EST/SW	36	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	SW	36	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	36	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	EST/SW	69	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	SW	69	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	69	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Arsenic (III; dissolved)	SW	36	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	69	µg/L		Standard; Acute Criterion	Virginia	COV 1997
Arsenic (total)	FW/SW	50	µg/L		Guideline	Australia	ANZECC 1992
Arsenic (V)	SW	13	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	2319	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Azinphos-methyl	FW/SW	0.01	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.01	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.01	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.01	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.01	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	0.01	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.01	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
Benzanthracene, 1,2-	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Benzene	SW	110	µg/L		Guideline	Canada	Environment Canada 1999
	SW	110	µg/L		Guideline	Nova Scotia	NSDOE 1998
	SW	190	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW/SW	300	µg/L		Guideline	Australia	ANZECC 1992
	SW	670	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	SW	700	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	700	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	5100	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	5100	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Benzo(a)pyrene	SW	0.01	µg/L		Criterion; Chronic	British Columbia	BCMOELP 1998
	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Benzo(ghi)perylene	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Benzo(k)fluoranthene	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Benzofluoranthene, 3,4-	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Beryllium	FW/EST	150	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
Bis(2-ethylhexyl) Phthalate	SW	3.4	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	2944	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Boron	SW	1	mg/L		Standard; Chronic; Value applies to acid-soluble form; Aquaculture	New York State	NYSDEC 1998
	SW	1	mg/L		Criterion; Chronic	Quebec	MDEQ 1996
Bromodichloromethane	SW	6400	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	12000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Bromoform	SW	6400	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	6400	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	SW	12000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Butyl Phthalate, N-	SW	3.4	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	2944	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Butylbenzyl Phthalate	SW	3.4	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	2944	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Cadmium	SW	0.12	µg/L		Guideline	Canada	Environment Canada 1999
	SW	0.12	µg/L		Guideline	Nova Scotia	NSDOE 1998
	SW	0.5	µg/L	TTA	Territorial waters and internal coastal waters; Determined by the national network and reported to Commission; Arithmetic mean over a year	Europe	CEC 1988
	EST	1	µg/L	TTA	Estuary waters; Determined by the national network and reported to Commission; Arithmetic mean over a year	Europe	CEC 1988
	EST	1	µg/L	TTA	Guideline; Determined by the national network and reported to the commission	Europe	CEC 1988

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Cadmium (cont.)	SW	2.5	µg/L	TTA	Territorial waters and internal coastal waters; Minimum requirements to protect aquatic life; Arithmetic mean over a year	Europe	CEC 1988
	EST	5	µg/L	TTA	Estuary waters; Minimum requirements to protect aquatic life; Arithmetic mean over a	Europe	CEC 1988
	EST	5	µg/L	TTA	Minimum requirements to protect aquatic life	Europe	CEC 1988
	EST/SW	9.3	µg/L		Criterion; For ambient surface waters; Chronic toxicity Hardness and pH dependent	Maryland	MDOE 1997
	SW	9.3	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	9.3	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	9.3	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	9.3	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	SW	42	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	EST/SW	43	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	SW	43	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	43	µg/L		Criterion; Acute; At low salinity	Quebec	MDEQ 1996
	SW	43	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Cadmium (dissolved)	SW	7.7	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	9.3	µg/L		Regulation; Chronic Criterion for a Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	9.3	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	9.3	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	9.3	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	9.3	µg/L		Criterion; Continuous (over 4 days); Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	21	µg/L		Standard; Acute	New York State	NYSDEC 1998
	SW	42	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	42	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	42	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	43	µg/L		Regulation; Acute Criterion for a Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	43	µg/L		Standard; Acute Criterion	Virginia	COV 1997
Cadmium (total)	SW	2	µg/L		Guideline	Australia	ANZECC 1992
	SW	12	µg/L		Average; Calculated from at least five weekly samples taken in a 30 day period; Kitimat Arm; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	SW	38	µg/L		Maximum; Kitimat Arm; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
Carbaryl	SW	0.3	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	SW	0.32	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	0.32	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Carbon Tetrachloride	EST/SW	12	µg/L	TTA	Arithmetic mean over a year	Europe	CEC 1988
	SW	50000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	50000	µg/L		Criterion; Acute	New Hampshire	NHDES 1996
	SW	50000	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
Chemical Oxygen Demand	SW	2	mg/L		Standard; Coastal waters Class A	Japan	JWQB 1998
	SW	3	mg/L		Standard; Coastal waters Class B	Japan	JWQB 1998
	SW	8	mg/L		Standard; Coastal waters Class C	Japan	JWQB 1998
Chlordane	FW/SW	0.004	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.004	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.004	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.004	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	0.004	µg/L		Criterion; Chronic; Maximum 24-hour average	Washington	Washington State 1997
	SW	0.004	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.004	µg/L		Criterion; Continuous	California	USEPA 1997c
	SW	0.004	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	SW	0.004	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW/EST	0.0043	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	SW	0.045	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	0.09	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	0.09	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	0.09	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	0.09	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	0.09	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997
	SW	0.09	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	0.09	µg/L		Criterion; Maximum	California	USEPA 1997c
	SW	0.09	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Chlordecone	SW	0	µg/L		Standard; Chronic Criterion; Value is zero	Virginia	COV 1997
Chlorinated Naphthalenes	SW	7.5	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	7.5	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
Chlorine	EST/SW	3	µg/L		Criterion; Average Concentration; For continuous exposure; As Chlorine-Product	British Columbia	BCMOELP 1998
	SW	7.5	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	7.5	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	7.5	µg/L		Standard; Produced oxidant; Chronic Criterion	Virginia	COV 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chlorine (cont.)	SW	7.5	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	7.5	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; Total residual	Washington	Washington State 1997
	SW	7.5	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	7.5	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	7.5	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	SW	13	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	13	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	13	µg/L		Standard; Produced oxidant; Acute Criterion	Virginia	COV 1997
	SW	13	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	13	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	13	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; Total residual	Washington	Washington State 1997
	EST/SW	40	µg/L		Criterion; Maximum; Regardless of exposure; As Chlorine-Product Oxidants	British Columbia	BCMOELP 1998
	SW	40	µg/L		Criterion; Maximum; Acute; Total residual chlorine	Quebec	MDEQ 1996
	EST/SW	Equation	µg/L		Criterion; Average Concentration; For controlled intermittent exposure; As Chlorine-Product Oxidants; Value = 20.36(duration)power-0.4	British Columbia	BCMOELP 1998
	SW	Equation	µg/L		Criterion = 20.36x(hardness to the power of -0.4); Acute; Total residual chlorine	Quebec	MDEQ 1996
Chlorine (total, residual)	FW/EST/SW	2	µg/L		Provisional Objective; Maximum for Main Arm of Fraser River, Sturgeon and Roberts	British Columbia	Swain and Holms 1985
	FW/SW	2	µg/L		Standard; Maximum; For salmonid fish; Aquaculture	Alaska	ADEC 1998a
	SW	7.5	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW/SW	10	µg/L		Standard; Maximum; For other organisms besides salmonid fish; Aquaculture	Alaska	ADEC 1998a
	SW	13	µg/L		Standard; Acute	New York State	NYSDEC 1998
Chloro-2-Methyl Phenoxy Acetic Acid, 4-	SW	4.2	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	4.2	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Chlorobenzene	SW	5	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	25	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	25	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	SW	129	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	160	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Chlorobenzenes	SW	129	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	129	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	160	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	160	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chlorodibromomethane	SW	6400	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	12000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Chloroform	SW	6400	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	12000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Chloronaphthalene, 2-	SW	7.5	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
Chlorophenol, 2-	FW/SW	17	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
	FW/EST	100	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
Chlorophenol, 3-	FW/SW	15	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Chlorophenol, 4-	FW/SW	7.8	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
	SW	29700	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	29700	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Chlorophyll a	SW	<1	µg/L		Guideline	Australia	ANZECC 1992
	EST	1–10	µg/L		Guideline	Australia	ANZECC 1992
	EST	50000	µg/m2		Maximum; Kitimat River downstream from the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); Spawning salmonid migration corridor; Average is calculated from at least 5 weekly samples in a 30 day period	British Columbia	Warrington 1987
Chlorothalonil	SW	0.36	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	0.36	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	SW	0.36	µg/L		Criterion; Interim; Chronic; Total chlorothalonil	Quebec	MDEQ 1996
Chlorpyrifos	FW/SW	0.001	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.002	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	0.002	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	SW	0.002	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	SW	0.0056	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.0056	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.0056	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.0056	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chlorpyrifos (cont.)	SW	0.0056	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.0056	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	SW	0.011	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	0.011	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	0.011	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	0.011	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	0.011	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	0.011	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	0.011	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Chromium (dissolved)	SW	15	µg/L		Annual average	United Kingdom	Mance and O'Donnell 1984
Chromium (III)	SW	56	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	56	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	SW	10300	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	10300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Chromium (VI)	SW	1.5	µg/L		Guideline	Canada	Environment Canada 1999
	SW	1.5	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW/EST	10	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	EST/SW	50	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	SW	50	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	50	µg/L		Criterion; 4-day average	British Columbia	Nagpal et al. 1995
	SW	50	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	50	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	SW	50	µg/L		Guideline; Total	Australia	ANZECC 1992
	SW	54	µg/L		Standard; Chronic; Applies to acid-soluble form; Aquaculture	New York State	NYSDEC 1998
	EST/SW	1100	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	SW	1100	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	1100	µg/L		Criterion; 1-hour Average	British Columbia	Nagpal et al. 1995
	SW	1100	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	1100	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	SW	1200	µg/L		Standard; Acute; Applies to acid-soluble form	New York State	NYSDEC 1998
Chromium (VI; dissolved)	SW	50	µg/L		Regulation; Chronic Criterion at Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	50	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	50	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	50	µg/L		Criterion; Continuous	United States	USEPA 1998a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chromium (VI; dissolved; cont.)	SW	50	µg/L		Criterion; Continuous (over 4 days); Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	50	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	1100	µg/L		Regulation; Acute Criterion at Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	1100	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	1100	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	1100	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	1100	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	1100	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; At low salinity this may not be sufficient	Washington	Washington State 1997
Chrysene	SW	0.1	µg/L		Criterion	British Columbia	BCMOELP 1998
	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Coliforms (total)	SW	70	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 330 MPN/100mL; Class SA	Rhode Island	RIDEM 1997
	SW	700	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 2300 MPN/100mL; Class SB and SB1	Rhode Island	RIDEM 1997
	SW	1000	MPN/100mL		Standard; Coastal waters Class A	Japan	JWQB 1998
Colour	FW/SW	50	colour units		Standard; Maximum; Or the natural condition; For all waters without a seasonally established norm for aquatic life; Aquaculture	Alaska	ADEC 1998a
	FW/SW	Narrative			Standard; Color or apparent color may not reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonally established norm for aquatic life	Alaska	ADEC 1998a
Copper	SW	2.9	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	2.9	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	2.9	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	SW	2.9	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	2.9	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	2.9	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	EST	6.1	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
Copper (dissolved)	SW	3.1	µg/L		Regulation; Chronic Criterion at Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	3.1	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	3.1	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	3.1	µg/L		Criterion; Continuous; Water effect ratios may apply	United States	USEPA 1998a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Copper (dissolved; cont.)	SW	3.1	µg/L		Criterion; Continuous; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	3.4	µg/L		Standard; Chronic; Except in New York/New Jersey Harbor where it is 5.6 µg/L; Aquaculture	New York State	NYSDEC 1998
	SW	3.8	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	4.8	µg/L		Regulation; Acute Criterion at Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	4.8	µg/L		Standard; Acute; Except in New York/New Jersey Harbor where it is 7.9 µg/L	New York State	NYSDEC 1998
	SW	4.8	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	4.8	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	4.8	µg/L		Criterion; Maximum; Water effect ratios may apply	United States	USEPA 1998a
	SW	4.8	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	5	µg/L		Annual average; Higher values acceptable where acclimation expected or copper present in organic complexes	United Kingdom	Mance and O'Donnell 1984
	SW	5.9	µg/L		Standard; Acute Criterion	Virginia	COV 1997
Copper (total)	EST/SW	<=2	µg/L		Criterion; 30-day average concentration	British Columbia	BCMOELP 1998
	SW	2	µg/L		Average; Kitimat Arm; Calculated from at least five weekly samples taken in a 30 day	British Columbia	Warrington 1987
	EST/SW	3	µg/L		Criterion; Maximum	British Columbia	BCMOELP 1998
	SW	3	µg/L		Maximum; or 20 % increase, whichever is greater; Kitimat Arm	British Columbia	Warrington 1987
	SW	5	µg/L		Guideline	Australia	ANZECC 1992
Cyanide	EST/SW	1	µg/L		Criterion; For ambient surface water; Acute toxicity	Maryland	MDOE 1997
	EST/SW	1	µg/L	TTA	Criterion; Weak acid dissociable CN	British Columbia	BCMOELP 1998
	SW	1	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	1	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	1	µg/L		Maximum; Kitimat Arm; Weak acid dissociable; Except samples from initial dilution zones (See reference); See reference regarding minimum detect limits and sampling	British Columbia	Warrington 1987
	SW	1	µg/L		Criterion; Maximum; Free cyanide	United States	USEPA 1998a
	SW	1	µg/L		Criterion; Continuous; Free cyanide	United States	USEPA 1998a
	SW	1	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	1	µg/L		Criterion; Continuous (over 4 days); Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	1	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	1	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	1	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	1	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	1	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	1	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	1	µg/L		Standard; Chronic; As free cyanide; Aquaculture	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Cyanide (cont.)	SW	1	µg/L		Standard; Acute; As free cyanide	New York State	NYSDEC 1998
	SW	1	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	1	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	1	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW/EST	3	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	SW	2.8	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; Applicable only to a certain region; See reference	Washington	Washington State 1997
	FW/SW	5	µg/L		Guideline; Free cyanide	Australia	ANZECC 1992
	SW	9.1	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; Applicable only to a certain region; See reference	Washington	Washington State 1997
DDD	SW	0.065	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	3.6	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	3.6	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
DDE	FW/SW	0.014	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.065	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	14	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	14	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
DDT	EST/SW	0.001	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	FW/EST	0.001	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	FW/SW	0.001	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.001	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.001	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	0.001	µg/L		Criterion; Chronic; Maximum 24-hour average; And metabolites	Washington	Washington State 1997
	SW	0.001	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.001	µg/L		Criterion; Continuous	California	USEPA 1997c
	SW	0.001	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	EST/SW	0.13	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	SW	0.13	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	0.13	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	0.13	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	0.13	µg/L		Criterion; Acute; Maximum; Instantaneous; And metabolites	Washington	Washington State 1997
	SW	0.13	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	0.13	µg/L		Criterion; Maximum	California	USEPA 1997c
	SW	10	µg/L	TTA	Value must not increase over time	Europe	CEC 1988

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
DDT and metabolites	SW	0.001	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	SW	0.065	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	0.13	µg/L		Criterion; Acute	Delaware	DDNREC 1993
DDTs (total)	SW	25	µg/L	TTA	Value must not increase over time	Europe	CEC 1988
Demeton	FW/SW	0.1	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.1	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.1	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.1	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.1	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	0.1	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.1	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	0.1	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
Dibenzanthracene, 1,2:5,6-	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichlorobenzene, m-	SW	1970	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichlorobenzene, o-	SW	42	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	42	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	SW	1970	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichlorobenzene, p-	SW	1970	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichlorobenzenes	SW	5	µg/L		Guidance value; Chronic; Aquaculture; Applies to the sum of 1,2-, 1,3-, and 1,4-Dichlorobenzene	New York State	NYSDEC 1998
	SW	1970	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	1970	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichlorodifluoromethane	SW	6400	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	12000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichloroethyl Ether, sym-	FW/SW	14	µg/L		Criterion; For the consumption of fish only; Class A	Rhode Island	RIDEM 1997
Dichloroethylene, 1,2- (trans)	SW	224000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dichloroethylenes	SW	224000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichloroethylenes (cont.)	SW	224000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	224000	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
Dichloroisopropyl Ether, Bis-2,	FW/SW	170000	µg/L		Criterion; For the consumption of fish only; Class A	Rhode Island	RIDEM 1997
Dichlorophenol, 2,3-	FW/SW	5.1	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Dichlorophenol, 2,4-	FW/SW	2.6	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
	FW/EST	200.0	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
Dichlorophenol, 2,5-	FW/SW	2.3	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Dichlorophenol, 2,6-	FW/SW	9.1	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Dichlorophenol, 3,4-	FW/SW	2.7	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Dichlorophenol, 3,5-	FW/SW	2	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Dichloropropane	SW	3040	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	3040	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	SW	10300	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Dichloropropene	SW	790	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	790	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
Dichloropropene, 1,3-	SW	790	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	FW/SW	1700	µg/L		Criterion; For the consumption of fish only; Class A	Rhode Island	RIDEM 1997
Dieldrin	FW/EST	0.0019	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	EST/SW	0.0019	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	SW	0.0019	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.0019	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dieldrin (cont.)	SW	0.0019	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.0019	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	0.0019	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.0019	µg/L		Criterion; Continuous	California	USEPA 1997c
	SW	0.0019	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW/SW	0.002	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.355	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	EST/SW	0.71	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	SW	0.71	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	0.71	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	0.71	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	0.71	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	0.71	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	0.71	µg/L		Criterion; Maximum	California	USEPA 1997c
	SW	0.71	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Dimethyl Phthalate	SW	3.4	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	2944	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dimethylphenol, 2,4-	SW	110	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	FW/EST	200.0	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	SW	270	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dinitrocresol	SW	4850	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dinitrocresol, 2,4-	SW	4850	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dinitrophenol, 2,4-	SW	4850	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dinitrophenols	SW	4850	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dinitrotoluene	SW	370	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	590	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Dinitrotoluene, 2,4-	SW	370	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	590	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dinitrotoluene, 2,6-	SW	370	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996

Appendix 2-5. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dinitrotoluene, 2,6- (cont.)	SW	590	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dinitrotoluenes	SW	370	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	590	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Dissolved Oxygen	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class AA (extraordinary)	Washington	Washington State 1997
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class A (excellent)	Washington	Washington State 1997
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class B (good)	Washington	Washington State 1997
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class C (fair); For salmonid and other fish migration	Washington	Washington State 1997
	SW	2	mg/L		Standard; Coastal waters Class C	Japan	JWQB 1998
	FW/EST	4	mg/L		Standard; Lower value	District of Columb	USEPA 1988d
	EST	4	mg/L		Standard; Minimum; Estuarine water	Virginia	COV 1997
	EST/SW	4	mg/L		Standard; For Class SC; Minimum unless background is lower; Shall not be less than 5000 µg/L at least 16 out of 24 hrs.	Massachusetts	COM 1996
	FW/SW	4	mg/L		Standard; Lower value; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters	Delaware	USEPA 1988c
	SW	4	mg/L		Standard; Minimum; Class C (fair); For salmonid and other fish migration	Washington	Washington State 1997
	SW	4	mg/L		Standard; Minimum; At any point beneath the surface	Alaska	ADEC 1998a
	EST	5	mg/L		Standard; Daily average; Estuarine water	Virginia	COV 1997
	EST	5	mg/L		Standard; Minimum; Except where natural conditions cause this value to be depressed; Includes tidal tributaries; For growth and propagation of fish, shellfish, etc.	Alaska	ADEC 1998a
	EST/SW	5	mg/L		Standard; For Class SB; Minimum unless background is lower	Massachusetts	COM 1996
	FW/EST/SW	5	mg/L		Criterion; Instantaneous minimum concentration; For all life stage other than buried embryo/alevins	British Columbia	BCMOELP 1998
	FW/SW	5	mg/L		Regulation; Lower value; Based on daily average and an instantaneous minimum; Class B waters (See reference)	New Hampshire	NHDES 1996
	FW/SW	5	mg/L		Criterion; Minimum at any time; Use I waters	Maryland	MDOE 1997
	FW/SW	5	mg/L		Criterion; Minimum at any time; Use III and IV waters - Natural and recreational trout	Maryland	MDOE 1997
	SW	5	mg/L		Standard; Minimum; Open ocean	Virginia	COV 1997
	SW	5	mg/L		Criterion; Minimum; Except as it naturally occurs; Class SB, SB1, and SC	Rhode Island	RIDEM 1997
	SW	5	mg/L		Standard; Minimum; Class B (good)	Washington	Washington State 1997
	SW	5	mg/L		Standard; Coastal waters Class B	Japan	JWQB 1998
	EST/SW	6	mg/L		Standard; For Class SA; Minimum unless background is lower	Massachusetts	COM 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dissolved Oxygen (cont.)	FW/EST/SW	6	mg/L		Criterion; Instantaneous minimum concentration; For buried embryo/alevins in interstitial water	British Columbia	BCMOELP 1998
	FW/SW	6	mg/L		Regulation; Lower value for not less than 16 hours per day or at any place or time except as naturally occurs; Class A waters (See reference)	New Hampshire	NHDES 1996
	FW/SW	6	mg/L		Guideline; Minimum (>80-90% saturation)	Australia	ANZECC 1992
	FW/SW	6	mg/L		Criterion; Minimum daily average; Use III and IV waters; Natural and recreational trout waters	Maryland	MDOE 1997
	SW	6	mg/L		Criterion; Minimum; Except as it naturally occurs; Class SA	Rhode Island	RIDEM 1997
	SW	6	mg/L		Standard; Minimum; Class A (excellent)	Washington	Washington State 1997
	SW	6	mg/L		Standard; Minimum; In coastal water; For a depth of one meter; Except when natural conditions cause this value to be depressed	Alaska	ADEC 1998a
	SW	7	mg/L		Standard; Minimum; Class AA (extraordinary)	Washington	Washington State 1997
	SW	7.5	mg/L		Standard; Coastal waters Class A	Japan	JWQB 1998
	EST	7.8	mg/L		Minimum; Kitimat River downstream from the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); Spawning salmonid migration corridor	British Columbia	Warrington 1987
	FW/EST/SW	8	mg/L		Criterion; 30-day average concentration; For all life stages other than buried	British Columbia	BCMOELP 1998
	FW/EST/SW	8	mg/L		Criterion; 30-day average concentration; For buried embryo/alevins in interstitial water	British Columbia	BCMOELP 1998
	EST/SW	9	mg/L		Provisional Objective; Minimum for Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
	FW/EST/SW	9	mg/L		Criterion; Instantaneous minimum concentration in water column; For buried	British Columbia	BCMOELP 1998
	FW/EST/SW	11	mg/L		Criterion; 30-day average concentration; For buried embryo/alevins in the water column	British Columbia	BCMOELP 1998
	FW/SW	17	mg/L		Standard; Maximum	Alaska	ADEC 1998a
	EST/SW	70	%		Standard; Lower value; Class SC; For aquaculture, propagation and restricted harvesting of shellfish and as habitat	Maine	USEPA 1988g
	SW	>70	%		Minimum average; Mandatory; For shellfish waters; Monthly sampling; Where major daily variations are suspected, a minimum of 2 samples per day shall be taken	Europe	CEC 1988
	SW	>80	%		Guideline	Europe	CEC 1988
	EST/SW	85	%		Standard; Lower value; Class SB; For aquaculture, propagation and harvesting of shellfish and as habitat	Maine	USEPA 1988g
Endosulfan	FW/EST	0.01	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	SW	0.001	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	0.0087	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.0087	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.0087	µg/L		Criterion; Chronic; Maximum 24-hour average	Washington	Washington State 1997
	SW	0.0087	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	0.0087	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW/SW	0.01	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.017	µg/L		Criterion; Acute	Quebec	MDEQ 1996

Appendix 2-5. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Endosulfan (cont.)	SW	0.034	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	0.034	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	0.034	µg/L		Standard; Acute	New York State	NYSDEC 1998
	SW	0.034	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997
	SW	0.034	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Endosulfan-alpha	SW	0.0087	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.0087	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	0.0087	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.0087	µg/L		Criterion; Continuous	California	USEPA 1997c
	SW	0.034	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	0.034	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	0.034	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	0.034	µg/L		Criterion; Maximum	California	USEPA 1997c
Endosulfan-beta	SW	0.0087	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.0087	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	0.0087	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.0087	µg/L		Criterion; Continuous	California	USEPA 1997c
	SW	0.034	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	0.034	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	0.034	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	0.034	µg/L		Criterion; Maximum	California	USEPA 1997c
Endrin	FW/EST	0.0023	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	EST/SW	0.0023	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	SW	0.0023	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.0023	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.0023	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.0023	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	0.0023	µg/L		Criterion; Chronic; Maximum 24-hour average	Washington	Washington State 1997
	SW	0.0023	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.0023	µg/L		Criterion; Continuous	California	USEPA 1997c
	SW	0.0023	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW/SW	0.003	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.0185	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	EST/SW	0.037	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	SW	0.037	µg/L		Criterion; Acute	Oregon	ODEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Endrin (cont.)	SW	0.037	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	0.037	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	0.037	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	0.037	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997
	SW	0.037	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	0.037	µg/L		Criterion; Maximum	California	USEPA 1997c
	SW	0.037	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Enterococci	FW/SW	<=4	Colonies/100ml		Criterion; Median; For shellfish harvesting	British Columbia	BCMOELP 1998
	FW/SW	<=11	Colonies/100ml		Criterion; 90th Percentile; For shellfish harvesting	British Columbia	BCMOELP 1998
Escherichia coli	FW/SW	<=14	Colonies/100ml		Criterion; Median; Shellfish harvesting	British Columbia	BCMOELP 1998
	FW/SW	<=43	Colonies/100ml		Criterion; 90th Percentile; Shellfish harvesting	British Columbia	BCMOELP 1998
Ethylbenzene	SW	4.5	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	20	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	SW	25	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	25	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	SW	41	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	SW	430	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	430	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
Ethylene Dichloride	SW	113000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	113000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	113000	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
Fecal Coliforms	FW/SW	<=14	FC/100mL		Criterion; Median; For shellfish harvesting	British Columbia	BCMOELP 1998
	EST/SW	14	MPN/100mL		Standard; Median, Most Probable Number; And <= 10% of samples shall exceed a MPN of 43 for a 5-tube, 3-dilution test or 49 for a 3-tube, 3-dilution test; For shellfish waters	Virginia	COV 1997
	EST/SW	14	MPN/100mL		Standard; For Class SA; At any time, and 10% of all samples; Maximum = 43	Massachusetts	COM 1996
	SW	14	FC/100mL		Mean probable number, median; Except from initial dilution zones; Minimum of 5 weekly samples taken in a 30 day period; Shellfish harvesting areas	British Columbia	Warrington 1987
	SW	14	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 49 MPN/100mL; Class SA	Rhode Island	RIDEM 1997
	SW	14	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 43 Col/100mL; Class A (excellent)	Washington	Washington State 1997
	SW	14	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 43 Col/100mL; Class AA (extraordinary)	Washington	Washington State 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fecal Coliforms (cont.)	FW/SW	<=43	FC/100mL		Criterion; 90th Percentile; For shellfish harvesting	British Columbia	BCMOELP 1998
	SW	43	FC/100mL		Mean probable number, 90th percentile; Except from initial dilution zones; Minimum of 5 weekly samples taken in a 30 day period; Shellfish harvesting areas	British Columbia	Warrington 1987
	SW	50	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 500 MPN/100mL; Class SB and SB1	Rhode Island	RIDEM 1997
	SW	100	Colonies/100mI		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100mL; Class B (good)	Washington	Washington State 1997
	EST/SW	200	FC/100mL		Standard; For Class SB; Geometric mean MPN; At any time, and 10% of all samples; Maximum = 400 FC/100mL	Massachusetts	COM 1996
	FW/EST/SW	200	FC/100mL		Standard; Geometric mean; For 2 or more samples in a 30 day period; Except shellfish	Virginia	COV 1997
	FW/SW	200	FC/100mL		Criterion; 30-day average; Log mean; Use I waters	Maryland	MDOE 1997
	FW/SW	200	FC/100mL		Criterion; 30-day average; Log mean; Use III and IV waters - Natural and recreational trout waters	Maryland	MDOE 1997
	FW/SW	200	FC/100mL		Standard; Maximum; With no more than 10% of samples exceeding 400/100mL	Alaska	ADEC 1998a
	SW	200	Colonies/100mI		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 400 Col/100mL; Class C (fair); For salmonid and other fish migration	Washington	Washington State 1997
	FW/SW	400	FC/100mL		Criterion; 10% of samples during 30-days; Use I waters	Maryland	MDOE 1997
	FW/SW	400	FC/100mL		Criterion; 10% of samples during 30-days; Use III and IV waters - Natural and recreational trout waters	Maryland	MDOE 1997
	EST/SW	1000	FC/100mL		Standard; For Class SC; Geometric mean MPN; At any time, and 10% of all samples; Maximum = 2000 FC/100mL	Massachusetts	COM 1996
	FW/EST/SW	1000	FC/100mL		Standard; For any time; Except shellfish waters	Virginia	COV 1997
Fluoranthene	SW	16	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	16	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	40	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	40	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Fluoride	SW	1.5	mg/L		Kitimat Arm; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
Fluoride (total)	SW	1.5	mg/L		Criterion; Maximum	British Columbia	BCMOELP 1998
Fluorine	SW	2.5	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	12	µg/L		Criterion	British Columbia	BCMOELP 1998
	SW	23	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Halomethanes	SW	6400	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	6400	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	12000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	12000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Heptachlor	SW	0.0036	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.0036	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.0036	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.0036	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	0.0036	µg/L		Criterion; Chronic; Maximum 24-hour average	Washington	Washington State 1997
	SW	0.0036	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.0036	µg/L		Criterion; Continuous	California	USEPA 1997c
	SW	0.0036	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW/EST	0.0038	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	FW/SW	0.01	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.0265	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	0.053	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	0.053	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	0.053	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	0.053	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	0.053	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997
	SW	0.053	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	0.053	µg/L		Criterion; Maximum	California	USEPA 1997c
	SW	0.053	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Heptachlor Epoxide	SW	0.0036	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.0036	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	0.0036	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.0036	µg/L		Criterion; Continuous	California	USEPA 1997c
	SW	0.027	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	0.053	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	0.053	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	0.053	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	0.053	µg/L		Criterion; Maximum	California	USEPA 1997c
Hexachlorobenzene	SW	129	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	160	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Hexachlorobutadiene	SW	0.3	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	0.3	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.3	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	3	µg/L		Standard; Acute	New York State	NYSDEC 1998
	SW	32	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	32	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachlorocyclohexane (all isomers)	SW	0.34	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachlorocyclohexane-Alpha	SW	0.34	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachlorocyclohexane-Beta	SW	0.34	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachlorocyclohexane-Delta	SW	0.34	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachlorocyclopentadiene	SW	0.07	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	0.07	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	0.7	µg/L		Standard; Acute	New York State	NYSDEC 1998
	SW	0.7	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	7	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	7	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Hexachloroethane	SW	940	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	940	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	940	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
Hydrocarbons (total aqueous)	FW/SW	15	µg/L		Standard; Maximum	Alaska	ADEC 1998a
Hydrocarbons, Aromatic (total)	FW/SW	10	µg/L		Standard; Maximum	Alaska	ADEC 1998a
Hydrocarbons, Petroleum	FW/SW	Narrative			Standard; Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration	Alaska	ADEC 1998a
	FW/SW	Narrative			Standard; There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life	Alaska	ADEC 1998a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Hydrogen Sulfide	EST	2	µg/L		Maximum; Kitimat River downstream from the District of Kitimat sewage discharge; Undissociated; Except samples from initial dilution zones (See reference); Spawning salmonid migration corridor	British Columbia	Warrington 1987
	SW	2	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	2	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	2	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	2	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	2	µg/L		Standard; Chronic; Undissociated form; Aquaculture	New York State	NYSDEC 1998
Indeno(1,2,3-cd)pyrene	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Iron	FW/EST	1000	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
Iron (total)	SW	50	µg/L		Criterion; Minimal risk	British Columbia	Nagpal et al. 1995
	SW	300	µg/L		Maximum; Kitimat Arm	British Columbia	Warrington 1987
	SW	300	µg/L		Criterion; Hazard	British Columbia	Nagpal et al. 1995
Isophorone	SW	12900	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	12900	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Lead	EST/SW	5.6	µg/L		Criterion; For ambient surface waters; Chronic toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	SW	5.6	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	5.6	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	SW	8.5	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	EST/SW	140	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	SW	140	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	140	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	SW	220	µg/L		Criterion; Acute	Quebec	MDEQ 1996
Lead (dissolved)	SW	8	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	8.1	µg/L		Regulation; Chronic Criterion for Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	8.1	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	8.1	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	8.1	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	8.1	µg/L		Criterion; Continuous; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	9.3	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	25	µg/L		Annual average	United Kingdom	Mance and O'Donnell 1984
	SW	204	µg/L		Standard; Acute	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Lead (dissolved; cont.)	SW	209.2	µg/L		Regulation; Acute Criterion for Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	210	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	210	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	210	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	210	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	240	µg/L		Standard; Acute Criterion	Virginia	COV 1997
Lead (total)	EST/SW	2	µg/L		Criterion; 30-day average concentration; And 80% of values <= 3	British Columbia	BCMOELP 1998
	SW	5	µg/L		Guideline	Australia	ANZECC 1992
	SW	9	µg/L		Average; Kitimat Arm; Calculated from at least five weekly samples taken in a 30 day	British Columbia	Warrington 1987
	EST/SW	140	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	SW	220	µg/L		Maximum; or 20 % increase, whichever is greater; Kitimat Arm	British Columbia	Warrington 1987
Lindane	FW/SW	0.003	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.01	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	EST	0.02	µg/L		Estuary waters and territorial seawaters	Europe	CEC 1988
	EST/SW	0.02	µg/L		Estuary waters and territorial sea waters; Minimum requirements to protect aquatic life; Arithmetic mean over a year	Europe	CEC 1988
	SW	0.08	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	EST/SW	0.16	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	SW	0.16	µg/L		Criterion; Acute; Hexachlorocyclohexane	Oregon	ODEQ 1996
	SW	0.16	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	0.16	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	0.16	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	0.16	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997
	SW	0.16	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	0.16	µg/L		Criterion; Maximum	California	USEPA 1997c
	SW	0.16	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Lindane (total)	SW	0.34	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Malathion	SW	0.1	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.1	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.1	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	0.1	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	0.1	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	SW	0.1	µg/L		Guideline	Australia	ANZECC 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Manganese (total)	SW	100	µg/L		Criterion; To protect consumers of marine mollusks	British Columbia	Nagpal et al. 1995
MCPA (total)	SW	4.2	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
Mercury	EST/SW	0.025	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	SW	0.025	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.025	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	SW	0.3	µg/L	TTA	Territorial sea waters and internal coastal waters; Elemental mercury and its compounds; Arithmetic mean over a year	Europe	CEC 1988
	EST	0.5	µg/L	TTA	Estuary waters; Elemental mercury and its compounds	Europe	CEC 1988
	SW	0.5	µg/L	TTA	Estuary waters; Elemental mercury and its compounds; Arithmetic mean over a year	Europe	CEC 1988
	EST/SW	2.1	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	SW	2.1	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	2.1	µg/L		Criterion; Acute; Inorganic mercury (Hg II)	Quebec	MDEQ 1996
	SW	2.1	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Mercury (dissolved)	SW	0.025	µg/L		Standard; Chronic Criterion; Methyl mercury	Virginia	COV 1997
	SW	0.025	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	0.94	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.94	µg/L		Criterion; Continuous; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	1.8	µg/L		Regulation; Acute Criterion for Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	1.8	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	1.8	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	1.8	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	1.8	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	2.1	µg/L		Standard; Acute Criterion	Virginia	COV 1997
Mercury (total)	FW/EST/SW	0.02	µg/L	TTA	Criterion; 30-day average	British Columbia	BCMOELP 1998
	SW	0.025	µg/L		Regulation; Chronic Criterion; Total dissolved	New Hampshire	NHDES 1996
	SW	0.025	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; Total recoverable	Washington	Washington State 1997
	FW/SW	0.1	µg/L		Guideline	Australia	ANZECC 1992
	EST/SW	2	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
Methoxychlor	SW	0.03	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.03	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.03	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.03	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Methoxychlor (cont.)	SW	0.03	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.03	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	0.03	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	FW/SW	0.04	µg/L		Guideline	Australia	ANZECC 1992
Methyl Bromide	SW	6400	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	6400	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	SW	12000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Methyl Chloride	SW	6400	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	6400	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	SW	12000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Methylene Chloride	SW	6400	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	6400	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	SW	12000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Methylnaphthalene, 2-	SW	4.2	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	38	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
Methylnaphthalenes	SW	1	µg/L		Criterion	British Columbia	BCMOELP 1998
Mirex	SW	0	µg/L		Standard; Chronic Criterion; Value is zero	Virginia	COV 1997
	FW/SW	0.001	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.001	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.001	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.001	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	0.001	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	SW	0.001	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.001	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	0.001	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
Naphthalene	SW	1	µg/L		Criterion	British Columbia	BCMOELP 1998
	SW	1.4	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	1.4	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	SW	16	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	140	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	SW	2350	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Naphthalene (cont.)	SW	2350	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nickel	EST/SW	8.3	µg/L		Criterion; For ambient surface waters; Chronic toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	SW	8.3	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	8.3	µg/L		Proposed Criterion; Chronic	Alaska	ADEC 1998b
	SW	8.3	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	8.3	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	EST/SW	75	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	SW	75	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	75	µg/L		Proposed Criterion; Acute	Alaska	ADEC 1998b
	SW	75	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	75	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	FW/EST	100	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
Nickel (dissolved)	SW	8.2	µg/L		Regulation; Chronic Criterion for Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	8.2	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	8.2	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	8.2	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	8.2	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	8.2	µg/L		Criterion; Continuous (over 4 days); Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	8.3	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	30	µg/L		Annual average	United Kingdom	Mance and O'Donnell 1984
	SW	74	µg/L		Standard; Acute	New York State	NYSDEC 1998
	SW	74	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	74	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	74	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	74	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	74.3	µg/L		Regulation; Acute Criterion for Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	75	µg/L		Standard; Acute Criterion	Virginia	COV 1997
Nickel (total)	SW	8.3	µg/L		Criterion; 4-day average	British Columbia	Nagpal et al. 1995
	SW	15	µg/L		Guideline	Australia	ANZECC 1992
	SW	75	µg/L		Criterion; 1-hour Average	British Columbia	Nagpal et al. 1995
Nitrite	EST	0.02	mg/L		Average; Kitimat River downstream of the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); Average is calculated from at least five weekly samples taken in a 30 day period; As N; Spawning salmonid migration corridor	British Columbia	Warrington 1987

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrite (cont.)	EST	0.06	mg/L		Maximum; Kitimat River downstream of the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); As N; Spawning salmonid migration corridor	British Columbia	Warrington 1987
Nitrobenzene	SW	6680	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	6680	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrogen (total)	SW	0.2	mg/L		Standard; Coastal waters Class I	Japan	JWQB 1998
	SW	0.3	mg/L		Standard; Coastal waters Class II	Japan	JWQB 1998
	SW	0.6	mg/L		Standard; Coastal waters Class III	Japan	JWQB 1998
	SW	1	mg/L		Standard; Coastal waters Class IV	Japan	JWQB 1998
Nitrophenol, o-	SW	4850	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrophenol, p-	SW	4850	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrophenols	FW/EST	20.0	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	SW	4850	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	4850	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrosamines	SW	3300000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	3300000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrosodibutylamine, N-	SW	3300000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrosodimethylamine, N-	SW	3300000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrosodiphenylamine, N-	SW	3300000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Nitrosopyrrolidine, N-	SW	3300000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Octyl Phthalate, N-	SW	3.4	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	2944	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
PAHs	FW/SW	0.3	µg/L		Guideline	Australia	ANZECC 1992
	SW	300	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Parathion	FW/SW	0.004	µg/L		Guideline	Australia	ANZECC 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
PCB 105	FW/SW	0.00009	µg/L	TTA	Criterion; Recommended; Maximum	British Columbia	BCMOELP 1998
PCB 126	FW/SW	2.5E-07	µg/L	TTA	Criterion; Recommended; Maximum	British Columbia	BCMOELP 1998
PCB 169	FW/SW	0.00006	µg/L	TTA	Criterion; Recommended; Maximum	British Columbia	BCMOELP 1998
PCB 77	FW/SW	0.00004	µg/L	TTA	Criterion; Recommended; Maximum	British Columbia	BCMOELP 1998
PCBs	SW	0.004	µg/L		Guideline	Australia	ANZECC 1992
	EST/SW	0.03	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	SW	0.03	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.03	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.03	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.03	µg/L		Criterion; Continuous	California	USEPA 1997c
	SW	0.03	µg/L		Criterion; Chronic; Maximum 24-hour average	Washington	Washington State 1997
	FW/EST	0.01	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	EST/SW	10	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	SW	10	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	10	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	10	µg/L		Criterion; Acute; Maximum 24-hour average	Washington	Washington State 1997
PCBs (total)	FW/SW	0.0001	µg/L	TTA	Criterion; Recommended; Maximum	British Columbia	BCMOELP 1998
	SW	0.03	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	0.03	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	SW	10	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Pentachlorobenzene	SW	129	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	160	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Pentachloroethane	SW	281	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	281	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	281	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	SW	390	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	390	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Pentachlorophenol	SW	0.2	µg/L		Guideline	Australia	ANZECC 1992
	SW	2	µg/L	TTA	Value must not increase over time; Arithmetic mean over a year	Europe	CEC 1988
	FW/EST	7.0	µg/L		Standard; Upper value	District of Columb	USEPA 1988d

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Pentachlorophenol (cont.)	EST/SW	7.9	µg/L		Criterion; For ambient surface waters; Chronic toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	SW	7.9	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	7.9	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	7.9	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	7.9	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	7.9	µg/L		Proposed Criterion; Chronic	Alaska	ADEC 1998b
	SW	7.9	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	7.9	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	7.9	µg/L		Criterion; Continuous	California	USEPA 1997c
	SW	7.9	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	EST/SW	13	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	SW	13	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	13	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	13	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	13	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	13	µg/L		Proposed Criterion; Acute	Alaska	ADEC 1998b
	SW	13	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	13	µg/L		Criterion; Maximum	California	USEPA 1997c
	SW	13	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	SW	13	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	Equation	µg/L		Criterion = e[1.005(pH)-4.830]; Acute	Quebec	MDEQ 1996
	SW	Equation	µg/L		Criterion = e[1.005(pH)-5.290]; Chronic	Quebec	MDEQ 1996
Pentachlorophenol, 2,3,4,5,6-	FW/SW	0.7	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
pH	SW	0.2			Guideline; Maximum change in pH	Australia	ANZECC 1992
	FW/EST	6.0			Standard; Lower value	District of Columb	USEPA 1988d
	EST	6			Standard; Lower value; Estuarine water	Virginia	COV 1997
	SW	6			Standard; Lower value; Open ocean	Virginia	COV 1997
	FW/SW	6.5			Standard; Lower value; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters	Delaware	USEPA 1988c
	EST/SW	6.5 – 8.5			Standard; For Class SA; And not more than 0.2 units outside background	Massachusetts	COM 1996
	EST/SW	6.5 – 8.5			Standard; For Class SB; And not more than 0.2 units outside background	Massachusetts	COM 1996
	FW/SW	6.5 – 8.5			Criterion; Use I waters	Maryland	MDOE 1997
	FW/SW	6.5 – 8.5			Criterion; Use III and IV waters - Natural and recreational trout waters	Maryland	MDOE 1997
	SW	6.5 – 8.5			Criterion; Range; But not more than 0.2 units outside of the normally occurring range; Class SA, SB, SB1, and SC	Rhode Island	RIDEM 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
pH (cont.)	SW	6.5 – 8.5			Criterion; Continuous	United States	USEPA 1998a
	SW	6.5 – 8.5			Standard; May not vary more than 0.1 pH unit from natural conditions	Alaska	ADEC 1998a
	EST	6.5 – 9.0			Kitimat River downstream from the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); Spawning salmonid migration corridor	British Columbia	Warrington 1987
	EST/SW	6.5 – 9.0			Standard; For Class SC; And not more than 0.5 units outside background	Massachusetts	COM 1996
	SW	6.5 – 9.0			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class C (fair); For salmonid and other fish migration	Washington	Washington State 1997
	EST/SW	6.7			Standard; Lower value; Class SA; For aquaculture, propagation and harvesting of shellfish and as habitat	Maine	USEPA 1988g
	EST/SW	6.7			Standard; Lower value; Class SB; For aquaculture, propagation and harvesting of shellfish and as habitat	Maine	USEPA 1988g
	EST/SW	6.7			Standard; Lower value; Class SC; For aquaculture, propagation and restricted harvesting of shellfish and as habitat	Maine	USEPA 1988g
	SW	7.0 – 8.3			Standard; Coastal waters Class C	Japan	JWQB 1998
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary)	Washington	Washington State 1997
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent)	Washington	Washington State 1997
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class B (good)	Washington	Washington State 1997
	SW	7.0 – 8.7			Guideline; And should not vary by more than 0.2 units from the natural pH expected	Canada	Environment Canada 1999
	SW	7.0 – 8.7			Guideline; And should not vary by more than 0.2 units from the natural pH expected	Nova Scotia	NSDOE 1998
	SW	7.0 – 8.7			Criterion; Unrestricted change within this range	British Columbia	BCMOELP 1998
	SW	7.0 – 8.7			Criterion; Chronic	Quebec	MDEQ 1996
	SW	7.0 – 9.0			Mandatory; For shellfish waters; Quarterly sampling	Europe	CEC 1988
	SW	7.8 – 8.3			Standard; Coastal waters Class A and B	Japan	JWQB 1998
	FW/EST	8.5			Standard; Upper value	District of Columb	USEPA 1988d
	EST/SW	8.5			Standard; Upper value; Class SA; For aquaculture, propagation and harvesting of shellfish and as habitat	Maine	USEPA 1988g
	EST/SW	8.5			Standard; Upper value; Class SB; For aquaculture, propagation and harvesting of shellfish and as habitat	Maine	USEPA 1988g
	EST/SW	8.5			Standard; Upper value; Class SC; For aquaculture, propagation and restricted harvesting of shellfish and as habitat	Maine	USEPA 1988g
	FW/SW	8.5			Standard; Upper value; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters	Delaware	USEPA 1988c
	EST	9			Standard; Upper value; Estuarine water	Virginia	COV 1997
	SW	9			Standard; Upper value; Open ocean	Virginia	COV 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Phenanthrene	SW	1.5	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	4.6	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	SW	7.7	µg/L		Criterion; Interim; Acute	Quebec	MDEQ 1996
	SW	14	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Phenol	FW/SW	10	µg/L		Criterion	Puerto Rico	USEPA 1988a
	FW/SW	50	µg/L		Guideline	Australia	ANZECC 1992
	FW/EST	100	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	FW/SW	200	µg/L		Standard; Upper value; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters	Delaware	USEPA 1988c
	SW	5800	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	5800	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Phenols (total chlorinated)	FW/EST	3.0	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
Phosphorus (elemental)	SW	0.1	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.1	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.1	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	0.1	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
Phosphorus (total)	SW	20	µg/L		Standard; Coastal waters Class I	Japan	JWQB 1998
	SW	30	µg/L		Standard; Coastal waters Class II	Japan	JWQB 1998
	SW	50	µg/L		Standard; Coastal waters Class III	Japan	JWQB 1998
	SW	90	µg/L		Standard; Coastal waters Class IV	Japan	JWQB 1998
	FW/SW	Narrative			Regulation; No phosphorus unless naturally occurring; Class A waters (See reference)	New Hampshire	NHDES 1996
Phthalate Esters	SW	3.4	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	FW/EST	100	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	SW	3.4	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	2944	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	2944	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Propylene Dichloride	SW	3040	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	10300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Pseudocumene	SW	19	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	170	µg/L		Guidance value; Acute	New York State	NYSDEC 1998

Appendix 2-5. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Pyrene	SW	300	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Radioactivity-Beta (gross)	FW/SW	1000	pCi/L		Regulation; Upper value; Class A and B waters (See reference)	New Hampshire	NHDES 1996
Radium 226	FW/SW	3	pCi/L		Regulation; Upper value; Class A and B waters (See reference)	New Hampshire	NHDES 1996
Salinity	SW	<0.040	µg/L	WBA	Mandatory; Discharge affecting shellfish waters must not cause their salinity to exceed by more than 10% the salinity of waters not so affected	Europe	CEC 1988
	SW	12–38	%		Guideline; Monthly sampling	Europe	CEC 1988
	SW	1000000	µg/L		Standard; Maximum allowable variation above natural salinity; When natural salinity is 0 to 3500 ppm	Alaska	ADEC 1998a
	SW	2000000	µg/L		Standard; Maximum allowable variation above natural salinity; When natural salinity is 3500 to 13500 ppm	Alaska	ADEC 1998a
	SW	4000000	µg/L		Standard; Maximum allowable variation above natural salinity; When natural salinity is 13500 to 35000 ppm	Alaska	ADEC 1998a
	SW	Narrative			Interim Guideline; < 10% fluctuation	Canada	Environment Canada 1999
	SW	Narrative			Interim Guideline; < 10% fluctuation	Nova Scotia	NSDOE 1998
Salinity (change)	EST/SW	5	%		Guideline; Maximum from background level	Australia	ANZECC 1992
	EST/SW	1000	µg/L		Criterion; If background is 0- 3.5 g/L; As 24- hour change	British Columbia	Nagpal et al. 1995
	EST/SW	2000	µg/L		Criterion; If background is 3.5-13.5 g/L; As 24-hour change	British Columbia	Nagpal et al. 1995
	EST/SW	4000	µg/L		Criterion; If background is 13.5-35 g/L; As 24-hour change	British Columbia	Nagpal et al. 1995
Selenium	SW	1	µg/L		Guideline	Canada	Environment Canada 1999
	SW	1	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW/EST	40	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	SW	54	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	EST/SW	71	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	SW	71	µg/L		Proposed Criterion; Chronic	Alaska	ADEC 1998b
	SW	71	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	71	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	EST/SW	300	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	SW	300	µg/L		Proposed Criterion; Acute	Alaska	ADEC 1998b
	SW	300	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	300	µg/L		Criterion; Acute	Delaware	DDNREC 1993
	SW	410	µg/L		Criterion; Acute	Oregon	ODEQ 1996
Selenium (dissolved)	SW	71	µg/L		Standard; Chronic Criterion	Virginia	COV 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Selenium (dissolved; cont.)	SW	71	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	71	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	71	µg/L		Criterion; Continuous (over 4 days); Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	71	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years; Fish community status should be monitored when [Se] >5.0 µg/L	Washington	Washington State 1997
	SW	290	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	290	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	290	µg/L		Criterion; For the consumption of fish only; Class A	United States	USEPA 1998a
	SW	290	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	299.4	µg/L		Regulation; Acute Criterion at Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	300	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	710.9	µg/L		Regulation; Chronic Criterion at Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
Selenium (total)	SW	54	µg/L		Criterion; 24-hour Average	British Columbia	Nagpal et al. 1995
	SW	70	µg/L		Guideline	Australia	ANZECC 1992
	SW	410	µg/L		Criterion; Maximum	British Columbia	Nagpal et al. 1995
Silver	FW/EST	1.0	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	SW	1.15	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	EST/SW	2.3	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	SW	2.3	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	2.3	µg/L		Standard; Acute; Acid-soluble form	New York State	NYSDEC 1998
	SW	2.3	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Silver (dissolved)	SW	1.9	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	1.9	µg/L		Criterion; Acute; Maximum; Instantaneous	Washington	Washington State 1997
	SW	1.9	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	1.9	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	2	µg/L		Regulation; Acute Criterion; Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	2.3	µg/L		Standard; Acute Criterion	Virginia	COV 1997
Silver (total)	SW	1	µg/L		Guideline	Australia	ANZECC 1992
	SW	1.5	µg/L		Criterion; 30-day average	British Columbia	BCMOELP 1998
	SW	3	µg/L		Criterion; Maximum	British Columbia	BCMOELP 1998
Solids (settleable)	FW/SW	Narrative			Standard; No imposed loads that will interfere with established water supply treatment levels; Aquaculture	Alaska	ADEC 1998a

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Solids (settleable; cont.)	SW	Narrative			Standard; No measurable increase in concentration above natural conditions	Alaska	ADEC 1998a
Strontium 90	FW/SW	10	pCi/L		Regulation; Upper value; Class A and B waters (See reference)	New Hampshire	NHDES 1996
Sulphide	FW/SW	2	µg/L	TTA	Criterion; Undissociated H2S; H2S is detectable in clean water at 0.025 to 0.25 µg/L; H2S can be calculated from total sulfide, pH, T, and salinity	British Columbia	Nagpal et al. 1995
	FW/SW	2	µg/L		Guideline; Undissociated H2S	Australia	ANZECC 1992
	SW	2	µg/L		Criterion; Continuous; As Hydrogen Sulfide	United States	USEPA 1998a
Sulphides (total)	SW	2	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
Suspended Solids	FW/SW	5	mg/L		Guideline; Clear flow; Maximum increase from background	Canada	Environment Canada 1999
	FW/SW	5	mg/L		Guideline; Clear flow; Maximum increase from background	Nova Scotia	NSDOE 1998
	EST	10	mg/L		Maximum increase; Kitimat River downstream from the District of Kitimat sewage discharge; When background is less than 100 mg/L; Except initial dilution zones; Spawning salmonid migration corridor	British Columbia	Warrington 1987
	EST	10	%		Maximum increase; Kitimat River downstream from the District of Kitimat sewage discharge; When background is greater than 100 mg/L; Except initial dilution zones; Spawning salmonid migration corridor	British Columbia	Warrington 1987
	SW	10	mg/L		Maximum increase; Kitimat Arm; When background is less than 100 mg/L; Except initial dilution zones	British Columbia	Warrington 1987
	SW	10	%		Maximum increase; Kitimat Arm; When background is greater than 100 mg/L; Except initial dilution zones	British Columbia	Warrington 1987
	FW/SW	25	mg/L		Guideline; Clear flow; Maximum increase from background during short term	Canada	Environment Canada 1999
	FW/SW	25	mg/L		Guideline; High flow; Maximum increase from background at any time when background between 25 -250 mg/L	Canada	Environment Canada 1999
	FW/SW	25	mg/L		Guideline; Clear flow; Maximum increase form background during short term	Nova Scotia	NSDOE 1998
	FW/SW	25	mg/L		Guideline; High flow; Maximum increase from background at any time when background between 25 -250 mg/L	Nova Scotia	NSDOE 1998
	SW	30	mg/L		Mandatory; Discharge affecting shellfish waters must not cause the suspended solid content of the water to exceed more than 30% the content of waters not so affected	Europe	CEC 1988
Temperature	SW	13	°C		Standard; Maximum due to human activities; No increase shall exceed t = 8/ [T-4] at any time; Class AA (extraordinary)	Washington	Washington State 1997
	SW	16	°C		Standard; Maximum due to human activities; No increase shall exceed t = 12/ [T-2] at any time; Class A (excellent)	Washington	Washington State 1997
	SW	19	°C		Standard; Maximum due to human activities; No increase shall exceed t = 16/[T]; Class B (good)	Washington	Washington State 1997

Appendix 2-5. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature (cont.)	FW/SW	20	°C		Criterion; (68 F); Outside mixing zone; Or may not exceed ambient temperature, whichever is greater; Use III and IV waters - Natural trout waters	Maryland	MDOE 1997
	SW	22	°C		Standard; Maximum due to human activities; No increase shall exceed t = 20/ [T+2]; Class C (fair); For salmonid and other fish migration	Washington	Washington State 1997
	EST/SW	26.7	°C		Standard; For Class SA; Maximum daily mean (or 80 F)	Massachusetts	COM 1996
	EST/SW	26.7	°C		Standard; For Class SB; Maximum daily mean (or 80 F)	Massachusetts	COM 1996
	SW	28.3	°C		Criterion; Maximum; Class SA, SB, SB1,and SC; (83 F)	Rhode Island	RIDEM 1997
	EST/SW	29.4	°C		Standard; For Class SB; Maximum at any time (or 85 F)	Massachusetts	COM 1996
	EST/SW	29.4	°C		Standard; For Class SC; Maximum at any time (or 85 F)	Massachusetts	COM 1996
	FW/SW	29.4	°C		Standard; Upper value; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters; (85 F)	Delaware	USEPA 1988c
	FW/EST	32.2	°C		Standard; Upper value	District of Columb	USEPA 1988d
	FW/SW	32.2	°C		Criterion; Use I waters - Primary contact (90 F); Outside mixing zone; Or may not exceed ambient temperature, whichever is greater	Maryland	MDOE 1997
	EST/SW	39.4	°C		Standard; For Class SA; Maximum at any time (or 85 F)	Massachusetts	COM 1996
Temperature (change)	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 16.0 C / 13.0 C for FW/SW respectively; Class AA (extraordinary)	Washington	Washington State 1997
	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 21.0 C / 19.0 C for FW/SW respectively; Class B (good)	Washington	Washington State 1997
	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed guideline; Class A (excellent)	Washington	Washington State 1997
	SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 22.0 C for SW; Class C (fair); For salmonid and other fish migration	Washington	Washington State 1997
	EST/SW	0.83	°C		Standard; Secondary Upper value; Class SA; For aquaculture, propagation and harvesting of shellfish and as habitat; (1.5 F)	Maine	USEPA 1988g
	EST/SW	0.83	°C		Standard; Secondary Upper value; Class SB; For aquaculture, propagation and harvesting of shellfish and as habitat; (1.5 F)	Maine	USEPA 1988g
	EST/SW	0.83	°C		Standard; Secondary Upper value; Class SC; For aquaculture, propagation and restricted harvesting of shellfish and as habitat; (1.5 F)	Maine	USEPA 1988g
	EST/SW	0.83	°C		Standard; For Class SA; (or 1.5 F)	Massachusetts	COM 1996
	EST/SW	0.83	°C		Standard; For Class SB; (or 1.5 F); During summer months	Massachusetts	COM 1996
	SW	0.89	°C		Criterion; Maximum increase above normal temperature; Class SA, SB, SB1, and SC; (1.6	Rhode Island	RIDEM 1997
	FW/SW	2	°C		Guideline; Maximum increase	Australia	ANZECC 1992
	SW	2	°C	WBA	Maximum increase above natural conditions; Guideline for shellfish waters	Europe	CEC 1988
	EST/SW	2.2	°C		Standard; Upper value; Class SA; For aquaculture, propagation and harvesting of shellfish and as habitat; (4 F)	Maine	USEPA 1988g

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature (change; cont.)	EST/SW	2.2	°C		Standard; Upper value; Class SB; For aquaculture, propagation and harvesting of shellfish and as habitat; (4 F)	Maine	USEPA 1988g
	EST/SW	2.2	°C		Standard; Upper value; Class SC; For aquaculture, propagation and restricted harvesting of shellfish and as habitat; (4 F)	Maine	USEPA 1988g
	EST/SW	2.2	°C		Standard; For Class SB; (or 4 F); During winter months	Massachusetts	COM 1996
	FW/SW	2.2	°C		Standard; Secondary Upper Limit; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters; (4 F)	Delaware	USEPA 1988c
	FW/EST	2.8	°C		Standard; Upper value for temperature change	District of Columb	USEPA 1988d
	EST/SW	2.8	°C		Standard; For Class SC; (or 5 F)	Massachusetts	COM 1996
	FW/SW	2.8	°C		Standard; Upper value; Coldwater fish (put-and-take); Water of exceptional recreation or ecological significance; And shellfish waters; (5 F)	Delaware	USEPA 1988c
	SW	Narrative			Interim Guideline; Not to exceed +/-1 C and the maximum rate of temperature change should not exceed 0.5C per hour	Canada	Environment Canada 1999
	SW	Narrative			Guideline; Not to exceed +/-1 C and the maximum rate of temperature change should not exceed 0.5C per hour	Nova Scotia	NSDOE 1998
	SW	Narrative			Standard; May not cause the weekly average temperature to increase more than 1 C. The maximum rate of change may not exceed 0.5 C per hour; Normal daily temperature cycles may not be altered in amplitude or frequency	Alaska	ADEC 1998a
Tetrachlorobenzene, 1,2,4,5-	SW	129	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	160	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Tetrachloroethane	SW	9020	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	9020	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	9020	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
Tetrachloroethylene	SW	450	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	450	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	450	µg/L		Lowest Observed Effect Level; Chronic	Australia	ANZECC 1992
	SW	10200	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	10200	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Tetrachlorophenol, 2,3,4,5-	FW/SW	1.7	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Tetrachlorophenol, 2,3,4,6-	FW/SW	4.9	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Tetrachlorophenol, 2,3,5,6-	FW/SW	2.2	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
	SW	440	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	440	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Thallium	SW	20	µg/L		Guideline; Total	Australia	ANZECC 1992
	SW	2130	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	2130	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Toluene	FW/SW	14	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	92	µg/L		Guidance value; Chronic; Aquaculture	New York State	NYSDEC 1998
	SW	200	µg/L		Criterion; Interim; Chronic	Quebec	MDEQ 1996
	SW	215	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	215	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	SW	430	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	SW	5000	µg/L		Lowest Observed Effect Level; Chronic	Oregon	ODEQ 1996
	SW	6300	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Toxaphene	EST/SW	0.0002	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	SW	0.0002	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	0.0002	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	0.0002	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.0002	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	0.0002	µg/L		Proposed Criterion; Chronic	Alaska	ADEC 1998b
	SW	0.0002	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	0.0002	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.0002	µg/L		Criterion; Continuous	California	USEPA 1997c
	SW	0.0002	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	SW	0.005	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
	FW/SW	0.008	µg/L		Guideline	Australia	ANZECC 1992
	SW	0.07	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	FW/EST	0.01	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	EST/SW	0.21	µg/L		Criterion; For ambient surface waters; Acute toxicity	Maryland	MDOE 1997
	SW	0.21	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	0.21	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	0.21	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	0.21	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	0.21	µg/L		Proposed Criterion; Acute	Alaska	ADEC 1998b

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Toxaphene (cont.)	SW	0.21	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years; Channel catfish may be more acutely sensitive	Washington	Washington State 1997
	SW	0.21	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	0.21	µg/L		Criterion; Maximum	California	USEPA 1997c
	SW	0.21	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	0.21	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Tributyltin	SW	0.001	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.001	µg/L		Criterion; Maximum	British Columbia	Nagpal et al. 1995
	SW	0.001	µg/L		Guideline	Canada	Environment Canada 1999
	SW	0.001	µg/L		Guideline	Nova Scotia	NSDOE 1998
	SW	0.002	µg/L		Guideline	Australia	ANZECC 1992
	EST/SW	0.01	µg/L		Criterion; For ambient surface waters; Chronic toxicity	Maryland	MDOE 1997
	SW	0.01	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	0.36	µg/L		Standard; Acute Criterion	Virginia	COV 1997
	SW	0.37	µg/L		Criterion; Maximum	United States	USEPA 1998a
Trichlorobenzene, 1,2,4-	SW	5.4	µg/L		Interim Guideline	Canada	Environment Canada 1999
	SW	5.4	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW/SW	129	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	160	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Trichlorobenzenes	SW	5	µg/L		Standard; Chronic; Aquaculture	New York State	NYSDEC 1998
Trichloroethane, 1,1,1-	SW	31200	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	31200	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
	SW	312000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
Trichloroethylene	SW	2000	µg/L		Lowest Observed Effect Level; Acute	Oregon	ODEQ 1996
	SW	2000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
	SW	2000	µg/L		Lowest Observed Effect Level; Acute	Australia	ANZECC 1992
Trichlorofluoromethane	SW	6400	µg/L		Regulation; Chronic Criterion	New Hampshire	NHDES 1996
	SW	12000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Trichlorophenol, 2,3,4-	FW/SW	2.2	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichlorophenol, 2,3,5-	FW/SW	2.2	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Trichlorophenol, 2,3,6-	FW/SW	7.2	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Trichlorophenol, 2,4,5-	FW/SW	2	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
	SW	8	µg/L		Guideline	Australia	ANZECC 1992
Trichlorophenol, 2,4,6-	FW/SW	5.3	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Trichlorophenol, 3,4,5-	FW/SW	0.9	µg/L		Criterion; Interim maximum; 10 C, pH 7.2; Value is dependent on temperature and pH; See reference	British Columbia	BCMOELP 1998
Turbidity	FW/SW	10	NTU		Regulation; Upper value; Class B waters (See reference)	New Hampshire	NHDES 1996
	FW/SW	150	NTU		Criterion; Use I waters; At any time	Maryland	MDOE 1997
	FW/SW	150	NTU		Criterion; At any time; Use III and IV waters - Natural and recreational trout waters	Maryland	MDOE 1997
	FW/SW	Narrative			Regulation; No turbidity unless naturally occurring; Class A waters (See reference)	New Hampshire	NHDES 1996
	SW	Narrative			Standard; May not reduce the depth of the compensation point for photosynthetic activity by more than 10%; May not reduce the maximum secchi disk depth by more than 10%	Alaska	ADEC 1998a
Turbidity (change)	EST	5	NTU		Maximum increase; Kitimat River downstream from the District of Kitimat sewage discharge; Background < 50 NTU; Spawning salmonid migration corridor; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	FW/SW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW/SW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class A	Washington	Washington State 1997
	SW	5	NTU		Maximum increase; Kitimat Arm; Background < 50 NTU; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	SW	5	NTU		Criterion; Maximum increase over background; Class SA	Rhode Island	RIDEM 1997
	FW/SW	8	NTU		Guideline; Clear flow; Maximum increase from background at any time for any short term exposure	Canada	Environment Canada 1999
	FW/SW	8	NTU		Guideline; High flow or turbid waters; Maximum increase from background at any time when background level between 8 and 80 NTU	Canada	Environment Canada 1999
	FW/SW	8	NTU		Guideline; Clear flow; Maximum increase from background at any time for any short term exposure	Nova Scotia	NSDOE 1998

Appendix 2-5. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Turbidity (change; cont.)	FW/SW	8	NTU		Guideline; High flow or turbid waters; Maximum increase from background at any time when background level between 8 and 80 NTU	Nova Scotia	NSDOE 1998
	FW/SW	<10	%		Guideline; Seasonal mean	Australia	ANZECC 1992
	EST	10	%		Maximum increase; Kitimat River downstream from the District of Kitimat sewage discharge; Background > 50 NTU; Spawning salmonid migration corridor; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	FW/SW	10	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW/SW	10	%		Standard; Maximum increase when background turbidity is >50; Class A (excellent)	Washington	Washington State 1997
	FW/SW	10	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class B (good)	Washington	Washington State 1997
	SW	10	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class C (fair); For salmonid and other fish migration	Washington	Washington State 1997
	SW	10	%		Maximum increase; Kitimat Arm; Background > 50 NTU; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	SW	10	NTU		Criterion; Maximum increase over background; Class SB, SB1, and SC	Rhode Island	RIDEM 1997
	FW/SW	20	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class B (good)	Washington	Washington State 1997
	SW	20	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class C (fair); For salmonid and other fish migration	Washington	Washington State 1997
	FW/SW	50	NTU		Criterion; Change from monthly average; Use III and IV waters - Natural and recreational trout waters	Maryland	MDOE 1997
	FW/SW	50	NTU		Criterion; Use I waters; Change from monthly average	Maryland	MDOE 1997
Uranium (total)	SW	100	µg/L		Criterion; Minimal risk	British Columbia	Nagpal et al. 1995
	SW	500	µg/L		Criterion; Hazard	British Columbia	Nagpal et al. 1995
Vanadium (total)	SW	10000	µg/L		96-hour LC50 for some marine fish	British Columbia	Nagpal et al. 1995
Vinylidene Chloride	SW	224000	µg/L		Regulation; Acute Criterion	New Hampshire	NHDES 1996
Xylene, m-	SW	19	µg/L		Standard; Chronic; As part of sum of 1,2-, 1,3-, and 1,4-xylene	New York State	NYSDEC 1998
	SW	170	µg/L		Standard; Acute; As part of sum of 1,2-, 1,3-, and 1,4-xylene	New York State	NYSDEC 1998
Xylene, o-	SW	19	µg/L		Standard; Chronic; As part of sum of 1,2-, 1,3-, and 1,4-xylene	New York State	NYSDEC 1998
	SW	170	µg/L		Standard; Acute; As part of sum of 1,2-, 1,3-, and 1,4-xylene	New York State	NYSDEC 1998
Xylene, p-	SW	19	µg/L		Standard; Chronic; Sum of 1,2-, 1,3-, and 1,4-xylene	New York State	NYSDEC 1998
	SW	170	µg/L		Standard; Acute; Sum of 1,2-, 1,3-, and 1,4-xylene	New York State	NYSDEC 1998

Appendix 2-5. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Zinc	FW/EST	50	µg/L		Standard; Upper value	District of Columb	USEPA 1988d
	SW	66	µg/L		Guidance value; Chronic; Value	New York State	NYSDEC 1998
	EST/SW	86	µg/L		Criterion; For ambient surface waters; Chronic toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	SW	86	µg/L		Criterion; Chronic	Oregon	ODEQ 1996
	SW	86	µg/L		Proposed Criterion; Chronic	Alaska	ADEC 1998b
	SW	86	µg/L		Criterion; Chronic	Quebec	MDEQ 1996
	SW	86	µg/L		Criterion; Chronic	Delaware	DDNREC 1993
	EST/SW	95	µg/L		Criterion; For ambient surface waters; Acute toxicity; Hardness and pH dependent	Maryland	MDOE 1997
	SW	95	µg/L		Criterion; Acute	Oregon	ODEQ 1996
	SW	95	µg/L		Guidance value; Acute	New York State	NYSDEC 1998
	SW	95	µg/L		Proposed Criterion; Acute	Alaska	ADEC 1998b
	SW	95	µg/L		Criterion; Acute	Quebec	MDEQ 1996
	SW	95	µg/L		Criterion; Acute	Delaware	DDNREC 1993
Zinc (dissolved)	SW	40	µg/L		Annual average	United Kingdom	Mance and O'Donnell 1984
	SW	81	µg/L		Criterion; Chronic	Rhode Island	RIDEM 1997
	SW	81	µg/L		Criterion; Continuous	United States	USEPA 1998a
	SW	81	µg/L		Criterion; Continuous (over 4 days); Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	81	µg/L		Criterion; Chronic; 4-day average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	81.4	µg/L		Regulation; Chronic Criterion for Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	86	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	90	µg/L		Regulation; Acute Criterion for Water Effect Ratio of 1.0 (See reference)	New Hampshire	NHDES 1996
	SW	90	µg/L		Criterion; Acute	Rhode Island	RIDEM 1997
	SW	90	µg/L		Criterion; Maximum	United States	USEPA 1998a
	SW	90	µg/L		Criterion; Maximum; Expressed as a function of the Water Effect Ratio (See reference)	California	USEPA 1997c
	SW	90	µg/L		Criterion; Acute; 1-hour average; Not to be exceeded more than once every three years	Washington	Washington State 1997
	SW	95	µg/L		Standard; Acute Criterion	Virginia	COV 1997
Zinc (total)	SW	50	µg/L		Guideline	Australia	ANZECC 1992
	SW	86	µg/L		Criterion; 4-day average	British Columbia	Nagpal et al. 1995
	SW	95	µg/L		Criterion; 1-hour Average	British Columbia	Nagpal et al. 1995

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A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Acrolein	FW	100	µg/L		Guideline; Residue limits	Australia	ANZECC 1992
Aldicarb (total)	FW	54.9	µg/L		Guideline	Canada	Environment Canada 1999
	FW	54.9	µg/L		Guideline	Nova Scotia	NSDOE 1998
Aldrin + Dieldrin	GW	0.003	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Aluminum	FW	5000	µg/L		Guideline	Canada	Environment Canada 1999
	FW	5000	µg/L		Guideline	Nova Scotia	NSDOE 1998
Aluminum (total)	FW	5000	µg/L		Guideline; Higher toxicity in acid soils	Australia	ANZECC 1992
	FW	5000	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
Amitrole	FW	2	µg/L		Guideline; Residue limits	Australia	ANZECC 1992
Ammonia (unionized)	FW	0.007	mg/L	TTA	Provisional Objective; Average; North, Middle, Main Arms of the Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
	FW	0.03	mg/L	TTA	Provisional Objective; Maximum; North, Middle, Main Arms of the Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
Arsenic	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	100	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	100	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Arsenic (total)	GW	50	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	100	µg/L		Guideline	Australia	ANZECC 1992
	FW	100	µg/L	TTA	Criterion; Maximum; Sensitive crop; Sandy loam soil	British Columbia	Nagpal et al. 1995
	FW	1000	µg/L	TTA	Criterion; Maximum; Sensitive crop; Clay soil	British Columbia	Nagpal et al. 1995
	FW	1000	µg/L	TTA	Criterion; Maximum; Tolerant crop; Sandy loam soil	British Columbia	Nagpal et al. 1995
	FW	2000	µg/L	TTA	Criterion; Maximum; Tolerant crop; Clay soil	British Columbia	Nagpal et al. 1995
Atrazine	FW	10	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	10	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Barium	GW	1	mg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Barium (total)	GW	1	mg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Benzene (total)	GW	5	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Beryllium	FW	100	µg/L		Guideline	Canada	Environment Canada 1999
	FW	100	µg/L		Guideline	Nova Scotia	NSDOE 1998
Beryllium (total)	FW	100	µg/L		Guideline	Australia	ANZECC 1992
	FW	100	µg/L	TTA	Criterion; Maximum; Continuous use; All soils	British Columbia	Nagpal et al. 1995
	FW	500	µg/L	TTA	Criterion; Maximum; For use on fine-textured; Neutral to alkaline soils for up to 20 years	British Columbia	Nagpal et al. 1995
Biological Oxygen Demand	FW	8	mg/L		Standard; Rivers Class D; Value applies to general agricultural uses	Japan	JWQB 1998
Boron	FW	0.3	mg/L		Standard; Maximum	Alaska	ADEC 1998a
	FW	0.5	mg/L		Guideline; For blackberries	Canada	Environment Canada 1999
	FW	0.5	mg/L		Guideline; For blackberries	Nova Scotia	NSDOE 1998
	FW	0.5–1.0	mg/L		Guideline; For peaches, cherries, plums, grapes, cowpeas, onions, garlic, sweet potatoes, wheat, barley, sunflowers, mung beans, sesame, lupines, strawberries, Jerusalem artichokes, kidney beans, and lima beans	Canada	Environment Canada 1999
	FW	0.5–1.0	mg/L		Guideline; For peaches, cherries, plums, grapes, cowpeas, onions, garlic, sweet potatoes, wheat, barley, sunflowers, mung beans, sesame, lupines, strawberries, Jerusalem artichokes, kidney beans, and lima beans	Nova Scotia	NSDOE 1998
	FW	1.0–2.0	mg/L		Guideline; For red peppers, peas, carrots, radishes, potatoes, and cucumbers	Canada	Environment Canada 1999
	FW	1.0–2.0	mg/L		Guideline; For red peppers, peas, carrots, radishes, potatoes, and cucumbers	Nova Scotia	NSDOE 1998
	FW	2.0–4.0	mg/L		Guideline; For lettuce, cabbage, celery, turnips, Kentucky bluegrass, oats, corn, artichoke, tobacco, mustard, clover, squash, and muskmelons	Canada	Environment Canada 1999
	FW	2.0–4.0	mg/L		Guideline; For lettuce, cabbage, celery, turnips, Kentucky bluegrass, oats, corn, artichoke, tobacco, mustard, clover, squash, and muskmelons	Nova Scotia	NSDOE 1998
	FW	4.0–6.0	mg/L		Guideline; For sorghum, tomatoes, alfalfa, purple vetch, parsley, red beets, and sugar beets	Canada	Environment Canada 1999
	FW	4.0–6.0	mg/L		Guideline; For sorghum, tomatoes, alfalfa, purple vetch, parsley, red beets, and sugar beets	Nova Scotia	NSDOE 1998
	FW	6	mg/L		Guideline; For asparagus	Canada	Environment Canada 1999
	FW	6	mg/L		Guideline; For asparagus	Nova Scotia	NSDOE 1998
Boron (total)	FW	0.5–6.0	mg/L		Guideline; Maximum; Depending on crop	Australia	ANZECC 1992
	FW	0.5–6.0	mg/L	TTA	Criterion; Maximum; Depending on crop	British Columbia	Nagpal et al. 1995
Bromacil	FW	0.2	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.2	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Bromoxynil	FW	0.33	µg/L		Guideline	Canada	Environment Canada 1999

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Bromoxynil (cont.)	FW	0.33	µg/L		Guideline	Nova Scotia	NSDOE 1998
Cadmium	GW	0.4	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	5.1	µg/L		Guideline; Crop specific	Canada	Environment Canada 1999
	FW	5.1	µg/L		Guideline; Crop specific	Nova Scotia	NSDOE 1998
Cadmium (total)	FW	5	µg/L		Criterion; For all crops	British Columbia	Nagpal et al. 1995
	FW	10	µg/L		Guideline; Higher toxicity in acid soils	Australia	ANZECC 1992
	FW	10	µg/L	TTA	Criterion; Maximum; Continuous use; All soils(5 µg/L for all crops)	British Columbia	Nagpal et al. 1995
	GW	10	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Carbon Tetrachloride (total)	GW	5	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Chemical Oxygen Demand	FW-Lakes	5	mg/L		Standard; Lakes Class B; Value applies to general agricultural uses	Japan	JWQB 1998
Chlordane	GW	0.01	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Chloride	FW	30–700	mg/L		Guideline; Maximum concentration should be set according to the sensitivity of the crop (See reference)	Australia	ANZECC 1992
	FW	100	mg/L		Guideline; Maximum for more sensitive crops	Australia	ANZECC 1992
	FW	100–700	mg/L		Guideline; Crop specific; See reference for values	Canada	Environment Canada 1999
	FW	100–700	mg/L		Guideline; Crop specific; See reference for values	Nova Scotia	NSDOE 1998
Chloride (total)	GW	250	mg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
Chlorine	FW	1000	µg/L		Criterion; Maximum; For controlled intermittent exposures	British Columbia	BCMOELP 1998
Chlorine (total, residual)	FW	2	µg/L		Provisional Objective; Maximum for Main Arm of Fraser River, Sturgeon and Roberts	British Columbia	Swain and Holms 1985
Chloro-2-Methyl Phenoxy Aceti	FW	0.025	µg/L		Guideline	Canada	Environment Canada 1999
Acid, 4-	FW	0.025	µg/L		Guideline	Nova Scotia	NSDOE 1998
Chlorophenols	FW	0.2	µg/L		Provisional Objective; Maximum for Fraser River	British Columbia	Swain and Holms 1985
Chlorothalonil	FW	5.8	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	5.8	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Chromium	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chromium (III)	FW	4.9	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	4.9	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Chromium (total)	GW	50	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	100	µg/L	TTA	Criterion; Maximum; Continuous use; All soils	British Columbia	Nagpal et al. 1995
	FW	1000	µg/L		Guideline	Australia	ANZECC 1992
Chromium (VI)	FW	8	µg/L		Guideline	Canada	Environment Canada 1999
	FW	8	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	100	µg/L		Guideline	Australia	ANZECC 1992
Cobalt	FW	50	µg/L		Guideline	Canada	Environment Canada 1999
	FW	50	µg/L		Guideline	Nova Scotia	NSDOE 1998
Cobalt (total)	FW	50	µg/L		Guideline	Australia	ANZECC 1992
	FW	50	µg/L	TTA	Criterion; Maximum; Continuous use; All soils	British Columbia	Nagpal et al. 1995
	FW	5000	µg/L	TTA	Criterion; Maximum; For use on fine-textured; Neutral to alkaline soils for up to 20 years	British Columbia	Nagpal et al. 1995
Coliforms (total)	GW	<1	C/100mL		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	100	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 500 MPN/100mL; Class A	Rhode Island	RIDEM 1997
	FW	1000	MPN/100mL		Criterion; Maximum geometric mean; With no more than 20% of samples exceeding 2400 MPN/100mL; Class B and B1	Rhode Island	RIDEM 1997
	FW	1000	C/100mL		Guideline	Canada	Environment Canada 1999
	FW	1000	C/100mL		Guideline	Nova Scotia	NSDOE 1998
	FW	1000	C/100mL		Interim Guideline; Maximum 30-day average	Alberta	AEP 1997
	FW	2400	C/100mL		Interim Guideline; Maximum at any time	Alberta	AEP 1997
Colour	GW	15	colour units		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
Copper	FW	200	µg/L		Guideline; For cereals	Canada	Environment Canada 1999
	FW	200	µg/L		Guideline; For cereals	Nova Scotia	NSDOE 1998
	FW	1000	µg/L		Guideline; For tolerant crops	Canada	Environment Canada 1999
	FW	1000	µg/L		Guideline; For tolerant crops	Nova Scotia	NSDOE 1998
	GW	1000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Copper (total)	FW	4	µg/L		Provisional Objective; Maximum when hardness <= 35 mg/L for North, Middle, and Main Arms of the Fraser River; or 3 µg/L average, or 20 % maximum increase, whichever is	British Columbia	Swain and Holms 1985

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Copper (total; cont.)	FW	6	µg/L		Provisional Objective; Maximum when hardness > 35 mg/L for North, Middle, and Main Arms of the Fraser River; or 4 µg/L average, or 20 % maximum increase, whichever is	British Columbia	Swain and Holms 1985
	FW	200	µg/L		Guideline	Australia	ANZECC 1992
	FW	200	µg/L	TTA	Criterion; Maximum for raw water	British Columbia	BCMOELP 1998
	GW	1000	µg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
Cyanazine	FW	0.5	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.5	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Cyanide	GW	5	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
D, 2,4-	GW	100	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
D, 2,4- (total)	GW	100	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Dalapon	FW	4	µg/L		Guideline; Residue limits	Australia	ANZECC 1992
DDT	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Dicamba	FW	0.006	µg/L		Guideline	Canada	Environment Canada 1999
	FW	0.006	µg/L		Guideline	Nova Scotia	NSDOE 1998
Dichlorobenzene, p- (total)	GW	75	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Diclofop-Methyl	FW	0.2	µg/L		Guideline	Canada	Environment Canada 1999
	FW	0.2	µg/L		Guideline	Nova Scotia	NSDOE 1998
Dinoseb	FW	16	µg/L		Guideline; Crop specific	Canada	Environment Canada 1999
	FW	16	µg/L		Guideline; Crop specific	Nova Scotia	NSDOE 1998
	FW	16	µg/L	TTA	Criterion; Maximum for the protection of all agriculture crops	British Columbia	Nagpal et al. 1995
	FW	46	µg/L	TTA	Criterion; Maximum for cereal crops and hay	British Columbia	Nagpal et al. 1995
	FW	93	µg/L	TTA	Criterion; Maximum for legume culture	British Columbia	Nagpal et al. 1995
Dissolved Oxygen	FW	2	mg/L		Standard; Rivers Class D; Value applies to general agricultural uses	Japan	JWQB 1998
	FW	3.0	mg/L		Standard; Minimum; In surface waters	Alaska	ADEC 1998a
	FW	3	mg/L		Standard; For Class C; At any time unless background is lower, and 5000 µg/L minimum during 16 of 24 hours; After cooking	Massachusetts	COM 1996
	FW	3	mg/L		Standard; Minimum; Surface waters	Alaska	ADEC 1998a

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dissolved Oxygen (cont.)	FW	4	mg/L		Standard; Lower value; Value applies to general agricultural uses	Delaware	USEPA 1988c
	FW	5	mg/L		Standard; Lower value for B-3 and C-3 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW-Lakes	5	mg/L		Standard; Lakes Class B; Value applies to general agricultural uses	Japan	JWQB 1998
	FW	5	mg/L		Standard; For Class B; Minimum in warm water fisheries	Massachusetts	COM 1996
	FW	6	mg/L		Standard; For Class B; Minimum in cold water fisheries	Massachusetts	COM 1996
	FW	6.5	mg/L		Standard; Minimum; Class B (good)	Washington	Washington State 1997
	FW	7	mg/L		Standard; Lower value for A-1, B-1 and C-1 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW	7	mg/L		Standard; Lower value for B-2 and C-2 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW	7.75	mg/L		Provisional Objective; Minimum for Fraser River	British Columbia	Swain and Holms 1985
	FW	8	mg/L		Standard; Minimum; Class A (excellent)	Washington	Washington State 1997
	FW	9.5	mg/L		Standard; Minimum; Class AA (extraordinary)	Washington	Washington State 1997
	FW	60	%		Criterion; Minimum saturation; Based on a daily average; Warm water; Class A, B, B1, and	Rhode Island	RIDEM 1997
	FW	75	%		Criterion; Minimum saturation; Based on a daily average; Cold water; Class A, B, B1, and	Rhode Island	RIDEM 1997
	FW	80	%		Standard; For Class 2 protection; Value applies to general agricultural uses	Hawaii	USEPA 1988f
	FW-Lakes	Narrative			Standard; No measurable decrease from natural conditions; Lake Class	Washington	Washington State 1997
Diuron	FW	2	µg/L		Guideline; Residue limits	Australia	ANZECC 1992
Endrin	GW	0.004	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Endrin (total)	GW	0.2	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Enterococci	FW	<=20	Colonies/100ml		Criterion; Geometric mean; For crops eaten raw	British Columbia	BCMOELP 1998
	FW	<=100	Colonies/100ml		Criterion; Geometric mean; For public or livestock access to irrigated fields	British Columbia	BCMOELP 1998
	FW	<=250	Colonies/100ml		Criterion; Geometric mean; For general irrigation	British Columbia	BCMOELP 1998
Escherichia coli	FW	<=77	Colonies/100ml		Criterion; Geometric mean; For crops eaten raw	British Columbia	BCMOELP 1998
	FW	<=385	Colonies/100ml		Criterion; Geometric mean; For public or livestock access	British Columbia	BCMOELP 1998
	FW	<=1000	Colonies/100ml		Criterion; Geometric mean; For general irrigation purposes	British Columbia	BCMOELP 1998
Ethylene Dichloride (total)	GW	5	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Fecal Coliforms	FW	20	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 200 MPN/100mL; Class A	Rhode Island	RIDEM 1997

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fecal Coliforms (cont.)	FW	50	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Class AA (extraordinary)	Washington	Washington State 1997
	FW-Lakes	50	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Lake Class	Washington	Washington State 1997
	FW	100	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100mL; Class A (excellent)	Washington	Washington State 1997
	FW	100	FC/100mL		Guideline	Canada	Environment Canada 1999
	FW	100	FC/100mL		Guideline	Nova Scotia	NSDOE 1998
	FW	<=200	FC/100mL		Criterion; Geometric mean; For crops eaten raw	British Columbia	BCMOELP 1998
	FW	200	MPN/100mL		Criterion; Maximum geometric mean; With no more than 20% of samples exceeding 500 MPN/100mL; Class B and B1	Rhode Island	RIDEM 1997
	FW	200	FC/100mL		Standard; Maximum level; Little to no significant carcinogenic or other heath risk	Alaska	ADEC 1998a
	FW	200	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 400 Col/100mL; Class B (good)	Washington	Washington State 1997
	FW	200	FC/100mL		Standard; For Class B; At any time, and 10% of all samples; Maximum = 400 FC/100mL	Massachusetts	COM 1996
	FW	200	FC/100mL		Standard; Maximum 30-day average; For products normally cooked and for dairy sanitation of pasteurized products; With no more than 10% of the samples exceeding 400/100mL	Alaska	ADEC 1998a
	FW	200	FC/100mL		Interim Guideline; Maximum 30-day average	Alberta	AEP 1997
	FW	<=1000	FC/100mL		Criterion; Geometric mean; For general irrigation	British Columbia	BCMOELP 1998
	FW	1000	FC/100mL		Guideline; Geometric mean; Tentative value; With no more than 20% of the samples taken (at least 5/month) should exceed a geometric mean of 4000 organisms/100mL	Australia	ANZECC 1992
	FW	1000	FC/100mL		Standard; For Class C; At any time, and 10% of all samples; Maximum = 2000 FC/100mL; After cooking	Massachusetts	COM 1996
	FW	1000	MPN/100mL		Provisional Objective; Geometric mean for Fraser River	British Columbia	Swain and Holms 1985
	FW	4000	MPN/100mL		Provisional Objective; Maximum for Fraser River	British Columbia	Swain and Holms 1985
Fluoride	FW	1	mg/L		Guideline	Canada	Environment Canada 1999
	FW	1	mg/L		Guideline	Nova Scotia	NSDOE 1998
Fluoride (total)	FW	1	mg/L		Guideline	Australia	ANZECC 1992
	FW	1	mg/L		Criterion; 30-day average for all soils	British Columbia	BCMOELP 1998
	FW	1.5	mg/L		Criterion; Maximum for all soils	British Columbia	BCMOELP 1998
	GW	4	mg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Foaming Agents	GW	50	µg/L		Standard; Possible present or anticipated use; As Methylene Blue active substances	Virginia	COV 1997
	GW	500	µg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
Heptachlor	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Heptachlor Epoxide	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Hydrocarbons, Petroleum	GW	1000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	Narrative			Standard; May not cause a visible sheen upon the surface of the water	Alaska	ADEC 1998a
Iodine 131	GW	3	pCi/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Iron	FW	5000	µg/L		Guideline	Canada	Environment Canada 1999
	FW	5000	µg/L		Guideline	Nova Scotia	NSDOE 1998
Iron (total)	GW	300	µg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	1000	µg/L		Guideline	Australia	ANZECC 1992
	FW	5000	µg/L	TTA	Criterion; Maximum; Continuous use; All soils	British Columbia	Nagpal et al. 1995
	FW	20000	µg/L	TTA	Criterion; Maximum; For use on fine-textured neutral to alkaline soils for up to 20 years	British Columbia	Nagpal et al. 1995
Lead	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	200	µg/L		Guideline	Canada	Environment Canada 1999
	FW	200	µg/L		Guideline	Nova Scotia	NSDOE 1998
Lead (total)	FW	3	µg/L		Provisional Objective; Average for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	FW	10	µg/L		Provisional Objective; Maximum for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	GW	50	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	200	µg/L		Guideline	Australia	ANZECC 1992
	FW	200	µg/L	TTA	Criterion; Maximum; All soils other than neutral to alkaline fine-textured soils	British Columbia	BCMOELP 1998
	FW	400	µg/L	TTA	Criterion; Maximum; For neutral to alkaline fine-textured soils	British Columbia	BCMOELP 1998
Lindane	GW	0.01	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Lindane (total)	GW	4	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Linuron	FW	0.071	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.071	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Lithium	FW	2500	µg/L		Guideline	Canada	Environment Canada 1999
	FW	2500	µg/L		Guideline	Nova Scotia	NSDOE 1998
Lithium (total)	FW	75	µg/L		Guideline; For citrus	Australia	ANZECC 1992
	FW	2500	µg/L		Guideline	Australia	ANZECC 1992

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Manganese	FW	200	µg/L		Guideline	Canada	Environment Canada 1999
	FW	200	µg/L		Guideline	Nova Scotia	NSDOE 1998
Manganese (total)	GW	50	µg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	200	µg/L		Guideline; For acidic soils	Australia	ANZECC 1992
	FW	200	µg/L	TTA	Criterion; Maximum; Continuous use; All soils	British Columbia	Nagpal et al. 1995
	FW	2000	µg/L		Guideline	Australia	ANZECC 1992
	FW	10000	µg/L	TTA	Criterion; Maximum; For use on neutral to alkaline fine textured soils for up to 20 years	British Columbia	Nagpal et al. 1995
Mercury	GW	0.05	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Mercury (total)	FW	1.0	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	2	µg/L		Guideline	Australia	ANZECC 1992
	GW	2	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Methoxychlor	GW	0.03	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Methoxychlor (total)	GW	100	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Metolachlor	FW	28	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	28	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Metribuzin	FW	0.5	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.5	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Molybdenum	FW	10–50	µg/L		Guideline	Canada	Environment Canada 1999
	FW	10–50	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	50	µg/L		Guideline; For short-term use on acidic soils	Canada	Environment Canada 1999
	FW	50	µg/L		Guideline; For short-term use on acidic soils	Nova Scotia	NSDOE 1998
Molybdenum (total)	FW	<=10	µg/L	TTA	Criterion; 30-day average; Poorly drained soils- Cu:Mo<2:1 in irrigation- forage crops	British Columbia	BCMOELP 1998
	FW	10	µg/L		Guideline	Australia	ANZECC 1992
	FW	<=20	µg/L	TTA	Criterion; 30-day average; Poorly drained soils- Cu:Mo>2:1 in irrigation- forage crops	British Columbia	BCMOELP 1998
	FW	<=20	µg/L	TTA	Criterion; 30-day average; Well drained soils- forage crops	British Columbia	BCMOELP 1998
	FW	<=30	µg/L	TTA	Criterion; 30-day average; All soils- non-forage crops	British Columbia	BCMOELP 1998
	FW	50	µg/L	TTA	Criterion; Maximum; Poorly drained soils- Cu:Mo <2:1 in irrigation- forage crops	British Columbia	BCMOELP 1998
	FW	50	µg/L	TTA	Criterion; Maximum; Well drained soils- forage crops	British Columbia	BCMOELP 1998
	FW	50	µg/L	TTA	Criterion; Maximum; Poorly drained soils- Cu:Mo >2:1 in irrigation- forage crops	British Columbia	BCMOELP 1998

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nickel	FW	200	µg/L		Guideline	Canada	Environment Canada 1999
	FW	200	µg/L		Guideline	Nova Scotia	NSDOE 1998
Nickel (total)	FW	200	µg/L		Guideline	Australia	ANZECC 1992
	FW	200	µg/L	TTA	Criterion; Maximum; Continuous use; All soils	British Columbia	Nagpal et al. 1995
	FW	2000	µg/L	TTA	Criterion; Maximum; For use on neutral to alkaline fine-textured soils for up to 20 years	British Columbia	Nagpal et al. 1995
Nitrates (total)	GW	10	mg/L		Permanent Standard; Maximum; Nitrate expressed as Nitrogen; Value applies to general agricultural uses	Oregon	ODEQ 1997
Nitrogen (total)	FW-Lakes	1	mg/L		Standard; Lakes Class V; Value applies to general agricultural uses	Japan	JWQB 1998
Odour	GW	3	t.o.n.		Guidance Level; Threshold odour number; Value applies to general agricultural uses	Oregon	ODEQ 1997
PCBs	FW	0.001	µg/L		Criterion	Arizona	USEPA 1988a
PCBs (total)	FW	0.5	µg/L	TTA	Criterion; Recommended Maximum	British Columbia	BCMOELP 1998
pH	FW	4.5 – 9.0			Guideline	Australia	ANZECC 1992
	FW	5.0 – 9.0			Standard	Alaska	ADEC 1998a
	FW	5.0 – 9.0			Criterion	British Columbia	BCMOELP 1998
	FW	6.0 – 8.5			Standard; Rivers Class D; Value applies to general agricultural uses	Japan	JWQB 1998
	FW	6.1			Standard; Lower value for B-2 Classification; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW	6.5			Standard; Lower value; Value applies to general agricultural uses	Delaware	USEPA 1988c
	FW	6.5			Standard; Lower value for A-1, B-1 and C-1 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW	6.5			Standard; Lower value for B-3, C-2 and C-3 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW	6.5 – 8.3			Standard; For Class B; And not more than 0.5 units outside background	Massachusetts	COM 1996
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary)	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent)	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class B (good)	Washington	Washington State 1997
	FW-Lakes	6.5 – 8.5			Standard; Lakes Class B; Value applies to general agricultural uses	Japan	JWQB 1998
	FW	6.5 – 8.5			Provisional Objective; Fraser River including the Main Stem, North, Middle, and Main	British Columbia	Swain and Holms 1985
	GW	6.5 – 8.5			Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
pH (cont.)	FW	6.5 – 9.0			Criterion; Range; Or as it naturally occurs; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW	6.5 – 9.0			Standard; For Class C; And not more than 1.0 units outside background; After cooking	Massachusetts	COM 1996
	FW	8.5			Standard; Upper value; Value applies to general agricultural uses	Delaware	USEPA 1988c
	FW	8.5			Standard; Upper value for A-1, B-1 and C-1 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW	9.0			Standard; Upper value for B-2, B-3, C-2 and C-3 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State 1997
Phenol	FW	200	µg/L		Standard; Upper value; Value applies to general agricultural uses	Delaware	USEPA 1988c
Phenols	GW	1	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Phosphorus (total)	FW	25	µg/L		Criterion; Maximum average; In any lake, pond, kettlehole, or reservoir; Class A, B, B1, C	Rhode Island	RIDEM 1997
	FW-Lakes	100	µg/L		Standard; Lakes Class V; Value applies to general agricultural uses	Japan	JWQB 1998
Pseudomonas aeruginosa	FW	<=10	Colonies/100ml		Criterion; 75th Percentile; For public or livestock access	British Columbia	BCMOELP 1998
Radioactivity	GW	4	mrem/yr		Standard; Manmade, Total Dose Equivalent; Possible present or anticipated use	Virginia	COV 1997
Radioactivity-Alpha (gross)	GW	15	pCi/L		Interim Standard; Maximum; Including Radium 225 but excluding radon and uranium; Value applies to general agricultural uses	Oregon	ODEQ 1997
	GW	15	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Radioactivity-Beta (gross)	GW	50	pCi/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	GW	50	pCi/L		Standard; Possible present or anticipated use; Used as a screening value only - if exceeded the water must be analyzed to determine the presence and quantity of radionuclides to determine compliance with the tritium, strontium, and manmade radioactivity standards	Virginia	COV 1997
Radium 226	GW	3	pCi/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Radium 226 (+228)	GW	5	pCi/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	GW	5	pCi/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Selenium	GW	10	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	20	µg/L		Guideline; For continuous use	Canada	Environment Canada 1999
	FW	20	µg/L		Guideline; For continuous use	Nova Scotia	NSDOE 1998
	FW	50	µg/L		Guideline; For intermittent use	Canada	Environment Canada 1999

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Selenium (cont.)	FW	50	µg/L		Guideline; For intermittent use	Nova Scotia	NSDOE 1998
Selenium (total)	GW	10	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	20	µg/L		Guideline	Australia	ANZECC 1992
	FW	20	µg/L	TTA	Criterion; Maximum; Continuous use	British Columbia	Nagpal et al. 1995
	FW	50	µg/L	TTA	Criterion; Maximum; Intermittent use	British Columbia	Nagpal et al. 1995
Silver (total)	GW	50	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Silvex	GW	10	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Silvex (total)	GW	10	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Simazine	FW	0.5	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.5	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Sodium	GW	270000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Solids (settleable)	FW	200000	µg/L		Standard; Maximum; Extended period of time; For sprinkler irrigation, water must be free of particles of 0.074 mm or coarser	Alaska	ADEC 1998a
Strontium 90	GW	8	pCi/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	GW	8	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Sulphate (total)	GW	250	mg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
Suspended Solids	FW	10	mg/L		Provisional Objective; Maximum increase for Fraser River when upstream background <= 100000 µg/L	British Columbia	Swain and Holms 1985
	FW	10	%		Provisional Objective; Maximum increase for Fraser River when upstream background >= 100000 µg/L	British Columbia	Swain and Holms 1985
	FW-Lakes	15	mg/L		Standard; Lakes Class B; Value applies to general agricultural uses	Japan	JWQB 1998
	FW	100	mg/L		Standard; Rivers Class D; Value applies to general agricultural uses	Japan	JWQB 1998
Tebuthiuron	FW	0.27	µg/L		Interim Guideline; For cereals	Canada	Environment Canada 1999
	FW	0.27	µg/L		Interim Guideline; For cereals	Nova Scotia	NSDOE 1998
	FW	130	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	130	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature	FW	16.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=23/ [T+5] at any time; Class AA (extraordinary)	Washington	Washington State 1997
	FW	18.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=28/ [T+7] at any time; Class A (excellent)	Washington	Washington State 1997
	FW	20	°C		Standard; For Class B; Maximum in cold water fisheries; (or 68 F)	Massachusetts	COM 1996
	FW	21.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=34/ [T+9]; Class B (good)	Washington	Washington State 1997
	FW	28.3	°C		Standard; For Class B; Maximum in warm water fisheries; (or 83 F)	Massachusetts	COM 1996
	FW	29.3	°C		Criterion; Maximum; Class A, B, B1, C; (83 F)	Rhode Island	RIDEM 1997
	FW	29.4	°C		Standard; Upper value; Value applies to general agricultural uses; (85 F)	Delaware	USEPA 1988c
	FW	29.4	°C		Standard; For Class C; At any time (or 85 F); After cooking	Massachusetts	COM 1996
	FW	30	°C		Standard; Maximum	Alaska	ADEC 1998a
Temperature (change)	FW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 16.0 C / 13.0 C for FW/SW respectively; Class AA (extraordinary)	Washington	Washington State 1997
	FW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 21.0 C / 19.0 C for FW/SW respectively; Class B (good)	Washington	Washington State 1997
	FW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed guideline; Class A (excellent)	Washington	Washington State 1997
	FW	0.3	°C		Standard; Secondary Upper Limit for A-1, B-1 and C-1 Classifications; Value applies to general agricultural uses; (0.5 F)	Montana	USEPA 1988e
	FW	0.3	°C		Standard; Secondary Upper Limit for B-2, B-3, C-2 and C-3 Classifications; Value applies to general agricultural uses; (0.5 F)	Montana	USEPA 1988e
	FW	0.6	°C		Standard; Upper value for A-1, B-1 and C-1 Classifications; Value applies to general agricultural uses; (1 F)	Montana	USEPA 1988e
	FW	0.6	°C		Standard; Upper value for B-2 and C-2 Classifications; Value applies to general agricultural uses; (1 F)	Montana	USEPA 1988e
	FW	1.7	°C		Standard; Upper value for B-3 and C-3 Classifications; Value applies to general agricultural uses; (3 F)	Montana	USEPA 1988e
	FW	1.7	°C		Standard; For Class B; Maximum in cold water fisheries; (or 3 F)	Massachusetts	COM 1996
	FW	1.7	°C		Standard; For Class B; Maximum for lakes and ponds; (or 3 F)	Massachusetts	COM 1996
	FW	2.2	°C		Standard; Secondary Upper Limit; Value applies to general agricultural uses; (4 F)	Delaware	USEPA 1988c
	FW	2.2	°C		Criterion; Maximum increase for receiving waters; Class A, B, B1, C; (4 F)	Rhode Island	RIDEM 1997
	FW	2.8	°C		Standard; Upper value; Value applies to general agricultural uses; (5 F)	Delaware	USEPA 1988c
	FW	2.8	°C		Standard; For Class B; Maximum in warm water fisheries; (or 5 F)	Massachusetts	COM 1996
	FW	2.8	°C		Standard; For Class C; (or 5 F); After cooking	Massachusetts	COM 1996
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State 1997

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Total Dissolved Solids	GW	500	mg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	500–3500	mg/L		Guideline; Crop specific (See reference)	Canada	Environment Canada 1999
	FW	500–3500	mg/L		Guideline; Crop specific (See reference)	Nova Scotia	NSDOE 1998
	FW	1000	mg/L		Standard; Maximum	Alaska	ADEC 1998a
Toxaphene (total)	GW	5	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Trichloroethane, 1,1,1- (total)	GW	200	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Trichloroethylene (total)	GW	5	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Trihalomethanes (total, sum)	GW	100	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Tritium	GW	20000	pCi/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	GW	20000	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Turbidity	GW	1	NTU		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	Narrative			Standard; May not cause detrimental effects on indicated use	Alaska	ADEC 1998a
Turbidity (change)	FW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class A (excellent)	Washington	Washington State 1997
	FW-Lakes	5	NTU		Standard; Maximum increase over background conditions; Lake Class	Washington	Washington State 1997
	FW	5	NTU		Criterion; Maximum increase over background; Class A	Rhode Island	RIDEM 1997
	FW	10	NTU		Criterion; Maximum increase over background; Class B, B1, and C	Rhode Island	RIDEM 1997
	FW	10	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class B (good)	Washington	Washington State 1997
	FW	10	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW	10	%		Standard; Maximum increase when background turbidity is >50; Class A (excellent)	Washington	Washington State 1997
	FW	20	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class B (good)	Washington	Washington State 1997
Uranium	FW	10	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	10	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Uranium (total)	FW	10	µg/L		Guideline	Australia	ANZECC 1992
Vanadium	FW	100	µg/L		Guideline	Canada	Environment Canada 1999
	FW	100	µg/L		Guideline	Nova Scotia	NSDOE 1998

Appendix 2-6. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Irrigation.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Vanadium (total)	FW	100	µg/L		Guideline	Australia	ANZECC 1992
Vinyl Chloride (total)	GW	2	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Vinylidene Chloride (total)	GW	7	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Zinc	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	1000	µg/L		Guideline; When soil pH is < 6.5	Canada	Environment Canada 1999
	FW	1000	µg/L		Guideline; When soil pH is < 6.5	Nova Scotia	NSDOE 1998
	FW	5000	µg/L		Guideline; When soil pH is > 6.5	Canada	Environment Canada 1999
	FW	5000	µg/L		Guideline; When soil pH is > 6.5	Nova Scotia	NSDOE 1998
Zinc (total)	FW	50	µg/L		Provisional Objective; Average for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	FW	100	µg/L		Provisional Objective; Maximum for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	FW	1000	µg/L		Guideline; Recommended for sandy soils pH <6	Australia	ANZECC 1992
	FW	1000	µg/L	TTA	Criterion; Maximum; Continuous use for soil pH<6.5	British Columbia	Nagpal et al. 1995
	FW	2000	µg/L		Guideline	Australia	ANZECC 1992
	FW	5000	µg/L	TTA	Criterion; Maximum; Continuous use for soil pH> 6.5	British Columbia	Nagpal et al. 1995
	GW	5000	µg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997

Appendix 2 - 7

A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Livestock

Appendix 2-7. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Livestock.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Alachlor	FW	3.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Aldicarb (total)	FW	11	µg/L		Guideline	Canada	Environment Canada 1999
	FW	11	µg/L		Guideline	Nova Scotia	NSDOE 1998
Aldrin	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Aldrin + Dieldrin	GW	0.003	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Aluminum	FW	5000	µg/L		Guideline	Canada	Environment Canada 1999
	FW	5000	µg/L		Guideline	Nova Scotia	NSDOE 1998
Aluminum (total)	FW	5000	µg/L		Guideline	Australia	ANZECC 1992
	FW	5000	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
Amitrole	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Ammonia (unionized)	FW	0.007	mg/L	TTA	Provisional Objective; Average; North, Middle, Main Arms of the Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
	FW	0.03	mg/L	TTA	Provisional Objective; Maximum; North, Middle, Main Arms of the Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
Arsenic	FW	25	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	25	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Arsenic (total)	GW	50	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	500	µg/L		Guideline	Australia	ANZECC 1992
	FW	500	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
	FW	5000	µg/L		Guideline; If arsenic is not provided as a food additive and natural levels of arsenic are low in the diet	Australia	ANZECC 1992
	FW	5000	µg/L	TTA	Criterion; Maximum; If no As in feed	British Columbia	Nagpal et al. 1995
Atrazine	FW	5	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	5	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Azinphos-methyl	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992

Appendix 2-7. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Livestock.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Barium	GW	1	mg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Barium (total)	GW	1	mg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Bentazon	FW	400.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Benzene (total)	GW	5	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Beryllium	FW	100	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	100	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Beryllium (total)	FW	100	µg/L		Guideline; Interim	Australia	ANZECC 1992
	FW	100	µg/L	TTA	Maximum Tentative Criterion	British Columbia	Nagpal et al. 1995
Biological Oxygen Demand	FW	8	mg/L		Standard; Rivers Class D; Value applies to general agricultural uses	Japan	JWQB 1998
Boron	FW	0.3	mg/L		Standard; Maximum	Alaska	ADEC 1998a
	FW	0.5	mg/L		Guideline	Canada	Environment Canada 1999
	FW	0.5	mg/L		Guideline	Nova Scotia	NSDOE 1998
Boron (total)	FW	5	mg/L		Guideline	Australia	ANZECC 1992
	FW	5	mg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
Bromacil	FW	600.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	1100	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	1100	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Bromoxynil	FW	11	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	11	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Cadmium	GW	0.4	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	80	µg/L		Guideline	Canada	Environment Canada 1999
	FW	80	µg/L		Guideline	Nova Scotia	NSDOE 1998
Cadmium (total)	FW	10	µg/L		Guideline	Australia	ANZECC 1992
	GW	10	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	20	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Calcium	FW	1000000	µg/L		Guideline	Canada	Environment Canada 1999
	FW	1000000	µg/L		Guideline	Nova Scotia	NSDOE 1998
Calcium (total)	FW	1000000	µg/L		Guideline	Australia	ANZECC 1992
Captan	FW	13	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	13	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Carbaryl	FW	60.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	1100	µg/L		Guideline	Canada	Environment Canada 1999
	FW	1100	µg/L		Guideline	Nova Scotia	NSDOE 1998
Carbendazim	FW	200.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Carbofuran	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	45	µg/L		Guideline	Canada	Environment Canada 1999
	FW	45	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	45	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
Carbon Tetrachloride	FW	5	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	5	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	5	µg/L	TTA	Criterion; Interim maximum	British Columbia	Nagpal et al. 1995
Carbon Tetrachloride (total)	GW	5	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Carbophenothion	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Chemical Oxygen Demand	FW-Lakes	5	mg/L		Standard; Lakes Class B; Value applies to general agricultural uses	Japan	JWQB 1998
Chlordane	GW	0.01	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	6.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Chloride (total)	GW	250	mg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
Chlorine (total, residual)	FW	2	µg/L		Provisional Objective; Maximum for Main Arm of Fraser River, Sturgeon and Roberts	British Columbia	Swain and Holms 1985
Chloro-2-Methyl Phenoxy	FW	25	µg/L		Interim Guideline	Canada	Environment Canada 1999
Acetic Acid, 4-	FW	25	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chlorophenols	FW	0.2	µg/L		Provisional Objective; Maximum for Fraser River	British Columbia	Swain and Holms 1985
Chlorothalonil	FW	170	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	170	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Chlorpyrifos	FW	2.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	24	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	24	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Chromium	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Chromium (III)	FW	50	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	50	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Chromium (total)	GW	50	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	1000	µg/L		Guideline	Australia	ANZECC 1992
	FW	1000	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
Chromium (VI)	FW	50	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	50	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Cobalt	FW	1000	µg/L		Guideline	Canada	Environment Canada 1999
	FW	1000	µg/L		Guideline	Nova Scotia	NSDOE 1998
Cobalt (total)	FW	1000	µg/L		Guideline	Australia	ANZECC 1992
	FW	1000	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
Coliforms (total)	GW	<1	C/100mL		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	100	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 500 MPN/100mL; Class A; Value applies to general agricultural uses	Rhode Island	RIDEM 1997
	FW	1000	MPN/100mL		Criterion; Maximum geometric mean; With no more than 20% of samples exceeding 2400 MPN/100mL; Class B and B1; Value applies to general agricultural uses	Rhode Island	RIDEM 1997
Colour	GW	15	colour units		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	15000	µg/L		Guideline; Of Platinum	Canada	Environment Canada 1999
	FW	15000	µg/L		Guideline; Of Platinum	Nova Scotia	NSDOE 1998
Copper	FW	500	µg/L		Guideline; For sheep	Canada	Environment Canada 1999

Appendix 2-7. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Livestock.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Copper (cont.)	FW	500	µg/L		Guideline; For sheep	Nova Scotia	NSDOE 1998
	FW	500–5000	µg/L		Guideline; For animals other than sheep	Canada	Environment Canada 1999
	FW	500–5000	µg/L		Guideline; For animals other than sheep	Nova Scotia	NSDOE 1998
	GW	1000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Copper (total)	FW	4	µg/L		Provisional Objective; Maximum when hardness <= 35 mg/L for North, Middle, and Main Arms of the Fraser River; or 3 µg/L average, or 20 % maximum increase, whichever is greater	British Columbia	Swain and Holms 1985
	FW	6	µg/L		Provisional Objective; Maximum when hardness > 35 mg/L for North, Middle, and Main Arms of the Fraser River; or 4 µg/L average, or 20 % maximum increase, whichever is greater	British Columbia	Swain and Holms 1985
	FW	300	µg/L	TTA	Criterion; Maximum for raw water	British Columbia	BCMOELP 1998
	FW	500	µg/L		Guideline; For sheep	Australia	ANZECC 1992
	FW	1000	µg/L		Guideline; For pigs and poultry	Australia	ANZECC 1992
	GW	1000	µg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	5000	µg/L		Guideline; For cattle	Australia	ANZECC 1992
Cyanazine	FW	10	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	10	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Cyanide	GW	5	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
D, 2,4-	FW	100.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	GW	100	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
D, 2,4- (total)	GW	100	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
DDT	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	3.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Deltamethrin	FW	2.5	µg/L		Guideline	Canada	Environment Canada 1999
	FW	2.5	µg/L		Guideline	Nova Scotia	NSDOE 1998
Demeton	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Diazinon	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Dicamba	FW	122	µg/L		Guideline	Canada	Environment Canada 1999
	FW	122	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	300.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichlorobenzene, p- (total)	GW	75	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Dichlorophenols	FW	0.3	µg/L	TTA	Criterion; Aesthetic	British Columbia	BCMOELP 1998
	FW	46000	µg/L	TTA	Criterion; Toxicity; For lactating animals	British Columbia	BCMOELP 1998
	FW	460000	µg/L		Criterion; Toxicity; Maximum for non-lactating animals	British Columbia	BCMOELP 1998
Dichlorvos	FW	20.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Diclofop-Methyl	FW	3.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	9	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	9	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Dicofol	FW	100.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Dieldrin	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Dimethoate	FW	3	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	3	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	100.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Dinoseb	FW	150	µg/L		Guideline	Canada	Environment Canada 1999
	FW	150	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	150	µg/L	TTA	Criterion; Maximum to protect lactating dairy animals	British Columbia	Nagpal et al. 1995
Diquat	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Dissolved Oxygen	FW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class A (excellent)	Washington	Washington State 1997
	FW	2	mg/L		Standard; Rivers Class D; Value applies to general agricultural uses	Japan	JWQB 1998
	FW	3.0	mg/L		Standard; Minimum; In surface waters	Alaska	ADEC 1998a
	FW	4	mg/L		Standard; Lower value; Value applies to general agricultural uses	Delaware	USEPA 1988c
	FW	5	mg/L		Standard; Lower value for B-3 and C-3 Classifications; Value applies to general	Montana	USEPA 1988e
	FW	5	mg/L		Criterion; Instantaneous Minimum; Warm and cold water; Class A, B, B1, and C; Value applies to general agricultural uses	Rhode Island	RIDEM 1997
	FW-Lakes	5	mg/L		Standard; Lakes Class B; Value applies to general agricultural uses	Japan	JWQB 1998
	FW	6.5	mg/L		Standard; Minimum; Class B (good)	Washington	Washington State 1997
	FW	7	mg/L		Standard; Lower value for B-2 and C-2 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dissolved Oxygen (cont.)	FW	7	mg/L		Standard; Lower value for A-1, B-1 and C-1 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW	7.75	mg/L		Provisional Objective; Minimum for Fraser River	British Columbia	Swain and Holms 1985
	FW	8	mg/L		Standard; Minimum; Class A (excellent)	Washington	Washington State 1997
	FW	9.5	mg/L		Standard; Minimum; Class AA (extraordinary)	Washington	Washington State 1997
	FW	60	%		Criterion; Minimum saturation; Based on a daily average; Warm water; Class A, B, B1, and C; Value applies to general agricultural uses	Rhode Island	RIDEM 1997
	FW	75	%		Criterion; Minimum saturation; Based on a daily average; Cold water; Class A, B, B1, and C; Value applies to general agricultural uses	Rhode Island	RIDEM 1997
	FW	80	%		Standard; For Class 2 protection; Value applies to general agricultural uses	Hawaii	USEPA 1988f
	FW-Lakes	Narrative			Standard; No measurable decrease from natural conditions; Lake Class	Washington	Washington State 1997
Disulfoton	FW	6.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Diuron	FW	40.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Endosulfan	FW	40.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Endothall	FW	600.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Endrin	GW	0.004	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Endrin (total)	GW	0.2	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Enterococci	FW	0	Colonies/100mL		Criterion; Maximum; For closely confined livestock; Non-treated water	British Columbia	BCMOELP 1998
	FW	<=3	Colonies/100mL		Criterion; 90th Percentile; For closely confined livestock; Disinfected water only	British Columbia	BCMOELP 1998
	FW	<=25	Colonies/100mL		Criterion; 90th Percentile; For closely confined livestock; Partially treated water	British Columbia	BCMOELP 1998
	FW	50	Colonies/100mL		Criterion; Maximum; For general livestock use	British Columbia	BCMOELP 1998
Escherichia coli	FW	0	Colonies/100mL		Criterion; Non-treated water; Closely confined livestock	British Columbia	BCMOELP 1998
	FW	<=10	Colonies/100mL		Criterion; 90th Percentile; Disinfected water only; Closely confined livestock	British Columbia	BCMOELP 1998
	FW	<=100	Colonies/100mL		Criterion; 90th Percentile; Partially treated water; Closely confined livestock	British Columbia	BCMOELP 1998
	FW	200	Colonies/100mL		Criterion; Maximum; General livestock use	British Columbia	BCMOELP 1998
Ethion	FW	6.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Ethylbenzene	FW	2.4	µg/L		Guideline	Canada	Environment Canada 1999

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Ethylbenzene (cont.)	FW	2.4	µg/L		Guideline	Nova Scotia	NSDOE 1998
Ethylene Dichloride	FW	5	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	5	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	5	µg/L	TTA	Criterion; Interim maximum	British Columbia	Nagpal et al. 1995
Ethylene Dichloride (total)	GW	5	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Fecal Coliforms	FW	0	FC/100mL		Criterion; For non-treated water of closely confined livestock	British Columbia	BCMOELP 1998
	FW	<=10	FC/100mL		Criterion; 90th Percentile; For disinfected water of closely confined livestock	British Columbia	BCMOELP 1998
	FW	20	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 200 MPN/100mL; Class A; Value applies to general agricultural uses	Rhode Island	RIDEM 1997
	FW	50	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Class AA (extraordinary)	Washington	Washington State 1997
	FW-Lakes	50	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Lake Class	Washington	Washington State 1997
	FW	<=100	FC/100mL		Criterion; 90th Percentile; For partially treated water of closely confined livestock	British Columbia	BCMOELP 1998
	FW	100	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100mL; Class A (excellent)	Washington	Washington State 1997
	FW	200	MPN/100mL		Criterion; Maximum geometric mean; With no more than 20% of samples exceeding 500 MPN/100mL; Class B and B1; Value applies to general agricultural uses	Rhode Island	RIDEM 1997
	FW	200	FC/100mL		Standard; Maximum 30-day average; Not more than 10% of the samples may exceed 400 FC/100mL	Alaska	ADEC 1998a
	FW	200	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 400 Col/100mL; Class B (good)	Washington	Washington State 1997
	FW	200	FC/100mL		Standard; Maximum 30-day average; For products normally cooked and for dairy sanitation of pasteurized products; With no more than 10% of the samples exceeding	Alaska	ADEC 1998a
	FW	200	FC/100mL		Criterion; Maximum; For general livestock use	British Columbia	BCMOELP 1998
	FW	1000	FC/100mL		Guideline; Geometric mean; With no more than 20% of the samples (minimum of 5/month) exceeding 50000 FC/100mL	Australia	ANZECC 1992
Fenitrothion	FW	20.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Fluoride	FW	1	mg/L		Guideline; If feed contains fluoride	Canada	Environment Canada 1999
	FW	1	mg/L		Guideline; If feed contains fluoride	Nova Scotia	NSDOE 1998
	FW	1.0–2.0	mg/L		Guideline; If feed does not contain fluoride	Canada	Environment Canada 1999
	FW	1.0–2.0	mg/L		Guideline; If feed does not contain fluoride	Nova Scotia	NSDOE 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fluoride (total)	FW	1	mg/L		Guideline; If livestock feed contains fluoride	Australia	ANZECC 1992
	FW	1	mg/L		Criterion; 30-day average; For dairy cows, breeding stock and other long-lived animals	British Columbia	BCMOELP 1998
	FW	1	mg/L		Criterion; 30-day average; For high fluoride mineral or bone meal feed additives of livestock other than dairy cows, breeding stock and other long-lived animals	British Columbia	BCMOELP 1998
	FW	1.5	mg/L		Criterion; Maximum; For dairy cows, breeding stock and other long-lived animals	British Columbia	BCMOELP 1998
	FW	2	mg/L		Guideline	Australia	ANZECC 1992
	FW	2	mg/L		Criterion; 30-day average; For normal diets of livestock other than dairy cows, breeding stock and other long-lived animals	British Columbia	BCMOELP 1998
	FW	2	mg/L		Criterion; Maximum; For high fluoride mineral or bone meal feed additives of livestock other than dairy cows, breeding stock and other long-lived animals	British Columbia	BCMOELP 1998
	FW	4	mg/L		Criterion; Maximum; For normal diets of livestock other than dairy cows, breeding stock and other long-lived animals	British Columbia	BCMOELP 1998
	GW	4	mg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Foaming Agents	GW	50	µg/L		Standard; Possible present or anticipated use; As Methylene Blue active substances	Virginia	COV 1997
	GW	500	µg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
Glyphosate	FW	200.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	280	µg/L		Guideline	Canada	Environment Canada 1999
	FW	280	µg/L		Guideline	Nova Scotia	NSDOE 1998
Heptachlor	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	3.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Heptachlor Epoxide	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Hexachlorobenzene	FW	0.52	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	0.52	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Hexazinone	FW	600.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Hydrocarbons, Petroleum	GW	1000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	Narrative			Standard; May not cause a visible sheen upon the surface of the water	Alaska	ADEC 1998a
Iodine 131	GW	3	pCi/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Iron (total)	GW	300	µg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Lead	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	100	µg/L		Guideline	Canada	Environment Canada 1999
	FW	100	µg/L		Guideline	Nova Scotia	NSDOE 1998
Lead (total)	FW	3	µg/L		Provisional Objective; Average for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	FW	10	µg/L		Provisional Objective; Maximum for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	GW	50	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	100	µg/L		Guideline	Australia	ANZECC 1992
	FW	100	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
Lindane	GW	0.01	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Lindane (total)	GW	4	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Magnesium	FW	600	mg/L		Guideline; When total dissolved solids < =15000 mg/L	Australia	ANZECC 1992
Manganese (total)	GW	50	µg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
Mercury	GW	0.05	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	3	µg/L		Guideline	Canada	Environment Canada 1999
	FW	3	µg/L		Guideline	Nova Scotia	NSDOE 1998
Mercury (total)	FW	2	µg/L		Guideline	Australia	ANZECC 1992
	FW	2.0	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	GW	2	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Methoxychlor	GW	0.03	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Methoxychlor (total)	GW	100	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Methylene Chloride	FW	50	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	50	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	50	µg/L	TTA	Criterion; Interim maximum	British Columbia	Nagpal et al. 1995
Metolachlor	FW	50	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	50	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	800.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992

Appendix 2-7. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Livestock.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Metribuzin	FW	5.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	80	µg/L		Guideline	Canada	Environment Canada 1999
	FW	80	µg/L		Guideline	Nova Scotia	NSDOE 1998
Mevinphos	FW	6.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Molinate	FW	1.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Molybdenum	FW	500	µg/L		Guideline	Canada	Environment Canada 1999
	FW	500	µg/L		Guideline	Nova Scotia	NSDOE 1998
Molybdenum (total)	FW	10	µg/L		Guideline	Australia	ANZECC 1992
	FW	50	µg/L	TTA	Criterion; Maximum; In all cases other than if forages are not irrigated or if no molybdenum-containing fertilizers are applied to grow feed	British Columbia	BCMOELP 1998
	FW	80	µg/L	TTA	Criterion; Maximum; If forages not irrigated or if no molybdenum-containing fertilizers are applied to grow feed	British Columbia	BCMOELP 1998
Monochlorophenols	FW	0.1	µg/L	TTA	Criterion; Aesthetic	British Columbia	BCMOELP 1998
	FW	185000	µg/L	TTA	Criterion; Toxicity; For lactating animals	British Columbia	BCMOELP 1998
	FW	1854000	µg/L		Criterion; Toxicity; Maximum for non-lactating animals	British Columbia	BCMOELP 1998
Nickel	FW	1000	µg/L		Guideline	Canada	Environment Canada 1999
	FW	1000	µg/L		Guideline	Nova Scotia	NSDOE 1998
Nickel (total)	FW	1000	µg/L		Guideline	Australia	ANZECC 1992
	FW	1000	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
Nitrate	FW	30	mg/L		Guideline	Australia	ANZECC 1992
Nitrate + Nitrite	FW	100	mg/L		Guideline	Canada	Environment Canada 1999
	FW	100	mg/L		Guideline	Nova Scotia	NSDOE 1998
Nitrates (total)	GW	10	mg/L		Permanent Standard; Maximum; Nitrate expressed as nitrogen; Value applies to general agricultural uses	Oregon	ODEQ 1997
Nitrite	FW	10	mg/L		Guideline	Australia	ANZECC 1992
	FW	10	mg/L		Guideline	Canada	Environment Canada 1999
	FW	10	mg/L		Guideline	Nova Scotia	NSDOE 1998

Appendix 2-7. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Livestock.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrogen (total)	FW-Lakes	1	mg/L		Standard; Lakes Class V; Value applies to general agricultural uses	Japan	JWQB 1998
Non-filterable residue	FW	20	%		Criterion; When background >100 mg/L; Classed as agricultural use in document	British Columbia	BCMOELP 1998
	FW	20	NTU		Criterion; When background <=100 mg/L; Classed as agricultural use in document	British Columbia	BCMOELP 1998
Odour	GW	3	t.o.n.		Guidance Level; Threshold odour number; Value applies to general agricultural uses	Oregon	ODEQ 1997
Paraquat	FW	40.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Parathion	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Parathion + Methyl Parathion	FW	6.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
PCBs	FW	0.001	µg/L		Criterion	Arizona	USEPA 1988a
Pentachlorophenols	FW	30	µg/L	TTA	Criterion; Aesthetic	British Columbia	BCMOELP 1998
	FW	17500	µg/L	TTA	Criterion; Toxicity; For lactating animals	British Columbia	BCMOELP 1998
	FW	175000	µg/L		Criterion; Toxicity; Maximum for non-lactating animals	British Columbia	BCMOELP 1998
Permethrin	FW	300.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
pH	FW	5.0 – 9.0			Standard	Alaska	ADEC 1998a
	FW	5.0 – 9.5			Criterion	British Columbia	BCMOELP 1998
	FW	6.0 – 8.5			Standard; Rivers Class D; Value applies to general agricultural uses	Japan	JWQB 1998
	FW	6.1			Standard; Lower value for B-2 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW	6.5			Standard; Lower value; Value applies to general agricultural uses	Delaware	USEPA 1988c
	FW	6.5			Standard; Lower value for B-3, C-2 and C-3 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW	6.5			Standard; Lower value for A-1, B-1 and C-1 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary)	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent)	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class B (good)	Washington	Washington State 1997
	FW-Lakes	6.5 – 8.5			Standard; Lakes Class B; Value applies to general agricultural uses	Japan	JWQB 1998
	FW	6.5 – 8.5			Provisional Objective; Fraser River including the Main Stem, North, Middle, and Main	British Columbia	Swain and Holms 1985

Appendix 2-7. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Livestock.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
pH (cont.)	GW	6.5 – 8.5			Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	6.5 – 9.0			Criterion; Range; Or as it naturally occurs; Class A, B, B1, and C; Value applies to general agricultural uses	Rhode Island	RIDEM 1997
	FW	6.8 – 8.5			Standard; For dairy sanitation	Alaska	ADEC 1998a
	FW	8.5			Standard; Upper value; Value applies to general agricultural uses	Delaware	USEPA 1988c
	FW	8.5			Standard; Upper value for A-1, B-1 and C-1 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW	9.0			Standard; Upper value for B-2, B-3, C-2 and C-3 Classifications; Value applies to general agricultural uses	Montana	USEPA 1988e
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State 1997
Phenol	FW	2	µg/L		Guideline	Canada	Environment Canada 1999
	FW	2	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	200	µg/L		Standard; Upper value; Value applies to general agricultural uses	Delaware	USEPA 1988c
Phenols	GW	1	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Phenoxy Herbicides	FW	100	µg/L		Guideline	Canada	Environment Canada 1999
	FW	100	µg/L		Guideline	Nova Scotia	NSDOE 1998
Phosphorus (total)	FW	25	µg/L		Criterion; Maximum average; In any lake, pond, kettlehole, or reservoir; Class A, B, B1, C; Value applies to general agricultural uses	Rhode Island	RIDEM 1997
	FW-Lakes	100	µg/L		Standard; Lakes Class V; Value applies to general agricultural uses	Japan	JWQB 1998
Picloram	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
	FW	190	µg/L		Guideline	Canada	Environment Canada 1999
	FW	190	µg/L		Guideline	Nova Scotia	NSDOE 1998
Propoxur	FW	1000.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Pyrazophos	FW	1000.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Quintozine	FW	6.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Radioactivity	GW	4	mrem/yr		Standard; Manmade, Total Dose Equivalent; Possible present or anticipated use	Virginia	COV 1997
Radioactivity-Alpha (gross)	GW	15	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
	GW	15	pCi/L		Interim Standard; Maximum; Including Radium 225 but excluding radon and uranium; Value applies to general agricultural uses	Oregon	ODEQ 1997

Appendix 2-7. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Livestock.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Radioactivity-Beta (gross)	GW	50	pCi/L		Standard; Possible present or anticipated use; Used as a screening value only - if exceeded the water must be analyzed to determine the presence and quantity of radionuclides to determine compliance with the tritium, strontium, and manmade radioactivity standards	Virginia	COV 1997
	GW	50	pCi/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Radium 226	GW	3	pCi/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Radium 226 (+228)	GW	5	pCi/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	GW	5	pCi/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Selenium	GW	10	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	50	µg/L		Guideline	Canada	Environment Canada 1999
	FW	50	µg/L		Guideline	Nova Scotia	NSDOE 1998
Selenium (total)	GW	10	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	20	µg/L		Guideline	Australia	ANZECC 1992
	FW	50	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
Silver (total)	GW	50	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Silvex	GW	10	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Silvex (total)	GW	10	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Simazine	FW	10	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	10	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Sodium	GW	270000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Solids (settleable)	FW	200000	µg/L		Standard; Maximum; Extended period of time	Alaska	ADEC 1998a
Strontium 90	GW	8	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
	GW	8	pCi/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Sulphate	FW	1000	mg/L		Guideline	Australia	ANZECC 1992
	FW	1000	mg/L		Guideline	Canada	Environment Canada 1999
	FW	1000	mg/L		Guideline	Nova Scotia	NSDOE 1998

Appendix 2-7. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Livestock.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Sulphate (dissolved)	FW	1000	mg/L	TTA	Criterion; Maximum (SO4)	British Columbia	Nagpal et al. 1995
Sulphate (total)	GW	250	mg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
Suspended Solids	FW	10	mg/L		Provisional Objective; Maximum increase for Fraser River when upstream background <= 100000 µg/L	British Columbia	Swain and Holms 1985
	FW	10	%		Provisional Objective; Maximum increase for Fraser River when upstream background >= 100000 µg/L	British Columbia	Swain and Holms 1985
	FW-Lakes	15	mg/L		Standard; Lakes Class B; Value applies to general agricultural uses	Japan	JWQB 1998
	FW	100	mg/L		Standard; Rivers Class D; Value applies to general agricultural uses	Japan	JWQB 1998
T, 2,4,5-	FW	2.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Temephos	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Temperature	FW	16.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=23/ [T+5] at any time; Class AA (extraordinary)	Washington	Washington State 1997
	FW	18.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=28/ [T+7] at any time; Class A (excellent)	Washington	Washington State 1997
	FW	21.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=34/ [T+9]; Class B (good)	Washington	Washington State 1997
	FW	28.3	°C		Criterion; Maximum; Class A, B, B1, C; Value applies to general agricultural uses; (83 F)	Rhode Island	RIDEM 1997
	FW	29.4	°C		Standard; Upper value; Value applies to general agricultural uses; (85 F)	Delaware	USEPA 1988c
	FW	30	°C		Standard; Maximum	Alaska	ADEC 1998a
Temperature (change)	FW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 16.0 C; Class AA (extraordinary)	Washington	Washington State 1997
	FW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 21.0 C / 19.0 C for FW/SW respectively; Class B (good)	Washington	Washington State 1997
	FW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed guideline; Class A (excellent)	Washington	Washington State 1997
	FW	0.3	°C		Standard; Secondary Upper Limit for B-2, B-3, C-2 and C-3 Classifications; Value applies to general agricultural uses; (0.5 F)	Montana	USEPA 1988e
	FW	0.3	°C		Standard; Secondary Upper Limit for A-1, B-1 and C-1 Classifications; Value applies to general agricultural uses; (0.5 F)	Montana	USEPA 1988e
	FW	0.6	°C		Standard; Upper value for B-2 and C-2 Classifications; Value applies to general agricultural uses; (1 F)	Montana	USEPA 1988e

Appendix 2-7. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Livestock.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature (change; cont.)	FW	0.6	°C		Standard; Upper value for A-1, B-1 and C-1 Classifications; Value applies to general agricultural uses; (1 F)	Montana	USEPA 1988e
	FW	1.7	°C		Standard; Upper value for B-3 and C-3 Classifications; Value applies to general agricultural uses; (3 F)	Montana	USEPA 1988e
	FW	2.2	°C		Criterion; Maximum increase for receiving waters; Class A, B, B1, C; Value applies to general agricultural uses; (4 F)	Rhode Island	RIDEM 1997
	FW	2.2	°C		Standard; Secondary Upper Limit; Value applies to general agricultural uses; (4 F)	Delaware	USEPA 1988c
	FW	2.8	°C		Standard; Upper value; Value applies to general agricultural uses; (5 F)	Delaware	USEPA 1988c
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State 1997
Tetrachlorophenols	FW	1	µg/L	TTA	Criterion; Aesthetic	British Columbia	BCMOELP 1998
	FW	41000	µg/L	TTA	Criterion; Toxicity; For lactating animals	British Columbia	BCMOELP 1998
	FW	410000	µg/L		Criterion; Toxicity; Maximum for non-lactating animals	British Columbia	BCMOELP 1998
Thiobencarb	FW	40.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Thiram	FW	30.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Toluene	FW	24	µg/L		Guideline	Canada	Environment Canada 1999
	FW	24	µg/L		Guideline	Nova Scotia	NSDOE 1998
Total Dissolved Solids	GW	500	mg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	1000	mg/L		Standard; Maximum	Alaska	ADEC 1998a
	FW	3000	mg/L		Guideline; Depending upon the type of livestock and the mix of dissolved ions (See	Australia	ANZECC 1992
	FW	3000	mg/L		Guideline	Canada	Environment Canada 1999
	FW	3000	mg/L		Guideline	Nova Scotia	NSDOE 1998
Toxaphene (total)	GW	5	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Triallate	FW	230	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	230	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Tributyltin	FW	250	µg/L		Guideline	Canada	Environment Canada 1999
	FW	250	µg/L		Guideline	Nova Scotia	NSDOE 1998
	FW	250	µg/L	TTA	Criterion; Interim maximum; Especially for dairy cattle	British Columbia	Nagpal et al. 1995
Trichlorfon	FW	10.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992

Appendix 2-7. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Livestock.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Trichloroethane, 1,1,1- (total)	GW	200	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Trichloroethylene	FW	50	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	50	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	50	µg/L	TTA	Interim maximum	British Columbia	Nagpal et al. 1995
Trichloroethylene (total)	GW	5	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Trichlorophenols	FW	2	µg/L	TTA	Criterion; Aesthetic	British Columbia	BCMOELP 1998
	FW	21000	µg/L	TTA	Criterion; Toxicity, for lactating animals	British Columbia	BCMOELP 1998
	FW	210000	µg/L		Criterion; Toxicity; Maximum for non-lactating animals	British Columbia	BCMOELP 1998
Tricyclohexyltin	FW	250	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	250	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Trifluralin	FW	45	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	45	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
	FW	500.0	µg/L		Guideline; For raw waters subjected to coarse screening	Australia	ANZECC 1992
Trihalomethanes (total, sum)	GW	100	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Triphenyltin Compounds	FW	820	µg/L		Interim Guideline	Canada	Environment Canada 1999
	FW	820	µg/L		Interim Guideline	Nova Scotia	NSDOE 1998
Tritium	GW	20000	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
	GW	20000	pCi/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Turbidity	GW	1	NTU		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	Narrative			Standard; May not cause detrimental effects on indicated use	Alaska	ADEC 1998a
Turbidity (change)	FW	5	NTU		Criterion; Maximum increase over background; Class A; Value applies to general agricultural uses	Rhode Island	RIDEM 1997
	FW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class A	Washington	Washington State 1997
	FW-Lakes	5	NTU		Standard; Maximum increase over background conditions; Lake Class	Washington	Washington State 1997
	FW	10	NTU		Criterion; Maximum increase over background; Class B, B1, and C; Value applies to general agricultural uses	Rhode Island	RIDEM 1997

Appendix 2-7. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Livestock.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Turbidity (change; cont.)	FW	10	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW	10	%		Standard; Maximum increase when background turbidity is >50; Class A (excellent)	Washington	Washington State 1997
	FW	10	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class B (good)	Washington	Washington State 1997
	FW	20	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class B (good)	Washington	Washington State 1997
Turbidity (induced)	FW	10	NTU		Criterion; When background <=50 NTU; Classed as agricultural use in document	British Columbia	BCMOELP 1998
	FW	20	%		Criterion; When background >50 NTU; Classed as agricultural use in document	British Columbia	BCMOELP 1998
Uranium	FW	200	µg/L		Guideline	Canada	Environment Canada 1999
	FW	200	µg/L		Guideline	Nova Scotia	NSDOE 1998
Uranium (total)	FW	200	µg/L		Guideline	Australia	ANZECC 1992
Vanadium	FW	100	µg/L		Guideline	Canada	Environment Canada 1999
	FW	100	µg/L		Guideline	Nova Scotia	NSDOE 1998
Vanadium (total)	FW	100	µg/L		Guideline	Australia	ANZECC 1992
Vinyl Chloride (total)	GW	2	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Vinylidene Chloride (total)	GW	7	µg/L		Interim Standard; Maximum; Value applies to general agricultural uses	Oregon	ODEQ 1997
Zinc	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	50000	µg/L		Guideline	Canada	Environment Canada 1999
	FW	50000	µg/L		Guideline	Nova Scotia	NSDOE 1998
Zinc (total)	FW	50	µg/L		Provisional Objective; Average for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	FW	100	µg/L		Provisional Objective; Maximum for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	GW	5000	µg/L		Guidance Level; Value applies to general agricultural uses	Oregon	ODEQ 1997
	FW	20000	µg/L		Guideline	Australia	ANZECC 1992
	FW	50000	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995

Appendix 2 - 8

A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Water Consumption)

Appendix 2-8. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Water Consumption).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Aldrin	FW/EST	0.4	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Aldrin + Dieldrin	GW	0.003	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Aluminum (total)	SW	20	%		Maximum increase; Kitimat Arm; Except for initial dilution zones (See reference)	British Columbia	Warrington 1987
	FW	5000	µg/L	TTA	Criterion; Maximum	British Columbia	Nagpal et al. 1995
Ammonia (unionized)	FW	0.0184	mg/L		Objective; Maximum; At pH of 7 and temperature of 10°C	Manitoba	Williamson 1988
Ammonia (total)	SW	1	mg/L		Average; Kitimat Arm; Except for initial dilution zones (See reference); As N	British Columbia	Warrington 1987
	EST	1.84	mg/L		Average 30 day at pH 7.0 and 10°C; With no more than one in five of the measured values can be greater than 1.5 times this value; Kitimat River downstream from the District of Kitimat sewage discharge; Except for initial dilution zones (See reference): As N	British Columbia	Warrington 1987
	SW	2.5	mg/L		Maximum; Kitimat Arm; Except for initial dilution zones (See reference); As N	British Columbia	Warrington 1987
	EST	20.5	mg/L		Maximum at pH 7.0 and 10°C; Kitimat River downstream from the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); As N	British Columbia	Warrington 1987
Ammonia (unionized)	FW/EST/SW	0.007	mg/L	TTA	Provisional Objective; Average; North, Middle, Main Arms of the Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
	FW/EST/SW	0.03	mg/L	TTA	Provisional Objective; Maximum; North, Middle, Main Arms of the Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
Aroclor 1242	FW	0.00012	µg/L		Criterion	Quebec	MDEQ 1996
Arsenic	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW/EST	90	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Barium	GW	1	mg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Beryllium	FW/EST	150	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Bis(2-ethylhexyl) Phthalate	FW	100.0	µg/L		Criterion	Oklahoma	USEPA 1988a
Butyl Phthalate, N-	FW	36.5	µg/L		Criterion	Oklahoma	USEPA 1988a
Butylbenzyl Phthalate	FW	200.0	µg/L		Criterion	Oklahoma	USEPA 1988a
Cadmium	GW	0.4	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997

Appendix 2-8. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Water Consumption).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Cadmium (total)	FW	1	µg/L		Objective	Saskatchewan	SDEPS1988
	SW	12	µg/L		Average; Calculated from at least five weekly samples taken in a 30 day period; Kitimat Arm; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	SW	38	µg/L		Maximum; Kitimat Arm; Except samples from initial dilution zones (See	British Columbia	Warrington 1987
	FW	Equation	µg/L		Objective; Acid-soluble; =e[0.7852 (ln hardness) -3.490] where hardness is expressed as mg/L CaCO3	Manitoba	Williamson 1988
Chemical Oxygen Demand	SW	2	mg/L		Standard; Coastal waters Class A	Japan	JWQB 1998
	SW	8	mg/L		Standard; Coastal waters Class C	Japan	JWQB 1998
Chlordane	FW	0.0043	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW/EST	0.0043	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	GW	0.01	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Chlorine (total, residual)	FW/EST/SW	2	µg/L		Provisional Objective; Maximum for Main Arm of Fraser River, Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
	FW/SW	2.0	µg/L		Standard; Maximum; For salmonid waters	Alaska	ADEC 1998a
	FW/SW	10.0	µg/L		Standard; Maximum; For organisms other than salmonids	Alaska	ADEC 1998a
Chlorophenol, 2-	FW/EST	100	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Chlorophenols	FW	0.2	µg/L		Provisional Objective; Maximum for Fraser River	British Columbia	Swain and Holms 1985
Chlorophyll a	EST	50000	µg/m2		Maximum; Kitimat River downstream from the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); Average is calculated from at least 5 weekly samples in a 30 day period	British Columbia	Warrington 1987
Chromium	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Chromium (VI)	FW/EST	10	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Coliforms (total)	SW	70	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 330 MPN/100mL; Class SA	Rhode Island	RIDEM 1997
	FW	100	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 500 MPN/100mL; Class A	Rhode Island	RIDEM 1997
	SW	700	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 2300 MPN/100mL; Class SB and SB1	Rhode Island	RIDEM 1997
	FW	1000	MPN/100mL		Criterion; Maximum geometric mean; With no more than 20% of samples exceeding 2400 MPN/100mL; Class B and B1	Rhode Island	RIDEM 1997

Appendix 2-8. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Water Consumption).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Coliforms (total; cont.)	SW	1000	MPN/100mL		Standard; Coastal waters Class A	Japan	JWQB 1998
Colour	FW/SW	Narrative			Standard; Color or apparent color may not reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonally established norm for aquatic life	Alaska	ADEC 1998a
	FW/SW	Narrative			Standard; For all waters without a seasonally established norm for aquatic life, color or apparent color may not exceed 50 color units or the natural condition,	Alaska	ADEC 1998a
Copper	GW	1000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	Equation	µg/L		Objective; Acid-soluble; = e[0.8545 (ln hardness) -1.465] where hardness is expressed as mg/L CaCO3; For cool and cold water	Manitoba	Williamson 1988
Copper (total)	SW	2	µg/L		Average; Kitimat Arm; Calculated from at least five weekly samples taken in a 30 day period	British Columbia	Warrington 1987
	SW	3	µg/L		Maximum; or 20 % increase, whichever is greater; Kitimat Arm	British Columbia	Warrington 1987
	FW	4	µg/L		Provisional Objective; Maximum when hardness <= 35 mg/L for North, Middle, and Main Arms of the Fraser River; or 3 µg/L average, or 20 % maximum increase, whichever is greater	British Columbia	Swain and Holms 1985
	FW	6	µg/L		Provisional Objective; Maximum when hardness > 35 mg/L for North, Middle, and Main Arms of the Fraser River; or 4 µg/L average, or 20 % maximum increase, whichever is greater	British Columbia	Swain and Holms 1985
	FW	10	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	300	µg/L	TTA	Criterion; Maximum for raw water	British Columbia	BCMOELP 1998
Cyanide	SW	1	µg/L		Maximum; Kitimat Arm; Weak acid dissociable; Except samples from initial dilution zones (See reference); See reference regarding minimum detect limits and sampling procedures	British Columbia	Warrington 1987
	FW/EST	3	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	GW	5	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
D, 2,4-	FW	4	µg/L		Objective	Saskatchewan	SDEPS1988
	GW	100	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
DDD	FW	0.000011	µg/L		Standard; Value as part of sum DDD, DDE and DDT	New York State	NYSDEC 1998
	FW	0.000011	µg/L		Criterion	Quebec	MDEQ 1996
	SW	0.000011	µg/L		Standard; Value as part of sum DDD, DDE and DDT	New York State	NYSDEC 1998
DDE	FW	0.000011	µg/L		Standard; Value as part of sum DDD, DDE and DDT	New York State	NYSDEC 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
DDE (cont.)	FW	0.000011	µg/L		Criterion	Quebec	MDEQ 1996
	SW	0.000011	µg/L		Standard; Value as part of sum DDD, DDE and DDT	New York State	NYSDEC 1998
DDT	FW	0.000011	µg/L		Standard; Sum of p,p'-DDD, p,p'-DDE, p,p'-DDT	New York State	NYSDEC 1998
	SW	0.000011	µg/L		Standard; Sum of p,p'-DDD, p,p'-DDE, p,p'-DDT	New York State	NYSDEC 1998
	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	1.0	µg/L		Guideline; To protect against the accumulation of toxicants along the food chain	Australia	ANZECC 1992
DDT and metabolites	FW	0.000011	µg/L		Criterion	Quebec	MDEQ 1996
DDTs	FW/EST	0.001	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
DDTs (total)	FW	0.00000075	µg/L	TRA	Criterion	Great Lakes	USEPA 1992
	FW	0.0010	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
Dichlorophenol, 2,4-	FW/EST	200.0	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Dichlorophenols	FW	460000	µg/L		Criterion; Toxicity; Maximum for non-lactating animals	British Columbia	BCMOELP 1998
Dieldrin	FW	0.0019	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW/EST	0.0019	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Diethyl Phthalate	FW	4910.0	µg/L		Criterion	Oklahoma	USEPA 1988a
Dimethyl Phthalate	FW	2475.0	µg/L		Criterion	Oklahoma	USEPA 1988a
Dimethylphenol, 2,4-	FW/EST	200.0	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Dissolved Oxygen	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class AA (extraordinary)	Washington	Washington State 1997
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class A (excellent)	Washington	Washington State 1997
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class B (good)	Washington	Washington State 1997
	SW	2	mg/L		Standard; Coastal waters Class C	Japan	JWQB 1998
	FW	3	mg/L		Standard; For Class C; At any time unless background is lower, and 5000 µg/L minimum during 16 of 24 hours	Massachusetts	COM 1996
	FW/EST	4	mg/L		Standard; Lower value	District of Columbia	USEPA 1988d

Appendix 2-8. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Water Consumption).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dissolved Oxygen (cont.)	FW/SW	4	mg/L		Standard; Lower value	Delaware	USEPA 1988c
	EST/SW	4	mg/L		Standard; For Class SC; Minimum unless background is lower; Shall not be less than 5000 µg/L at least 16 out of 24 hrs.	Massachusetts	COM 1996
	SW	4	mg/L		Standard; Minimum; At any point beneath the surface	Alaska	ADEC 1998a
	FW	5	mg/L		Standard; Lower value for B-3 and C-3 Classifications	Montana	USEPA 1988e
	EST	5	mg/L		Standard; Minimum; Except where natural conditions cause this value to be depressed; Includes tidal tributaries	Alaska	ADEC 1998a
	EST/SW	5	mg/L		Standard; For Class SB; Minimum unless background is lower	Massachusetts	COM 1996
	FW	5	mg/L		Criterion; Instantaneous minimum; Warm and cold water; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW	5	mg/L		Standard; For Class B; Minimum in warm water fisheries	Massachusetts	COM 1996
	FW	5	mg/L		Standard; Minimum; For waters not used by anadromous or resident fish	Alaska	ADEC 1998a
	SW	5	mg/L		Criterion; Minimum; Except as it naturally occurs; Class SB, SB1, and SC	Rhode Island	RIDEM 1997
	SW	5	mg/L		Standard; Minimum; Class B (good)	Washington	Washington State 1997
	EST/SW	6	mg/L		Standard; For Class SA; Minimum unless background is lower	Massachusetts	COM 1996
	FW	6	mg/L		Standard; For Class A; Minimum unless background is lower	Massachusetts	COM 1996
	FW	6	mg/L		Standard; For Class B; Minimum in cold water fisheries	Massachusetts	COM 1996
	SW	6	mg/L		Criterion; Minimum; Except as it naturally occurs; Class SA	Rhode Island	RIDEM 1997
	SW	6	mg/L		Standard; Minimum; Class A (excellent)	Washington	Washington State 1997
	SW	6	mg/L		Standard; Minimum; In coastal water; For a depth of one meter; Except when natural conditions cause this value to be depressed	Alaska	ADEC 1998a
	FW	6.5	mg/L		Standard; Minimum; Class B (good)	Washington	Washington State 1997
	FW	7	mg/L		Standard; Lower value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	7	mg/L		Standard; Lower value for B-2 and C-2 Classifications	Montana	USEPA 1988e
	SW	7	mg/L		Standard; Minimum; Class AA (extraordinary)	Washington	Washington State 1997
	SW	7.5	mg/L		Standard; Coastal waters Class A	Japan	JWQB 1998
	FW	7.75	mg/L		Provisional Objective; Minimum for Fraser River	British Columbia	Swain and Holms 1985
	EST	7.8	mg/L		Minimum; Kitimat River downstream from the District of Kitimat sewage discharge; Except for initial dilution zones (See reference)	British Columbia	Warrington 1987
	FW	8	mg/L		Standard; Minimum; Class A (excellent)	Washington	Washington State 1997
	EST/SW	9	mg/L		Provisional Objective; Minimum for Sturgeon and Roberts Banks	British Columbia	Swain and Holms 1985
	FW	9.5	mg/L		Standard; Minimum; Class AA (extraordinary)	Washington	Washington State 1997
	FW	17	mg/L		Standard; Maximum; For waters not used by anadromous or resident fish	Alaska	ADEC 1998a
	FW/SW	17	mg/L		Standard; Maximum	Alaska	ADEC 1998a
	SW	17	mg/L		Standard; Maximum	Alaska	ADEC 1998a
	FW	47	%		Objective; Instantaneous minimum; For cool water	Manitoba	Williamson 1988
	FW	60	%		Criterion; Minimum saturation; Based on a daily average; Warm water; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW	60	%		Objective; Instantaneous minimum, For cold water	Manitoba	Williamson 1988

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dissolved Oxygen (cont.)	FW	75	%		Criterion; Minimum saturation; Based on a daily average; Cold water; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	SW	75	%		Standard; For Class AA protection	Hawaii	USEPA 1988f
	SW	75	%		Standard; For Class A protection	Hawaii	USEPA 1988f
	FW	80	%		Standard; For Class 1a protection	Hawaii	USEPA 1988f
	FW-Lakes	Narrative			Standard; No measurable decrease from natural conditions; Lake Class	Washington	Washington State 1997
Endosulfan	FW/EST	0.01	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Endrin	FW/EST	0.0023	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	GW	0.004	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Fecal Coliforms	EST/SW	14	MPN/100mL		Standard; For Class SA; At any time, and 10% of all samples; Maximum = 43 FC/100mL	Massachusetts	COM 1996
	SW	14	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 49 MPN/100mL; Class SA	Rhode Island	RIDEM 1997
	SW	14	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 43 Col/100mL; Class A (excellent)	Washington	Washington State 1997
	SW	14	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 43 Col/100mL; Class AA (extraordinary)	Washington	Washington State 1997
	FW	20	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 200 MPN/100mL; Class A	Rhode Island	RIDEM 1997
	FW	20	FC/100mL		Standard; For Class A; At any time, and 10% of all samples; Maximum = 100 FC/100mL	Massachusetts	COM 1996
	FW	50	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Class AA (extraordinary)	Washington	Washington State 1997
	FW-Lakes	50	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100mL; Lake Class	Washington	Washington State 1997
	SW	50	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 500 MPN/100mL; Class SB and SB1	Rhode Island	RIDEM 1997
	FW	100	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100mL; Class A (excellent)	Washington	Washington State 1997
	SW	100	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100mL; Class B (good)	Washington	Washington State 1997
	EST/SW	200	FC/100mL		Standard; For Class SB; Geometric mean MPN; At any time, and 10% of all samples; Maximum = 400 FC/100mL	Massachusetts	COM 1996
	FW	200	MPN/100mL		Criterion; Maximum geometric mean; With no more than 20% of samples exceeding 500 MPN/100mL; Class B and B1	Rhode Island	RIDEM 1997
	FW	200	Colonies/100ml		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 400 Col/100mL; Class B (good)	Washington	Washington State 1997

Appendix 2-8. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Water Consumption).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fecal Coliforms (cont.)	FW	200	FC/100mL		Standard; For Class B; At any time, and 10% of all samples; Maximum = 400 FC/100mL	Massachusetts	COM 1996
	FW/EST/SW	200	FC/100mL		Standard; Geometric mean; For 2 or more samples in a 30 day period	Virginia	COV 1997
	EST/SW	1000	FC/100mL		Standard; For Class SC; Geometric mean MPN; At any time, and 10% of all samples; Maximum = 2000 FC/100mL	Massachusetts	COM 1996
	FW	1000	FC/100mL		Standard; For Class C; At any time, and 10% of all samples; Maximum = 2000 FC/100mL	Massachusetts	COM 1996
	FW/EST/SW	1000	FC/100mL		Standard; For any time	Virginia	COV 1997
Fluoride	SW	1.5	mg/L		Kitimat Arm; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
Fluoride (total)	FW	1	mg/L		Criterion; 30-day average	British Columbia	BCMOELP 1998
	FW	1.5	mg/L		Criterion; Maximum	British Columbia	BCMOELP 1998
Foaming Agents	GW	50	µg/L		Standard; Possible present or anticipated use; As Methylene Blue active	Virginia	COV 1997
Heptachlor	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW/EST	0.0038	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Heptachlor Epoxide	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Hydrocarbons (total aqueous)	FW/SW	15	µg/L		Standard; Maximum	Alaska	ADEC 1998a
Hydrocarbons, Aromatic (total)	FW/SW	10	µg/L		Standard; Maximum	Alaska	ADEC 1998a
Hydrocarbons, Petroleum	GW	1000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW/SW	Narrative			Standard; Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration	Alaska	ADEC 1998a
	FW/SW	Narrative			Standard; There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious	Alaska	ADEC 1998a
Hydrogen Sulfide	EST	2	µg/L		Maximum; Kitimat River downstream from the District of Kitimat sewage discharge; Undissociated; Except samples from initial dilution zones (See	British Columbia	Warrington 1987
Iron	FW/EST	1000	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Iron (total)	SW	300	µg/L		Maximum; Kitimat Arm	British Columbia	Warrington 1987
	FW	1000	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Iron (total; cont.)	FW	1000	µg/L		Objective	Saskatchewan	SDEPS1988
Lead	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Lead (total)	FW	3	µg/L		Provisional Objective; Average for North, Middle and Main Arms of the Fraser	British Columbia	Swain and Holms 1985
	SW	9	µg/L		Average; Kitimat Arm; Calculated from at least five weekly samples taken in a 30 day period	British Columbia	Warrington 1987
	FW	10	µg/L		Provisional Objective; Maximum for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985
	FW	20	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	100	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	SW	220	µg/L		Maximum; or 20 % increase, whichever is greater; Kitimat Arm	British Columbia	Warrington 1987
	FW	Equation	µg/L		Objective; Acid-soluble; =e[1.273 (ln hardness) -4.705] where hardness is expressed as mg/L CaCO3; For cool and cold water	Manitoba	Williamson 1988
Lindane	GW	0.01	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	0.080	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	0.1	µg/L		Objective	Saskatchewan	SDEPS1988
Mercury	FW	0.00018	µg/L	TRA	Criterion	Great Lakes	USEPA 1992
	FW	0.0013	µg/L		Criterion	Quebec	MDEQ 1996
	GW	0.05	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	0.5	µg/L		Guideline; To protect against the accumulation of toxicants along the food chain	Australia	ANZECC 1992
Mercury (dissolved)	FW	0.0026	µg/L		Standard	New York State	NYSDEC 1998
	SW	0.0026	µg/L		Standard	New York State	NYSDEC 1998
	FW	0.012	µg/L		Standard; Chronic Criterion; Methyl mercury	Virginia	COV 1997
	SW	0.025	µg/L		Standard; Chronic Criterion; Methyl mercury	Virginia	COV 1997
Mercury (total)	FW	0.006	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	0.1	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	3.0	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
Methoxychlor	GW	0.03	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Molybdenum (total)	FW	50	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Monochlorophenols	FW	1854000	µg/L		Criterion; Toxicity; Maximum for non-lactating animals	British Columbia	BCMOELP 1998
Nickel	FW/EST	100	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Nitrite	EST	0.02	mg/L		Average; Kitimat River downstream of the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); Average is calculated from at least five weekly samples taken in a 30 day period; As N	British Columbia	Warrington 1987
	EST	0.06	mg/L		Maximum; Kitimat River downstream of the District of Kitimat sewage discharge; Except for initial dilution zones (See reference); As N	British Columbia	Warrington 1987
Nitrogen (total)	FW-Lakes	0.1	mg/L		Standard; Lakes Class I	Japan	JWQB 1998
	SW	0.2	mg/L		Standard; Coastal waters Class I	Japan	JWQB 1998
	FW-Lakes	1	mg/L		Standard; Lakes Class V	Japan	JWQB 1998
	SW	1	mg/L		Standard; Coastal waters Class IV	Japan	JWQB 1998
Nitrophenols	FW/EST	20.0	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Non-filterable residue	FW	20	%		Criterion; When background >100 mg/L	British Columbia	BCMOELP 1998
	FW	20	NTU		Criterion; When background <=100 mg/L	British Columbia	BCMOELP 1998
Oil and grease	FW	Narrative			Standard; For Class A; Free from oil, grease, petrochemicals and other volatile or synthetic organic pollutants	Massachusetts	COM 1996
PCBs	FW	0.00	µg/L		Criterion; Value is zero	Oklahoma	USEPA 1988a
	FW	0.00012	µg/L		Standard	New York State	NYSDEC 1998
	SW	0.00012	µg/L		Standard	New York State	NYSDEC 1998
	FW	0.001	µg/L		Criterion	Arizona	USEPA 1988a
	FW/EST	0.01	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	0.014	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	0.5	µg/L		Guideline; To protect against the accumulation of toxicants along the food chain	Australia	ANZECC 1992
PCBs (total)	FW	0.000015	µg/L	TRA	Criterion	Great Lakes	USEPA 1992
	FW	0.001	µg/L		Objective	Saskatchewan	SDEPS1988
Pentachlorophenol	FW	0.5	µg/L		Objective	Saskatchewan	SDEPS1988
	FW/EST	7.0	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Pentachlorophenols	FW	175000	µg/L		Criterion; Toxicity; Maximum for non-lactating animals	British Columbia	BCMOELP 1998

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Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
pH	FW/EST	6.0			Standard; Lower value	District of Columbia	USEPA 1988d
	FW	6.1			Standard; Lower value for B-2 Classification	Montana	USEPA 1988e
	FW	6.5			Standard; Lower value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	6.5			Standard; Lower value for B-3, C-2 and C-3 Classifications	Montana	USEPA 1988e
	FW/SW	6.5			Standard; Lower value	Delaware	USEPA 1988c
	FW	6.5 – 8.3			Standard; For Class A; And not more than 0.5 units outside background	Massachusetts	COM 1996
	FW	6.5 – 8.3			Standard; For Class B; And not more than 0.5 units outside background	Massachusetts	COM 1996
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary)	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent)	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class B (good)	Washington	Washington State 1997
	FW	6.5 – 8.5			Provisional Objective; Fraser River including the Main Stem, North, Middle, and Main Arms	British Columbia	Swain and Holms 1985
	EST/SW	6.5 – 8.5			Standard; For Class SA; And not more than 0.2 units outside background	Massachusetts	COM 1996
	EST/SW	6.5 – 8.5			Standard; For Class SB; And not more than 0.2 units outside background	Massachusetts	COM 1996
	SW	6.5 – 8.5			Criterion; Range; But not more than 0.2 units outside of the normally occurring range; Class SA, SB, SB1, and SC	Rhode Island	RIDEM 1997
	SW	6.5 – 8.5			Standard; May not vary more than 0.1 pH unit from natural conditions	Alaska	ADEC 1998a
	FW	6.5 – 9.0			Criterion; Range; Or as it naturally occurs; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW	6.5 – 9.0			Standard; For Class C; And not more than 1.0 units outside background	Massachusetts	COM 1996
	FW	6.5 – 9			Standard; < 0.5 units change from natural conditions	Alaska	ADEC 1998a
	FW	6.5 – 9.0			Objective; For cool and cold water	Manitoba	Williamson 1988
	EST	6.5 – 9.0			Kitimat River downstream of the District of Kitimat sewage discharge; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	EST/SW	6.5 – 9.0			Standard; For Class SC; And not more than 0.5 units outside background	Massachusetts	COM 1996
	SW	7.0 – 8.3			Standard; Coastal waters Class C	Japan	JWQB 1998
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary)	Washington	Washington State 1997
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent)	Washington	Washington State 1997
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class B (good)	Washington	Washington State 1997
	SW	7.8 – 8.3			Standard; Coastal waters Class A	Japan	JWQB 1998
	FW	8.5			Standard; Upper value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW/EST	8.5			Standard; Upper value	District of Columbia	USEPA 1988d
	FW/SW	8.5			Standard; Upper value	Delaware	USEPA 1988c

Appendix 2-8. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Water Consumption).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
pH (cont.)	FW	9.0			Standard; Upper value for B-2, B-3, C-2 and C-3 Classifications	Montana	USEPA 1988e
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State 1997
Phenol	FW	10	µg/L		Criterion	Utah	USEPA 1988a
	FW	50	µg/L		Criterion	Iowa	USEPA 1988a
	FW	50	µg/L		Criterion	Mississippi	USEPA 1988a
	FW/EST	100	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW/SW	200	µg/L		Standard; Upper value	Delaware	USEPA 1988c
	FW	575.0	µg/L		Criterion	Oklahoma	USEPA 1988a
Phenols	FW	1.0	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	1	µg/L		Objective	Saskatchewan	SDEPS1988
	GW	1	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	5	µg/L		Criterion	Arizona	USEPA 1988a
Phenols (total chlorinated)	FW/EST	3.0	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Phosphorus (total)	FW-Lakes	5	µg/L		Standard; Lakes Class I	Japan	JWQB 1998
	SW	20	µg/L		Standard; Coastal waters Class I	Japan	JWQB 1998
	FW	25	µg/L		Criterion; Maximum average; In any lake, pond, kettlehole, or reservoir; Class A, B, B1, C	Rhode Island	RIDEM 1997
	SW	90	µg/L		Standard; Coastal waters Class IV	Japan	JWQB 1998
	FW-Lakes	100	µg/L		Standard; Lakes Class V	Japan	JWQB 1998
Phthalate Esters	FW/EST	100	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Radioactivity	GW	4	mrem/yr		Standard; Manmade, Total Dose Equivalent; Possible present or anticipated use	Virginia	COV 1997
Radioactivity-Alpha (gross)	GW	15	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Radioactivity-Beta (gross)	GW	50	pCi/L		Standard; Possible present or anticipated use; Used as a screening value only - if exceeded the water must be analyzed to determine the presence and quantity of radionuclides to determine compliance with the tritium, strontium, and manmade radioactivity standards	Virginia	COV 1997
Radium 226	GW	3	pCi/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Radium 226 (+228)	GW	5	pCi/L		Standard; Possible present or anticipated use	Virginia	COV 1997

Appendix 2-8. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Water Consumption).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Residue (non-filterable)	FW	25000	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
Salinity	SW	1000000	µg/L		Standard; Maximum Allowable variation above natural salinity; When natural salinity is 0 to 3500 ppm	Alaska	ADEC 1998a
	SW	2000000	µg/L		Standard; Maximum Allowable variation above natural salinity; When natural salinity is 3500 to 13500 ppm	Alaska	ADEC 1998a
	SW	4000000	µg/L		Standard; Maximum Allowable variation above natural salinity; When natural salinity is 13500 to 35000 ppm	Alaska	ADEC 1998a
Selenium	GW	10	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW/EST	40	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Silver	FW/EST	1.0	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
Silvex	GW	10	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Sodium	GW	270000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Solids (settleable)	FW	Narrative			Standard; No sediment loads (suspended or deposited) that can cause adverse effects on aquatic animal or plant life, their reproduction or habitat may be	Alaska	ADEC 1998a
	SW	Narrative			Standard; No measurable increase in concentration above natural conditions	Alaska	ADEC 1998a
Strontium 90	GW	8	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Sulphide	FW	2	µg/L		Objective; Undissociated H2S; For cool and cold water	Manitoba	Williamson 1988
	FW	10	µg/L		Objective	Saskatchewan	SDEPS1988
Suspended Solids	EST/SW	10	mg/L		Maximum increase; Kitimat Arm and Kitimat River downstream from the District of Kitimat sewage discharge; Except initial dilution zones; When background is less than 100 mg/L	British Columbia	Warrington 1987
	EST/SW	10	%		Maximum increase; Kitimat Arm and Kitimat River downstream from the District of Kitimat sewage discharge; Except initial dilution zones; When background is greater than 100 mg/L	British Columbia	Warrington 1987
	FW	10	mg/L		Provisional Objective; Maximum increase for Fraser River when upstream background <= 100000 µg/L	British Columbia	Swain and Holms 1985
	FW	10	%		Provisional Objective; Maximum increase for Fraser River when upstream background >= 100000 µg/L	British Columbia	Swain and Holms 1985
T4CDD, 2,3,7,8-	FW	0.0000000031	µg/L		Standard	New York State	NYSDEC 1998

Appendix 2-8. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Water Consumption).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
T4CDD, 2,3,7,8- (cont.)	FW	0.0000000031	µg/L		Criterion	Quebec	MDEQ 1996
	SW	0.0000000031	µg/L		Standard	New York State	NYSDEC 1998
	FW	0.0000000085	µg/L	TRA	Criterion	Great Lakes	USEPA 1992
Temperature	SW	13.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=8/ [T-4] at any time; Class AA (extraordinary)	Washington	Washington State 1997
	FW	16.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=23/ [T+5] at any time; Class AA (extraordinary)	Washington	Washington State 1997
	SW	16.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=12/ [T-2] at any time; Class A (excellent)	Washington	Washington State 1997
	FW	18.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=28/ [T+7] at any time; Class A (excellent)	Washington	Washington State 1997
	SW	19.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=16/[T]; Class B (good)	Washington	Washington State 1997
	FW	20	°C		Standard; Maximum	Alaska	ADEC 1998a
	FW	20	°C		Standard; For Class A; Maximum in cold water fisheries (or 68 F)	Massachusetts	COM 1996
	FW	20	°C		Standard; For Class B; Maximum in cold water fisheries; (or 68 F)	Massachusetts	COM 1996
	FW	21.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=34/ [T+9]; Class B (good)	Washington	Washington State 1997
	EST/SW	26.7	°C		Standard; For Class SA; Maximum daily mean (or 80 F)	Massachusetts	COM 1996
	EST/SW	26.7	°C		Standard; For Class SB; Maximum daily mean (or 80 F)	Massachusetts	COM 1996
	FW	28.3	°C		Criterion; Maximum; Class A, B, B1, C; (83 F)	Rhode Island	RIDEM 1997
	FW	28.3	°C		Standard; For Class A; Maximum in warm water fisheries (or 83 F)	Massachusetts	COM 1996
	FW	28.3	°C		Standard; For Class B; Maximum in warm water fisheries; (or 83 F)	Massachusetts	COM 1996
	SW	28.3	°C		Criterion; Maximum; Class SA, SB, SB1,and SC; (83 F)	Rhode Island	RIDEM 1997
	EST/SW	29.4	°C		Standard; For Class SA; Maximum at any time (or 85 F)	Massachusetts	COM 1996
	EST/SW	29.4	°C		Standard; For Class SB; Maximum at any time (or 85 F)	Massachusetts	COM 1996
	EST/SW	29.4	°C		Standard; For Class SC; Maximum at any time (or 85 F)	Massachusetts	COM 1996
	FW	29.4	°C		Standard; For Class C; At any time (or 85 F)	Massachusetts	COM 1996
	FW/SW	29.4	°C		Standard; Upper value; (85 F)	Delaware	USEPA 1988c
	FW/EST	32.2	°C		Standard; Upper value	District of Columbia	USEPA 1988d
Temperature (change)	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 16.0 C / 13.0 C for FW/SW respectively; Class AA (extraordinary)	Washington	Washington State 1997
	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 21.0 C / 19.0 C for FW/SW respectively; Class B (good)	Washington	Washington State 1997
	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed guideline; Class A (excellent)	Washington	Washington State 1997

Appendix 2-8. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Water Consumption).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature (change; cont.)	FW	0.3	°C		Standard; Secondary Upper Limit for A-1, B-1 and C-1 Classifications; (0.5 F)	Montana	USEPA 1988e
	FW	0.3	°C		Standard; Secondary Upper Limit for B-2, B-3, C-2 and C-3 Classifications; (0.5	Montana	USEPA 1988e
	FW	0.6	°C		Standard; Upper value for A-1, B-1 and C-1 Classifications; (1 F)	Montana	USEPA 1988e
	FW	0.6	°C		Standard; Upper value for B-2 and C-2 Classifications; (1 F)	Montana	USEPA 1988e
	EST/SW	0.83	°C		Standard; For Class SA; (or 1.5 F)	Massachusetts	COM 1996
	EST/SW	0.83	°C		Standard; For Class SB; (or 1.5 F); During summer months	Massachusetts	COM 1996
	FW	0.83	°C		Standard; For Class A; (or 1.5 F)	Massachusetts	COM 1996
	SW	0.89	°C		Criterion; Maximum increase above normal temperature; Class SA, SB, SB1, and SC; (1.6 F)	Rhode Island	RIDEM 1997
	FW	1.7	°C		Standard; Upper value for B-3 and C-3 Classifications; (3 F)	Montana	USEPA 1988e
	FW	1.7	°C		Standard; For Class B; Maximum in cold water fisheries; (or 3 F)	Massachusetts	COM 1996
	FW	1.7	°C		Standard; For Class B; Maximum for lakes and ponds; (or 3 F)	Massachusetts	COM 1996
	EST/SW	2.2	°C		Standard; For Class SB; (or 4 F); During winter months	Massachusetts	COM 1996
	FW	2.2	°C		Criterion; Maximum increase for receiving waters; Class A, B, B1, C; (4 F)	Rhode Island	RIDEM 1997
	FW/SW	2.2	°C		Standard; Secondary Upper Limit; (4 F)	Delaware	USEPA 1988c
	FW/EST	2.8	°C		Standard; Upper value for Temperature Change	District of Columbia	USEPA 1988d
	EST/SW	2.8	°C		Standard; For Class SC; (or 5 F)	Massachusetts	COM 1996
	FW	2.8	°C		Standard; For Class B; Maximum in warm water fisheries; (or 5 F)	Massachusetts	COM 1996
	FW	2.8	°C		Standard; For Class C; (or 5 F)	Massachusetts	COM 1996
	FW/SW	2.8	°C		Standard; Upper value; (5 F)	Delaware	USEPA 1988c
	FW	3	°C		Objective; Maximum increase above ambient water temperature	Saskatchewan	SDEPS1988
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State 1997
	SW	Narrative			Standard; May not cause the weekly average temperature to increase more than 1 C; Maximum rate of change may not exceed 0.5 C per hour; Normal daily	Alaska	ADEC 1998a
Tetrachlorophenols	FW	410000	µg/L		Criterion; Toxicity; Maximum for non-lactating animals	British Columbia	BCMOELP 1998
Total Dissolved Solids	FW	1500	mg/L		Standard; Maximum	Alaska	ADEC 1998a
Toxaphene	FW	0.0002	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	SW	0.0002	µg/L		Standard; Chronic Criterion	Virginia	COV 1997
	FW/EST	0.01	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	FW	0.013	µg/L		Objective; Maximum; For cool and cold water	Manitoba	Williamson 1988
Trichlorophenols	FW	210000	µg/L		Criterion; Toxicity; Maximum for non-lactating animals	British Columbia	BCMOELP 1998
Tritium	GW	20000	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997

Appendix 2-8. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Water Consumption).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Turbidity	SW	Narrative			Standard; May not reduce the depth of the compensation point for photosynthetic activity by more than 10%; May not reduce the maximum secchi disk depth by	Alaska	ADEC 1998a
Turbidity (change)	FW/SW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW/SW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class A (excellent)	Washington	Washington State 1997
	FW-Lakes	5	NTU		Standard; Maximum increase over background conditions; Lake Class	Washington	Washington State 1997
	FW-Lakes	5	NTU		Standard; Maximum increase above natural conditions	Alaska	ADEC 1998a
	EST/SW	5	NTU		Maximum increase; Kitimat Arm and Kitimat River downstream from the District of Kitimat sewage discharge; Background < 50 NTU; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	FW	5	NTU		Criterion; Maximum increase over background; Class A	Rhode Island	RIDEM 1997
	SW	5	NTU		Criterion; Maximum increase over background; Class SA	Rhode Island	RIDEM 1997
	FW	10	NTU		Criterion; Maximum increase over background; Class B, B1, and C	Rhode Island	RIDEM 1997
	FW/SW	10	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW/SW	10	%		Standard; Maximum increase when background turbidity is >50; Class A	Washington	Washington State 1997
	FW/SW	10	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class B	Washington	Washington State 1997
	EST/SW	10	%		Maximum increase; Kitimat Arm and Kitimat River downstream from the District of Kitimat sewage discharge; Background > 50 NTU; Except samples from initial dilution zones (See reference)	British Columbia	Warrington 1987
	SW	10	NTU		Criterion; Maximum increase over background; Class SB, SB1, and SC	Rhode Island	RIDEM 1997
	FW/SW	20	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class B (good)	Washington	Washington State 1997
	FW	25	NTU		Standard; Maximum increase	Alaska	ADEC 1998a
Turbidity (induced)	FW	10	NTU		Criterion; When background <=50 NTU	British Columbia	BCMOELP 1998
	FW	20	%		Criterion; When background >50 NTU	British Columbia	BCMOELP 1998
Zinc	FW/EST	50	µg/L		Standard; Upper value	District of Columbia	USEPA 1988d
	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Zinc (total)	FW	47	µg/L		Objective; Recoverable; Maximum; For cool and cold water	Manitoba	Williamson 1988
	FW	50	µg/L		Provisional Objective; Average for North, Middle and Main Arms of the Fraser	British Columbia	Swain and Holms 1985
	FW	50	µg/L		Objective	Saskatchewan	SDEPS1988
	FW	100	µg/L		Provisional Objective; Maximum for North, Middle and Main Arms of the Fraser River	British Columbia	Swain and Holms 1985

Appendix 2 - 9

A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Bioaccumulation in Aquatic Organisms)

Appendix 2-9. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Wildlife (Bioaccumulation in Aquatic Organisms).

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chlordane	FW/SW	0.01	µg/L	USEPA	Proposed criterion; Bioaccumulation	New York State	NYSDEC 1994
Dichlorophenols	FW	0.3	µg/L	TTA	Criterion; Aesthetic	British Columbia	BCMOELP 1998
	FW	46000	µg/L	TTA	Criterion; Maximum; For lactating animals (200 mL/kg body weight/day)	British Columbia	BCMOELP 1998
	FW	460000	µg/L	TTA	Criterion; Maximum; For non-lactating animals (200 mL/kg body weight/day)		
Endrin	FW/SW	0.0019	µg/L	USEPA	Proposed criterion; Bioaccumulation	New York State	NYSDEC 1994
Heptachlor + Heptachlor Epox	FW/SW	0.001	µg/L	USEPA	Criterion; Bioaccumulation	New York State	NYSDEC 1994
Hexachlorobenzene	FW	0.008	µg/L	USEPA	Proposed Criterion; Bioaccumulation	New York State	NYSDEC 1994
Hexachlorobutadiene	FW/SW	0.7	µg/L	USEPA	Proposed Criterion; Bioaccumulation	New York State	NYSDEC 1994
Hexachlorocyclohexane (all is	FW/SW	0.23	µg/L	USEPA	Proposed Criterion; Bioaccumulation	New York State	NYSDEC 1994
Mirex	FW/SW	0.0055	µg/L	USEPA	Proposed Criterion; Bioaccumulation	New York State	NYSDEC 1994
Monochlorophenols	FW	0.1	µg/L	TTA	Criterion; Aesthetic	British Columbia	BCMOELP 1998
	FW	185000	µg/L	TTA	Criterion; Maximum; For lactating animals (200 mL/kg body weight/day)	British Columbia	BCMOELP 1998
	FW	1854000	µg/L	TTA	Criterion; Maximum; For non-lactating animals (200 mL/kg body weight/day)	British Columbia	BCMOELP 1998
Octachlorostyrene	FW/SW	0.0005	µg/L	USEPA	Proposed Criterion; Bioaccumulation	New York State	NYSDEC 1994
Pentachlorophenols	FW	30	µg/L	TTA	Criterion; Aesthetic	British Columbia	BCMOELP 1998
	FW	17500	µg/L	TTA	Criterion; Maximum; For lactating animals (200 mL/kg body weight/day)	British Columbia	BCMOELP 1998
	FW	175000	µg/L	TTA	Criterion; Maximum; For non-lactating animals (200 mL/kg body weight/day)	British Columbia	BCMOELP 1998
Tetrachlorophenols	FW	1	µg/L	TTA	Criterion; Aesthetic	British Columbia	BCMOELP 1998
	FW	41000	µg/L	TTA	Criterion; Maximum; For lactating animals (200 mL/kg body weight/day)	British Columbia	BCMOELP 1998
	FW	410000	µg/L	TTA	Criterion; Maximum; For non-lactating animals (200 mL/kg body weight/day)	British Columbia	BCMOELP 1998
Trichlorophenols	FW	2	µg/L	TTA	Criterion; Aesthetic	British Columbia	BCMOELP 1998
	FW	21000	µg/L	TTA	Criterion; Maximum; For lactating animals (200 mL/kg body weight/day)	British Columbia	BCMOELP 1998
	FW	210000	µg/L	TTA	Criterion; Maximum; For non-lactating animals (200 mL/kg body weight/day)	British Columbia	BCMOELP 1998

Appendix 2 - 10

A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Aldrin + Dieldrin	GW	0.003	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Arsenic	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Arsenic (total)	GW	50	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Barium	GW	1	mg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Barium (total)	GW	1	mg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Benzene (total)	GW	5	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Benzo(a)pyrene	FW	0.01	µg/L	TTA	Recommended Maximum; For food processing	British Columbia	BCMOELP 1998
Biological Oxygen Demand	FW	5	mg/L		Standard; Rivers Class C	Japan	JWQB 1998
	FW	8	mg/L		Standard; Rivers Class D	Japan	JWQB 1998
	FW	10	mg/L		Standard; Rivers Class E	Japan	JWQB 1998
Cadmium	GW	0.4	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Cadmium (total)	GW	10	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Carbon Tetrachloride (total)	GW	5	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Chemical Oxygen Demand	SW	3	mg/L		Standard; Coastal waters Class B	Japan	JWQB 1998
	FW-Lakes	5	mg/L		Standard; Lakes Class B	Japan	JWQB 1998
	FW-Lakes	8	mg/L		Standard; Lakes Class C	Japan	JWQB 1998
Chlordane	GW	0.01	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Chloride	FW	200	mg/L		Standard; Maximum; For food processing	Alaska	ADEC 1998a
Chloride (total)	GW	250	mg/L		Guidance Level	Oregon	ODEQ 1997
Chlorinated Creosols	FW	50	µg/L		Criterion	Florida	USEPA 1988a
Chlorophenol, 2-	FW	50	µg/L		Criterion	Florida	USEPA 1988a

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Chromium	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Chromium (total)	GW	50	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Coliforms (total)	GW	<1	C/100mL		Interim Standard; Maximum	Oregon	ODEQ 1997
	SW	70	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 330 MPN/100 mL; Class SA	Rhode Island	RIDEM 1997
	FW	100	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 500 MPN/100 mL; Class A	Rhode Island	RIDEM 1997
	SW	700	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 2300 MPN/100 mL; Class SB and SB1	Rhode Island	RIDEM 1997
	FW	1000	MPN/100mL		Criterion; Maximum geometric mean; With no more than 20% of samples exceeding 2400 MPN/100 mL; Class B and B1	Rhode Island	RIDEM 1997
Colour	FW	15	colour units		Standard; Maximum; Or the natural condition	Alaska	ADEC 1998a
	GW	15	colour units		Guidance Level	Oregon	ODEQ 1997
	SW	15	colour units		Standard; Maximum; Or the natural condition; For seafood processing	Alaska	ADEC 1998a
	FW	Narrative			Standard; May not cause detrimental effects on established water supply treatment levels	Alaska	ADEC 1998a
Copper	GW	1000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Copper (total)	GW	1000	µg/L		Guidance Level	Oregon	ODEQ 1997
Cyanide	GW	5	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	200	µg/L	TTA	Criterion; Maximum; Strong-acid dissociable cyanide and thiocyanate; For food processing	British Columbia	BCMOELP 1998
D, 2,4-	GW	100	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
D, 2,4- (total)	GW	100	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
DDT	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Dichlorobenzene, p- (total)	GW	75	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Dichlorophenol, 2,4-	FW	50	µg/L		Criterion	Florida	USEPA 1988a

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dichlorophenols	FW	0.3	µg/L	TTA	Maximum; For food processing	British Columbia	Nagpal et al. 1995
Dinitrophenol, 2,4-	FW	50	µg/L		Criterion	Florida	USEPA 1988a
Dissolved Oxygen	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class AA (extraordinary)	Washington	Washington State 1997
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class A (excellent)	Washington	Washington State 1997
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class B (good)	Washington	Washington State 1997
	SW	0.2	mg/L		Standard; Maximum allowable decrease when natural conditions depress near or below guideline; Class C (fair)	Washington	Washington State 1997
	FW	2	mg/L		Standard; Rivers Class D and E; Lakes Class C	Japan	JWQB 1998
	FW	3	mg/L		Standard; For Class C; At any time unless background is lower, and 5000 µg/L minimum during 16 of 24 hours	Massachusetts	COM 1996
	FW	3	mg/L		Standard; Minimum in surface waters	Alaska	ADEC 1998a
	FW	4	mg/L		Standard; Lower value	Delaware	USEPA 1988c
	FW	4	mg/L		Standard; Minimum; Not including water from lakes or reservoirs in which supplies are taken from below the thermocline or to groundwater	Alaska	ADEC 1998a
	EST/SW	4	mg/L		Standard; For Class SC; Minimum unless background is lower; Shall not be less than 5000 µg/L at least 16 out of 24 hrs.	Massachusetts	COM 1996
	SW	4	mg/L		Standard; Minimum; Class C (fair)	Washington	Washington State 1997
	FW	5	mg/L		Standard; Lower value for B-3 and C-3 Classifications	Montana	USEPA 1988e
	FW	5	mg/L		Standard; Lower value; Class C	Maine	USEPA 1988g
	FW	5	mg/L		Criterion; Instantaneous Minimum; Warm and cold water; Class A, B, B1, and	Rhode Island	RIDEM 1997
	FW	5	mg/L		Standard; For Class B; Minimum in warm water fisheries	Massachusetts	COM 1996
	FW	5	mg/L		Standard; Rivers Class C; Lakes Class B	Japan	JWQB 1998
	SW	5	mg/L		Criterion; Minimum; Except as it naturally occurs; Class SB, SB1, and SC	Rhode Island	RIDEM 1997
	SW	5	mg/L		Standard; Minimum; Class B (good)	Washington	Washington State 1997
	SW	5	mg/L		Standard; Coastal waters Class B	Japan	JWQB 1998
	SW	5	mg/L		Standard; Minimum; For seafood processing	Alaska	ADEC 1998a
	FW	6	mg/L		Standard; For Class B; Minimum in cold water fisheries	Massachusetts	COM 1996
	SW	6	mg/L		Criterion; Minimum; Except as it naturally occurs; Class SA	Rhode Island	RIDEM 1997
	SW	6	mg/L		Standard; Minimum; Class A (excellent)	Washington	Washington State 1997
	FW	6.5	mg/L		Standard; Minimum; Class B (good)	Washington	Washington State 1997
	FW	7	mg/L		Standard; Lower value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	7	mg/L		Standard; Lower value for B-2 and C-2 Classifications	Montana	USEPA 1988e

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Dissolved Oxygen (cont.)	FW	7	mg/L		Standard; Lower value; Class A	Maine	USEPA 1988g
	FW	7	mg/L		Standard; Lower value; Class B	Maine	USEPA 1988g
	SW	7	mg/L		Standard; Minimum; Class AA (extraordinary)	Washington	Washington State 1997
	FW	8	mg/L		Standard; Minimum; Class A (excellent)	Washington	Washington State 1997
	FW	9.5	mg/L		Standard; Minimum; Class AA (extraordinary)	Washington	Washington State 1997
	FW	60	%		Criterion; Minimum saturation; Based on a daily average; Warm water; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	EST/SW	70	%		Standard; Lower value; Class SC	Maine	USEPA 1988g
	FW	75	%		Criterion; Minimum saturation; Based on a daily average; Cold water; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	SW	75	%		Standard; For Class A protection	Hawaii	USEPA 1988f
	FW	80	%		Standard; For Class 1b protection	Hawaii	USEPA 1988f
	FW	80	%		Standard; For Class 2 protection	Hawaii	USEPA 1988f
	EST/SW	85	%		Standard; Lower value; Class SB	Maine	USEPA 1988g
	FW	Narrative			Standard; May not cause detrimental effects on established water supply treatment levels	Alaska	ADEC 1998a
	FW-Lakes	Narrative			Standard; No measurable decrease from natural conditions; Lake Class	Washington	Washington State 1997
Endrin	GW	0.004	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Endrin (total)	GW	0.2	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Enterococci	FW	0	Colonies/100mL		Criterion; For food processing/dairy industry; Non-treated water	British Columbia	BCMOELP 1998
	FW	<=3	Colonies/100mL		Criterion; 90th Percentile; For food processing/dairy industry; For disinfected	British Columbia	BCMOELP 1998
	FW	<=25	Colonies/100mL		Criterion; 90th Percentile; For food processing/dairy industry; For partially treated water	British Columbia	BCMOELP 1998
	FW	<=100	Colonies/100mL		Criterion; Geometric mean; For industries other than food processing/dairy	British Columbia	BCMOELP 1998
Escherichia coli	FW	0	Colonies/100mL		Criterion; Food processing/dairy use; For non-treated water	British Columbia	BCMOELP 1998
	FW	<=10	Colonies/100mL		Criterion; 90th Percentile; Food processing/dairy use; Disinfected water only	British Columbia	BCMOELP 1998
	FW	<=100	Colonies/100mL		Criterion; 90th Percentile; Food processing/dairy use; Partially treated water	British Columbia	BCMOELP 1998
	FW	<=385	Colonies/100mL		Criterion; Geometric mean; For all industries other than food processing/dairy industries	British Columbia	BCMOELP 1998
Ethylene Dichloride (total)	GW	5	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Fecal Coliforms	FW	0	FC/100mL		Criterion; 90th percentile; For non-treated water used in food processing/dairy industries	British Columbia	BCMOELP 1998

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fecal Coliforms (cont.)	GW	1	FC/100mL		Standard; Maximum; Using the fecal coliform MFT (or <3/100 mL; Using the fecal coliform MPN); For food processing	Alaska	ADEC 1998a
	FW	<=10	FC/100mL		Criterion; 90th percentile; For disinfected water used in food processing/dairy industries	British Columbia	BCMOELP 1998
	SW	14	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 49 MPN/100 mL; Class SA	Rhode Island	RIDEM 1997
	SW	14	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 43 Col/100 mL; Class A (excellent)	Washington	Washington State 1997
	SW	14	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 43 Col/100 mL; Class AA (extraordinary)	Washington	Washington State 1997
	FW	20	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 200 MPN/100 mL; Class A	Rhode Island	RIDEM 1997
	FW	20	FC/100mL		Standard; Maximum 30-day average; With no more than 10% of the samples exceeding 40/100 mL; Includes food processing and culinary uses	Alaska	ADEC 1998a
	SW	20	FC/100mL		Standard; Maximum 30-day average; For seafood processing; With no more than 10% of the samples exceeding 40 Col/100 mL	Alaska	ADEC 1998a
	FW	50	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100 mL; Class AA (extraordinary)	Washington	Washington State 1997
	FW-Lakes	50	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 100 Col/100 mL; Lake Class	Washington	Washington State 1997
	SW	50	MPN/100mL		Criterion; Maximum geometric mean; With no more than 10% of samples exceeding 500 MPN/100 mL; Class SB and SB1	Rhode Island	RIDEM 1997
	FW	<=100	FC/100mL		Criterion; 90th percentile; For partially treated water used in food processing/dairy industries	British Columbia	BCMOELP 1998
	FW	100	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100 mL; Class A (excellent)	Washington	Washington State 1997
	SW	100	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 200 Col/100 mL; Class B (good)	Washington	Washington State 1997
	FW	200	MPN/100mL		Criterion; Maximum geometric mean; With no more than 20% of samples exceeding 500 MPN/100 mL; Class B and B1	Rhode Island	RIDEM 1997
	FW	200	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 400 Col/100 mL; Class B (good)	Washington	Washington State 1997
	FW	200	FC/100mL		Standard; For Class B; At any time, and 10% of all samples; Maximum = 400 FC/100 mL	Massachusetts	COM 1996
	FW	200	FC/100mL		Standard; Maximum 30-day average; Where worker contact is present; With no more than 10% of the samples exceeding 400/ 0.1L	Alaska	ADEC 1998a
	SW	200	Colonies/100mL		Standard; Maximum geometric mean; With no more than 10% of samples exceeding 400 Col/100 mL; Class C (fair)	Washington	Washington State 1997

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Fecal Coliforms (cont.)	SW	200	FC/100mL		Standard; Maximum 30-day average; Where worker contact is present; With no more than 10% of the samples exceeding 400 Col/100 mL	Alaska	ADEC 1998a
	EST/SW	1000	FC/100mL		Standard; For Class SC; Geometric mean MPN; At any time, and 10% of all samples; Maximum = 2000 FC/100 mL	Massachusetts	COM 1996
	FW	1000	FC/100mL		Standard; For Class C; At any time, and 10% of all samples; Maximum = 2000 FC/100 mL	Massachusetts	COM 1996
Fluoride (total)	FW	1	mg/L		Criterion; 30-day average for beer, beverages and processed foods	British Columbia	BCMOELP 1998
	FW	1.5	mg/L		Criterion; Maximum for beer, beverages and processed foods	British Columbia	BCMOELP 1998
	GW	4	mg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Foaming Agents	GW	50	µg/L		Standard; Possible present or anticipated use; As Methylene Blue active	Virginia	COV 1997
	GW	500	µg/L		Guidance Level	Oregon	ODEQ 1997
Heptachlor	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Heptachlor Epoxide	GW	0.001	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Hydrocarbons, Petroleum	GW	1000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	Narrative			Standard; May not make the water unfit or unsafe for the use	Alaska	ADEC 1998a
	FW/SW	Narrative			Standard; May not make the water unfit or unsafe for the use	Alaska	ADEC 1998a
	SW	Narrative			Standard; May not cause a film, sheen, or discoloration on the surface or floor or the waterbody or adjoining shorelines; For seafood processing	Alaska	ADEC 1998a
	SW	Narrative			Standard; Surface waters must be virtually free from floating oils; May not exceed concentrations that individually or in combination impart odour or taste as determined by organoleptic tests; For seafood processing	Alaska	ADEC 1998a
Iodine 131	GW	3	pCi/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Iron (total)	FW	10–1000	µg/L	TTA	Criterion; Depending on process; Boilers	British Columbia	Nagpal et al. 1995
	FW	20–100	µg/L	TTA	Criterion; Depending on process; Chemical	British Columbia	Nagpal et al. 1995
	FW	50–100	µg/L	TTA	Criterion; Depending on process; Textiles	British Columbia	Nagpal et al. 1995
	FW	100–1000	µg/L	TTA	Criterion; Depending on process; Food processing	British Columbia	Nagpal et al. 1995
	FW	100–1000	µg/L	TTA	Criterion; Depending on process; Pulp and paper	British Columbia	Nagpal et al. 1995
	FW	100–50000	µg/L	TTA	Criterion; Depending on process; Tanning	British Columbia	Nagpal et al. 1995
	GW	300	µg/L		Guidance Level	Oregon	ODEQ 1997
	FW	500	µg/L	TTA	Criterion; Depending on process; Cooling (makeup for recirculation)	British Columbia	Nagpal et al. 1995

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Iron (total; cont.)	FW	1000	µg/L	TTA	Criterion; Depending on process; Petroleum	British Columbia	Nagpal et al. 1995
Lead	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Lead (total)	FW	50	µg/L	TTA	Criterion; Maximum; Food processing	British Columbia	BCMOELP 1998
	GW	50	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Lindane	GW	0.01	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Lindane (total)	GW	4	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Magnesium (dissolved)	FW	0.01	mg/L	TTA	Criterion; Depending on process; Boilers	British Columbia	Nagpal et al. 1995
	FW	2–35	mg/L	TTA	Criterion; Depending on process; Chemical	British Columbia	Nagpal et al. 1995
	FW	10–30	mg/L	TTA	Criterion; Depending on process; Food processing	British Columbia	Nagpal et al. 1995
	FW	12	mg/L	TTA	Criterion; Depending on process; Pulp and paper	British Columbia	Nagpal et al. 1995
	FW	25	mg/L	TTA	Criterion; Depending on process; Petroleum	British Columbia	Nagpal et al. 1995
Manganese (total)	FW	10	µg/L	TTA	Criterion; Depending on process; Boilers	British Columbia	Nagpal et al. 1995
	FW	10–50	µg/L	TTA	Criterion; Depending on process; Textiles	British Columbia	Nagpal et al. 1995
	FW	10–200	µg/L	TTA	Criterion; Depending on process; Tanning	British Columbia	Nagpal et al. 1995
	FW	20–50	µg/L	TTA	Criterion; Depending on process; Cooling	British Columbia	Nagpal et al. 1995
	FW	20–100	µg/L	TTA	Criterion; Depending on process; Chemical	British Columbia	Nagpal et al. 1995
	FW	30–200	µg/L	TTA	Criterion; Depending on process; Food processing	British Columbia	Nagpal et al. 1995
	GW	50	µg/L		Guidance Level	Oregon	ODEQ 1997
	FW	100–500	µg/L	TTA	Criterion; Depending on process; Pulp and paper	British Columbia	Nagpal et al. 1995
Mercury	GW	0.05	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Mercury (total)	FW	1.0	µg/L	TTA	Criterion; Maximum; Food processing	British Columbia	BCMOELP 1998
	GW	2	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Methoxychlor	GW	0.03	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Methoxychlor (total)	GW	100	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Monochlorophenols	FW	0.1	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Nitrates (total)	GW	10	mg/L		Permanent Standard; Maximum; Nitrate expressed as nitrogen	Oregon	ODEQ 1997
Nitrogen (total)	FW-Lakes	1	mg/L		Standard; Lakes Class V	Japan	JWQB 1998
	SW	1	mg/L		Standard; Coastal waters Class IV	Japan	JWQB 1998
Non-filterable residue	FW	20	%		Criterion; When background >100 mg/L	British Columbia	BCMOELP 1998
	FW	20	NTU		Criterion; When background <=100 mg/L	British Columbia	BCMOELP 1998
Odour	GW	3	t.o.n.		Guidance Level; Threshold odour number	Oregon	ODEQ 1997
PCBs	FW	0.001	µg/L		Criterion	Arizona	USEPA 1988a
Pentachlorophenol	FW	50	µg/L		Criterion	Florida	USEPA 1988a
Pentachlorophenols	FW	30	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
pH	FW	5.0 – 9.0			Standard	Alaska	ADEC 1998a
	SW	5.0 – 9.0			Standard	Alaska	ADEC 1998a
	FW	6.0			Standard; Lower value; Class B	Maine	USEPA 1988g
	FW	6.0			Standard; Lower value; Class C	Maine	USEPA 1988g
	FW/EST	6.0			Standard; Lower value	District of Columbia	USEPA 1988d
	FW	6.0 – 8.5			Standard; Rivers Class D and E; Lakes Class B and C	Japan	JWQB 1998
	FW	6.0 – 8.5			Standard; Shall not vary more than 0.5 units from natural conditions; For food processing	Alaska	ADEC 1998a
	SW	6.0 – 8.5			Standard; For seafood processing; May not vary more than 0.5 pH units from natural conditions	Alaska	ADEC 1998a
	FW	6.1			Standard; Lower value for B-2 Classification	Montana	USEPA 1988e
	FW	6.5			Standard; Lower value	Delaware	USEPA 1988c
	FW	6.5			Standard; Lower value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	6.5			Standard; Lower value for B-3, C-2 and C-3 Classifications	Montana	USEPA 1988e
	FW	6.5 – 8.3			Standard; For Class B; And not more than 0.5 units outside background	Massachusetts	COM 1996
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary)	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent)	Washington	Washington State 1997
	FW	6.5 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class B (good)	Washington	Washington State 1997

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
pH (cont.)	FW	6.5 – 8.5			Standard; Rivers Class C; Lakes Class B	Japan	JWQB 1998
	GW	6.5 – 8.5			Guidance Level	Oregon	ODEQ 1997
	SW	6.5 – 8.5			Criterion; Range; But not more than 0.2 units outside of the normally occurring range; Class SA, SB, SB1, and SC	Rhode Island	RIDEM 1997
	FW	6.5 – 9.0			Criterion; Range; Or as it naturally occurs; Class A, B, B1, and C	Rhode Island	RIDEM 1997
	FW	6.5 – 9.0			Standard; For Class C; And not more than 1.0 units outside background	Massachusetts	COM 1996
	EST/SW	6.5 – 9.0			Standard; For Class SC; And not more than 0.5 units outside background	Massachusetts	COM 1996
	SW	6.5 – 9.0			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class C (fair)	Washington	Washington State 1997
	EST/SW	6.7			Standard; Lower value; Class SB	Maine	USEPA 1988g
	EST/SW	6.7			Standard; Lower value; Class SC	Maine	USEPA 1988g
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.2 units; Class AA (extraordinary)	Washington	Washington State 1997
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class A (excellent)	Washington	Washington State 1997
	SW	7.0 – 8.5			Standard; Range; With a human-caused variation within this range of less than 0.5 units; Class B (good)	Washington	Washington State 1997
	SW	7.8 – 8.3			Standard; Coastal waters Class B	Japan	JWQB 1998
	FW	8.5			Standard; Upper value	Delaware	USEPA 1988c
	FW	8.5			Standard; Upper value for A-1, B-1 and C-1 Classifications	Montana	USEPA 1988e
	FW	8.5			Standard; Upper value; Class B	Maine	USEPA 1988g
	FW	8.5			Standard; Upper value; Class C	Maine	USEPA 1988g
	FW/EST	8.5			Standard; Upper value	District of Columbia	USEPA 1988d
	EST/SW	8.5			Standard; Upper value; Class SB	Maine	USEPA 1988g
	EST/SW	8.5			Standard; Upper value; Class SC	Maine	USEPA 1988g
	FW	9.0			Standard; Upper value for B-2, B-3, C-2 and C-3 Classifications	Montana	USEPA 1988e
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State 1997
Phenol	FW	20	µg/L		Criterion	Florida	USEPA 1988a
	FW	200	µg/L		Standard; Upper value	Delaware	USEPA 1988c
Phenols	FW	1	µg/L		Criterion	Illinois	USEPA 1988a
	GW	1	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
	FW	5	µg/L		Criterion	Arizona	USEPA 1988a
Phosphorus (total)	FW	25	µg/L		Criterion; Maximum average; In any lake, pond, kettlehole, or reservoir; Class A, B, B1, and C	Rhode Island	RIDEM 1997

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Phosphorus (total; cont.)	SW	90	µg/L		Standard; Coastal waters Class IV	Japan	JWQB 1998
	FW-Lakes	100	µg/L		Standard; Lakes Class V	Japan	JWQB 1998
Pseudomonas aeruginosa	FW	<=100	Colonies/100mL		Criterion; 75th Percentile; For industries other than food processing/dairy	British Columbia	BCMOELP 1998
Radioactivity	GW	4	mrem/yr		Standard; Manmade; Total Dose Equivalent; Possible present or anticipated use	Virginia	COV 1997
Radioactivity-Alpha (gross)	GW	15	pCi/L		Interim Standard; Maximum; Including Radium 225 but excluding radon and uranium	Oregon	ODEQ 1997
	GW	15	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Radioactivity-Beta (gross)	GW	50	pCi/L		Interim Standard; Maximum	Oregon	ODEQ 1997
	GW	50	pCi/L		Standard; Possible present or anticipated use; Used as a screening value only - if exceeded the water must be analyzed to determine the presence and quantity of radionuclides to determine compliance with the tritium, strontium, and manmade radioactivity standards	Virginia	COV 1997
Radium 226	GW	3	pCi/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Radium 226 (+228)	GW	5	pCi/L		Interim Standard; Maximum	Oregon	ODEQ 1997
	GW	5	pCi/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Selenium	GW	10	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Selenium (total)	GW	10	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Silver (total)	GW	50	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Silvex	GW	10	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Silvex (total)	GW	10	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Sodium	GW	270000	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Solids (settleable)	FW	Narrative			Standard; No measurable increase in concentration above natural conditions; For food processing	Alaska	ADEC 1998a
	FW/SW	Narrative			Standard; No imposed loads that will interfere with established water supply treatment levels	Alaska	ADEC 1998a

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Solids (settleable; cont.)	SW	Narrative			Standard; Below normally detectable amounts; For seafood processing	Alaska	ADEC 1998a
Strontium 90	GW	8	pCi/L		Interim Standard; Maximum	Oregon	ODEQ 1997
	GW	8	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Sulphate	FW	200	mg/L		Standard; Maximum; For food processing	Alaska	ADEC 1998a
Sulphate (dissolved)	FW	20–250	mg/L	TTA	Criterion (SO4), depending on process; Food processing	British Columbia	Nagpal et al. 1995
	FW	175–200	mg/L	TTA	Criterion (SO4), depending on process; Iron and steel	British Columbia	Nagpal et al. 1995
	FW	200–2700	mg/L	TTA	Criterion (SO4), depending on process; Cooling	British Columbia	Nagpal et al. 1995
	FW	250	mg/L	TTA	Criterion (SO4), depending on process; Tanning	British Columbia	Nagpal et al. 1995
Sulphate (total)	GW	250	mg/L		Guidance Level	Oregon	ODEQ 1997
Sulphide (total)	FW	5000	µg/L	TTA	Criterion; Depending on process; Cooling	British Columbia	Nagpal et al. 1995
Suspended Solids	FW-Lakes	15	mg/L		Standard; Lakes Class B	Japan	JWQB 1998
	FW	50	mg/L		Standard; Rivers Class C	Japan	JWQB 1998
	FW	100	mg/L		Standard; Rivers Class D	Japan	JWQB 1998
	FW	Narrative			Standard; Rivers Class E; Floating matter such as garbage shall not be observed	Japan	JWQB 1998
	FW-Lakes	Narrative			Standard; Lakes Class C; Floating matter such as garbage shall not be observed	Japan	JWQB 1998
Temperature	SW	13.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=8/ [T-4] at any time; Class AA (extraordinary)	Washington	Washington State 1997
	FW	15	°C		Standard; Maximum; For food processing	Alaska	ADEC 1998a
	SW	15	°C		Standard; Maximum; For seafood processing	Alaska	ADEC 1998a
	FW	16.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=23/ [T+5] at any time; Class AA (extraordinary)	Washington	Washington State 1997
	SW	16.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=12/ [T-2] at any time; Class A (excellent)	Washington	Washington State 1997
	FW	18.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=28/ [T+7] at any time; Class A (excellent)	Washington	Washington State 1997
	SW	19.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=16/[T]; Class B (good)	Washington	Washington State 1997
	FW	20	°C		Standard; For Class B; Maximum in cold water fisheries; (or 68 F)	Massachusetts	COM 1996
	FW	21.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=34/ [T+9]; Class B (good)	Washington	Washington State 1997

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature (cont.)	SW	22.0	°C		Standard; Maximum due to human activities; No increase shall exceed t=20/ [T+2]; Class C (fair)	Washington	Washington State 1997
	FW/SW	25	°C		Standard; Maximum	Alaska	ADEC 1998a
	FW	28.3	°C		Criterion; Maximum; Class A, B, B1, C; (83 F)	Rhode Island	RIDEM 1997
	FW	28.3	°C		Standard; For Class B; Maximum in warm water fisheries; (or 83 F)	Massachusetts	COM 1996
	SW	28.3	°C		Criterion; Maximum; Class SA, SB, SB1,and SC; (83 F)	Rhode Island	RIDEM 1997
	EST/SW	29.4	°C		Standard; For Class SC; Maximum at any time (or 85 F)	Massachusetts	COM 1996
	FW	29.4	°C		Standard; Upper value; (85 F)	Delaware	USEPA 1988c
	FW	29.4	°C		Standard; For Class C; At any time (or 85 F)	Massachusetts	COM 1996
Temperature (change)	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 16.0 C / 13.0 C for FW/SW respectively; Class AA (extraordinary)	Washington	Washington State 1997
	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 21.0 C / 19.0 C for FW/SW respectively; Class B (good)	Washington	Washington State 1997
	SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 22.0 C for SW; Class C (fair)	Washington	Washington State 1997
	FW/SW	0.3	°C		Standard; Maximum allowable increase when natural conditions exceed 18.0 C / 16.0 C for FW/SW respectively; Class A (excellent)	Washington	Washington State 1997
	FW	0.3	°C		Standard; Secondary Upper Limit for A-1, B-1 and C-1 Classifications; (0.5 F)	Montana	USEPA 1988e
	FW	0.3	°C		Standard; Secondary Upper Limit for B-2, B-3, C-2 and C-3 Classifications; (0.5 F)	Montana	USEPA 1988e
	FW	0.6	°C		Standard; Upper value for A-1, B-1 and C-1 Classifications; (1 F)	Montana	USEPA 1988e
	FW	0.6	°C		Standard; Upper value for B-2 and C-2 Classifications; (1 F)	Montana	USEPA 1988e
	EST/SW	0.83	°C		Standard; Secondary Upper value; Class SB; (1.5 F)	Maine	USEPA 1988g
	EST/SW	0.83	°C		Standard; Secondary Upper value; Class SC; (1.5 F)	Maine	USEPA 1988g
	SW	0.89	°C		Criterion; Maximum increase above normal temperature; Class SA, SB, SB1, and SC; (1.6 F)	Rhode Island	RIDEM 1997
	FW	1.7	°C		Standard; Upper value for B-3 and C-3 Classifications; (3 F)	Montana	USEPA 1988e
	FW	1.7	°C		Standard; Secondary Upper Limit; Class A; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; Secondary Upper Limit; Class B; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; Secondary Upper Limit; Class C; (3 F)	Maine	USEPA 1988g
	FW	1.7	°C		Standard; For Class B; Maximum in cold water fisheries; (or 3 F)	Massachusetts	COM 1996
	FW	1.7	°C		Standard; For Class B; Maximum for lakes and ponds; (or 3 F)	Massachusetts	COM 1996
	FW-Lakes	1.7	°C		Standard; Secondary Upper Limit; Class GPA - lakes and ponds; (3 F)	Maine	USEPA 1988g
	EST/SW	2.2	°C		Standard; Upper value; Class SB; (4 F)	Maine	USEPA 1988g
	EST/SW	2.2	°C		Standard; Upper value; Class SC; (4 F)	Maine	USEPA 1988g
	FW	2.2	°C		Standard; Secondary Upper Limit; (4 F)	Delaware	USEPA 1988c
	FW	2.2	°C		Criterion; Maximum increase for receiving waters; Class A, B, B1, C; (4 F)	Rhode Island	RIDEM 1997

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Temperature (change; cont.)	EST/SW	2.8	°C		Standard; For Class SC; (or 5 F); Secondary recreation	Massachusetts	COM 1996
	FW	2.8	°C		Standard; Upper value; (5 F)	Delaware	USEPA 1988c
	FW	2.8	°C		Standard; Upper value; Class A; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; Upper value; Class B; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; Upper value; Class C; (5 F)	Maine	USEPA 1988g
	FW	2.8	°C		Standard; For Class B; Maximum in warm water fisheries; (or 5 F)	Massachusetts	COM 1996
	FW	2.8	°C		Standard; For Class C; (or 5 F)	Massachusetts	COM 1996
	FW-Lakes	2.8	°C		Standard; Upper value; Class GPA - lakes and ponds; (5 F)	Maine	USEPA 1988g
	FW-Lakes	Narrative			Standard; No measurable change from natural conditions; Lake Class	Washington	Washington State 1997
Tetrachlorophenols	FW	1	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
Total Dissolved Solids	FW	500	mg/L		Standard; Maximum; From all sources; For food processing	Alaska	ADEC 1998a
	GW	500	mg/L		Guidance Level	Oregon	ODEQ 1997
Toxaphene (total)	GW	5	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Trichloroethane, 1,1,1- (total)	GW	200	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Trichloroethylene (total)	GW	5	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Trichlorophenols	FW	2	µg/L	TTA	Criterion; Maximum	British Columbia	BCMOELP 1998
	FW	50	µg/L		Criterion	Florida	USEPA 1988a
Trihalomethanes (total, sum)	GW	100	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Tritium	GW	20000	pCi/L		Interim Standard; Maximum	Oregon	ODEQ 1997
	GW	20000	pCi/L		Standard; Possible present or anticipated use; Excluding radon and uranium	Virginia	COV 1997
Turbidity	GW	1	NTU		Interim Standard; Maximum	Oregon	ODEQ 1997
	FW	Narrative			Standard; May not cause detrimental effects on established water supply treatment levels	Alaska	ADEC 1998a
	SW	Narrative			Standard; May not cause detrimental effects on established levels of water	Alaska	ADEC 1998a
	SW	Narrative			Standard; May not interfere with disinfection; For seafood processing	Alaska	ADEC 1998a
	FW	5	NTU		Standard; Maximum increase above natural conditions when natural turbidity <= 50 NTU; For food processing	Alaska	ADEC 1998a
	FW	5	NTU		Criterion; Maximum increase over background when background <= 50 NTU; Outside the mixing zone	Idaho	IDH&W 1998

Appendix 2-10. A Summary of the Available Water Quality Criteria and Guidelines for the Protection of Industrial Uses.

Chemical Name	Water Type	Guideline	Units	Appr.	Application	Jurisdiction	Reference
Turbidity (change)	FW	5	NTU		Criterion; Maximum increase over background; Class A	Rhode Island	RIDEM 1997
	FW-Lakes	5	NTU		Standard; Maximum increase over background conditions; Lake Class	Washington	Washington State 1997
	FW/SW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW/SW	5	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class A (excellent)	Washington	Washington State 1997
	SW	5	NTU		Criterion; Maximum increase over background; Class SA	Rhode Island	RIDEM 1997
	FW	10	%		Criterion; Maximum increase over background when background > 50 NTU; Not to exceed 25 NTU; Outside the mixing zone	Idaho	IDH&W 1998
	FW	10	NTU		Criterion; Maximum increase over background; Class B, B1, and C	Rhode Island	RIDEM 1997
	FW	10	%		Standard; Maximum increase above natural conditions when natural turbidity > 50 NTU; For food processing	Alaska	ADEC 1998a
	FW/SW	10	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class AA (extraordinary)	Washington	Washington State 1997
	FW/SW	10	%		Standard; Maximum increase when background turbidity is >50; Class A (excellent)	Washington	Washington State 1997
	FW/SW	10	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class B (good)	Washington	Washington State 1997
	SW	10	NTU		Criterion; Maximum increase over background; Class SB, SB1, and SC	Rhode Island	RIDEM 1997
	SW	10	NTU		Standard; Maximum increase when background turbidity is <= 50 NTU; Class C (fair)	Washington	Washington State 1997
	FW/SW	20	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class B (good)	Washington	Washington State 1997
	SW	20	%		Standard; Maximum increase when background turbidity is > 50 NTU; Class C (fair)	Washington	Washington State 1997
	FW	25	NTU		Standard; Total maximum allowable increase; For food processing	Alaska	ADEC 1998a
Turbidity (induced)	FW	10	NTU		Criterion; When background <=50 NTU	British Columbia	BCMOELP 1998
	FW	20	%		Criterion; When background >50 NTU	British Columbia	BCMOELP 1998
Vinyl Chloride (total)	GW	2	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Vinylidene Chloride (total)	GW	7	µg/L		Interim Standard; Maximum	Oregon	ODEQ 1997
Zinc	GW	50	µg/L		Standard; Possible present or anticipated use	Virginia	COV 1997
Zinc (total)	FW	10	µg/L	TTA	Criterion; Boilers	British Columbia	Nagpal et al. 1995
	GW	5000	µg/L		Guidance Level	Oregon	ODEQ 1997

Appendix 3 - 1

A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Acenaphthene	FW	6.71	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	6.71	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	7	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	10	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	88.9	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	88.9	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	89	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	1300	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	1400	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	1400	µg/kg	EqPA	EPA Sediment Quality Criterion; @ 1% OC; Dry weight	United States	Hansen et al. 1991d
	FW	3500	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	4100	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	7300	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
	FW	7320	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW	16500	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	77000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	100000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Acenaphthylene	FW	5.87	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	5.87	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	6	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	10	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	128	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	128	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	128	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	150	µg/kg	SBA	Criterion	British Columbia	BCMOELP 1998
	FW	1900	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	2000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	2200	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	2600	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	6000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Acridine	FW	1000	µg/kg		Criterion	British Columbia	BCMOELP 1998
Aldicarb	FW	0.3	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Aldrin	FW/SW	0.6	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	2	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Aldrin (cont.)	FW	2	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	2	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	5.3	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	10	µg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985
	FW	33	µg/kg		Texas Water Quality Board Average Historical Concentrations	United States	TWQB 1977
	FW/SW	40	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	80	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	84	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
Aldrin + Dieldrin	FW	8	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Aluminum	FW	15900	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW	36540	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in reservoirs; Dry weight	Texas	TNRCC 1996
	FW	58000	mg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
Ammonia	FW	100	mg/kg		Criterion; MOE Dredged Material Classification; Open water disposal (as un-ionized ammonia)	Ontario	OMOE 1987
	FW	340	mg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	930	mg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Aniline	FW	0.662	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
	FW	0.662	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW	1.24	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Anthracene	FW	6.8	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	10	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	10	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	20	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	46.9	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	46.9	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	47	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	140	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	170	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	220	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Anthracene (cont.)	FW	245	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	245	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	245	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	600	µg/kg		Criterion	British Columbia	BCMOELP 1998
	FW	2000	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	2100	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	2800	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	3700	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	11000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	28000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	41000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Antimony	FW/SW	2	mg/kg	SQG	Sediment Quality Guideline; Low; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	2.9	mg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	3	mg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW/SW	3.2	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW/SW	25	mg/kg	SQG	Sediment Quality Guideline; High; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	35	mg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	64	mg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW/SW	70	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	500	mg/kg	SBA	USEPA Region VI Proposed Guideline for Sediment Disposal	United States	Pavlou & Weston 1983
Aroclor 1016	FW	7	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	7	µg/kg	SLCA	Criterion; Lowest Effect Level (10th percentile)	British Columbia	Nagpal et al. 1998
	FW	7.5	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	100	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	400	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	530	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	530	µg/kg	SLCA	Criterion; Severe Effect Level (90th percentile)	British Columbia	Nagpal et al. 1998
Aroclor 1242	FW	100	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	100	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Aroclor 1248	FW	21	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	21	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	30	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Aroclor 1248 (cont.)	FW	30	µg/kg	SLCA	Criterion; Lowest Effect Level (10th percentile)	British Columbia	Nagpal et al. 1998
	FW	35	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	50	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	600	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	1500	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	1500	µg/kg	SLCA	Criterion; Severe Effect Level (90th percentile)	British Columbia	Nagpal et al. 1998
Aroclor 1254	FW	7.3	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	7.3	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	58	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	60	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	60	µg/kg	SLCA	Criterion; Lowest Effect Level (10th percentile)	British Columbia	Nagpal et al. 1998
	FW/SW	60	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	195	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW	240	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW/SW	300	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	340	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	340	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	340	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	340	µg/kg	SLCA	Criterion; Severe Effect Level (90th percentile)	British Columbia	Nagpal et al. 1998
	FW	350	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	604	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	604	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
Aroclor 1260	FW	5	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	5	µg/kg	SLCA	Criterion; Lowest Effect Level (10th percentile)	British Columbia	Nagpal et al. 1998
	FW/SW	5	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	200	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	240	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	240	µg/kg	SLCA	Criterion; Severe Effect Level (90th percentile)	British Columbia	Nagpal et al. 1998
Arsenic	FW/SW	3.0	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	3	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Arsenic (cont.)	FW	3–8	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	4.25	mg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	5	mg/kg	SBA	USEPA Region VI Proposed Guideline for Sediment Disposal	United States	Pavlou & Weston 1983
	FW	5.9	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	5.9	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	6	mg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	6.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	6.9	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW/SW	7	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	8.0	mg/kg	SBA	Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	8	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	8.25	mg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	10	mg/kg	SBA	WDNR Criterion; Interim for In-water Disposal of Dredged Sediments	Wisconsin	Sullivan et al. 1985
	FW	11	mg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	13	mg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	15.7	mg/kg	SBA	Texas Water Commission Screening Levels	United States	Davis 1987
	FW	16.6	mg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	17.0	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	17.0	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW/SW	17	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	17.6	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in reservoirs; Dry weight	Texas	TNRCC 1996
	FW	19	mg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	19	mg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW/SW	20	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	33	mg/kg	SLCA	Guideline; Severe Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	33.0	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	35	mg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	40	mg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW/SW	40	mg/kg		Interim Sediment Quality Guidelines; Potential adverse effects on water quality	Oregon	ODEQ 1989b

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Arsenic (cont.)	FW	45	mg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	48	mg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	50	mg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	70	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	100	mg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	100	mg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
	FW	150	mg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Arsenic (total)	FW	5.9	mg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	6	mg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	17	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	33	mg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
Atrazine	FW	0.3	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Azinphos-ethyl	FW	0.2	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Azinphos-methyl	FW	0.01	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	0.062	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Barium	FW	20	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	20–60	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	>60	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	189	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW	287	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in reservoirs; Dry weight	Texas	TNRCC 1996
	FW	500	mg/kg	SBA	WDNR Criterion; Interim for In-water Disposal of Dredged Sediments	Wisconsin	Sullivan et al. 1985
Benzanthracene, 1,2-	FW	8.6	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	16	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	19	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Benzanthracene, 1,2- (cont.)	FW	31.7	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	31.7	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	32	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	50–100	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	200	µg/kg		Criterion	British Columbia	BCMOELP 1998
	FW	280	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	300	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	320	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	385	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	385	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	385	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	400	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	500	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	3000	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	5000	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	7700	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	13170	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW	14000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	14800	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	33000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	55000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Benzene	FW	8	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW/SW	57	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	340	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Benzidine	FW	0.03	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	0.03	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
Benzo(a)fluoranthene	FW	550	µg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	750	µg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	3500	µg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Benzo(a)pyrene	FW	9.6	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW/SW	10–100	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	31.9	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	31.9	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	32	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	32	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	60	µg/kg		Criterion	British Columbia	BCMOELP 1998
	FW	84	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	200	µg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	320	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	370	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	470	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	500	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	700	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	750	µg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	782	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	782	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	782	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	1000	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	3500	µg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
	FW	7000	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	9700	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	10630	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW	11000	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	14400	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	25000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	450000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Benzo(bk)fluoranthene	FW	27	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	37	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
Benzo(ghi)perylene	FW	10.4	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	13	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	16	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Benzo(ghi)perylene (cont.)	FW	100	µg/kg	SBA	Criterion; No Effect Threshold	British Columbia	Nagpal et al. 1998
	FW/SW	100	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	170	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	170	µg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1998
	FW	200	µg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	250	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	280	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	750	µg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	1200	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	1200	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	1400	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	3200	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	3200	µg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1998
	FW	3500	µg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
	FW	4900	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	21000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Benzo(k)fluoranthene	FW	2.6	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	240	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	240	µg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1998
	FW	550	µg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	750	µg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	3500	µg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
	FW	13400	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	13400	µg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1998
	FW	1250000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Benzofluoranthene	FW	300	µg/kg	SBA	Criterion; No Effect Threshold	British Columbia	Nagpal et al. 1995
Benzofluoranthene, 3,4-	FW	2.6	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Benzofluoranthenes	FW/SW	300	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Benzofluoranthenes (cont.)	FW	11000	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	16000	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	20000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	34000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Bifenthrin	FW	88	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Biphenyl	FW/SW	1100	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Bis(2-ethylhexyl) Phthalate	FW	19.95	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	640	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	750	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	1197	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
Bromoform	FW/SW	650	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Butyl Phthalate, N-	FW/SW	11000	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	500000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Butylbenzyl Phthalate	FW/SW	11000	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	55000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Cadmium	FW/SW	0.2	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	0.44	mg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	0.58	mg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	0.6	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	0.6	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	0.6	mg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	0.6	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	0.70	mg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	0.9	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	1.0	mg/kg		Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	1	mg/kg		Interim guideline; Potential adverse effects on water quality; Dry weight	Oregon	ODEQ 1989a
	FW	1.0	mg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Cadmium (cont.)	FW	1.02	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW	1.4	mg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW/SW	1.5	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	2	mg/kg	SBA	USEPA Region VI Proposed Guideline for Sediment Disposal	United States	Pavlou & Weston 1983
	FW	2	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in reservoirs; Dry weight	Texas	TNRCC 1996
	FW	2.5	mg/kg	SBA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	3	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	3	mg/kg	SBA	Texas Water Commission Screening Levels	United States	Davis 1987
	FW	3.2	mg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	3.5	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	3.5	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	3.9	mg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	6	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	7.5	mg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	7.5	mg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	7.6	mg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	7.75	mg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	8.0	mg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	9.3	mg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW/SW	9.6	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW/SW	9.6	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	10	mg/kg	SLCA	Guideline; Severe Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	12	mg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	30	mg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
Cadmium (total)	FW	0.60	mg/kg		Working Guideline; Interim Threshold Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	0.6	mg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	3.5	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	10	mg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
Captafol	FW	0.26	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Captan	FW	0.36	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Carbazole	FW	140	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	140	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	1600	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	1800	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Carbendazim	FW	0.106	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Carbofuran	FW	2	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	18.2	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Carbon Tetrachloride	FW	44	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW/SW	1200	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Chemical Oxygen Demand	FW	40000	mg/kg	SBA	Light Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	40000	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	40000–80000	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	50000	mg/kg	SBA	Federal Water Quality Administration Criterion for Dredged Material; Maximum Acceptable Concentration	United States	Pavlou & Weston 1983
	FW	80000	mg/kg	SBA	Moderate Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	>80000	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	120000	mg/kg	SBA	Heavy Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
Chlordane	FW	0.3	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	0.98	µg/kg	SLCA	National Screening Level Criterion; @ 1% OC; Dry weight	United States	Neff et al. 1986
	FW/SW	1	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	4.50	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	4.50	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	5	µg/kg	SLCA	Guideline; No Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	5	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	7	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	7	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	7.5	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	8.87	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	8.87	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Chlordane (cont.)	FW	10	µg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985
	FW	14	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	30	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	43	µg/kg		Texas Water Quality Board Average Historical Concentrations	United States	TWQB 1977
	FW	60	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
Chlordane (total)	FW	5	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	9	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
Chloroaniline, m-	FW	7	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Chlorobenzene	FW/SW	35	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	346	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	820	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Chloroform	FW	0.4	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Chloronitrobenzene, m-	FW	20	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Chloronitrobenzene, p-	FW	24	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Chlorophenols	FW	10	µg/kg		Provisional Objective; Maximum for Fraser River; Dry weight	British Columbia	Swain and Holms 1985
Chlorpyrifos	FW	32.2	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW	53	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	107	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Chromium	FW	6.25	mg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	20	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW/SW	20–300	mg/kg		Interim Sediment Quality Guidelines; Potential adverse effects on water quality	Oregon	ODEQ 1989b
	FW	25	mg/kg	SBA	Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	25	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Chromium (cont.)	FW	25–75	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	26	mg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	26.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	34	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in reservoirs; Dry weight	Texas	TNRCC 1996
	FW	36	mg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	37.3	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	37.3	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	39	mg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	55	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	55	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	72.1	mg/kg	SBA	Texas Water Commission Screening Levels	United States	Davis 1987
	FW	>75	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW/SW	80	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	90.0	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	90.0	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	95	mg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	96.6	mg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	100	mg/kg	SSBA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	100	mg/kg	SBA	WDNR Criterion; Interim for In-water Disposal of Dredged Sediments	Wisconsin	Sullivan et al. 1985
	FW/SW	100	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	100	mg/kg	SBA	USEPA Region VI Proposed Guideline for Sediment Disposal	United States	Pavlou & Weston 1983
	FW	110	mg/kg	SLCA	Guideline; Severe Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	110.0	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	115	mg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	120	mg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test	United States	Ingersoll et al. 1996
	FW	155	mg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	270	mg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	370	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	600	mg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Chromium (total)	FW	26	mg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	37	mg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	90	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	110	mg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	110	mg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
	FW	280	mg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Chrysene	FW	8.6	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	27	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	30	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	57	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	57.1	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	57.1	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	100	µg/kg	SBA	Criterion; No Effect Threshold	British Columbia	Nagpal et al. 1995
	FW/SW	100	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	340	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	340	µg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	410	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	500	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	600	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	800	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	862	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	862	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	862	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	3000	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	4600	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	4600	µg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
	FW	7400	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	11000	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	19000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	39000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	115000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Cobalt	FW	50	mg/kg	SBA	Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
Copper	FW	8.4	mg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Copper (cont.)	FW	16	mg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	16.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	19.2	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW	25	mg/kg		Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	25	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	25–50	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	28	mg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	28	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	28	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	33	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in reservoirs; Dry weight	Texas	TNRCC 1996
	FW	34	mg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	35	mg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	35.7	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	35.7	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	40	mg/kg	SBA	Texas Water Commission Screening Levels	United States	Davis 1987
	FW	41	mg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	50	mg/kg		Interim guideline; Potential adverse effects on water quality; Dry weight	Oregon	ODEQ 1989a
	FW	50	mg/kg	SBA	USEPA Region VI Proposed Guideline for Sediment Disposal	United States	Pavlou & Weston 1983
	FW	>50	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW/SW	65	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	85	mg/kg	SSBA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	86	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	90	mg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	100	mg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	100	mg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985
	FW	110	mg/kg	SLCA	Guideline; Severe Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	110.0	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Copper (cont.)	FW	190	mg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	197	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	197	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW/SW	270	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	340	mg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	400	mg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
	FW	580	mg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	840	mg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Copper (total)	FW	16	mg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	36	mg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	110	mg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
	FW	197	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
Coumaphos	FW	0.26	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Cyanide	FW	0.1	mg/kg	SBA	Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	0.1	mg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	0.1	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	0.10–0.25	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	>0.25	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
Cypermethrin	FW	30	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
D, 2,4-	FW	0.038	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
DDD	FW	4	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	8	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	8	µg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	8	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	9	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	60	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	60	µg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
DDDs (sum)	FW/SW	2	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	3.54	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	3.54	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	8	µg/kg		Texas Water Quality Board Average Historical Concentrations	United States	TWQB 1977
	FW	8.51	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	8.51	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW/SW	10	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	60	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	3250	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
DDE	FW	1	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	2	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	5	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	5	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	7	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	7	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	50	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	190	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
DDEs (sum)	FW	1.42	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	1.42	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	5	µg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	5	µg/kg		Texas Water Quality Board Average Historical Concentrations	United States	TWQB 1977
	FW	6.75	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	6.75	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	190	µg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
	FW	7000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
DDT	FW	6	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	8.28	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW/SW	10	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	11000	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
DDTs (sum)	FW	1.19	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	1.19	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	1.9	µg/kg	SLCA	National Screening Level Criterion; @ 1% OC; Dry weight	United States	Neff et al. 1986

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
DDTs (sum) (cont.)	FW	4.77	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	4.77	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	8	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	8	µg/kg	SLCA	Criterion; Lowest Effect Level; Based on Screening Level Concentration; @ 1% OC	British Columbia	Nagpal et al. 1995
	FW	10	µg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985
	FW	200	µg/kg		Interim guideline; Includes DDD and DDE	Oregon	ODEQ 1989a
	FW	710	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	710	µg/kg	SLCA	Criterion; Severe Effect Level; Based on Screening Level Concentration; @ 1% OC	British Columbia	Nagpal et al. 1995
	FW	Narrative			The concentration of DDT in sediments must not increase significantly with time	Europe	CEC 1988
DDTs (total)	FW	1.5	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	5	µg/kg	EqPA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	6	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	7	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	7	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	7	µg/kg	SLCA	Criterion; Lowest Effect Level; Based on Screening Level Concentration; @ 1% OC	British Columbia	Nagpal et al. 1995
	FW/SW	9	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	10	µg/kg		Texas Water Quality Board Average Historical Concentrations	United States	TWQB 1977
	FW/SW	50	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	120	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	120	µg/kg	SLCA	Criterion; Severe Effect Level; Based on Screening Level Concentration; @ 1% OC	British Columbia	Nagpal et al. 1995
	FW	4450	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
Deltamethrin	FW	24	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Demeton	FW	0.048	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Diazinon	FW	0.07	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	0.19	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	0.38	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Dibenzanthracene, 1,2:5,6-	FW	5	µg/kg	SBA	Criterion; No Effect Threshold	British Columbia	Nagpal et al. 1995
	FW/SW	5	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	6	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	6.22	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	6.22	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	10.6	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	60	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	60	µg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	135	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	135	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	135	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	230	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	230	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	1300	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	1300	µg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
	FW	2200	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	3500	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Dibenzanthracene, 1,2:5,6- (total)	FW	10	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test	United States	Ingersoll et al. 1996
	FW	10	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
Dibenzofuran	FW/SW	2000	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	2400	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	32000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Dichlorobenzene, m-	FW/SW	1700	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Dichlorobenzene, o-	FW/SW	340	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Dichlorobenzene, p-	FW/SW	350	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Dichlorobenzenes	FW	32	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW/SW	120	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	340	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	700	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	1200	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Dichlorobenzidine, 3,3'-	FW	0.28	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Dichlorophenols	FW	0.8	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Dichloropropene, 1,3-	FW	0.6	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Dichlorvos	FW	0.0002	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Dieldrin	FW/SW	0.1–0.8	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	0.21	µg/kg	SLCA	National Screening Level Criterion; @ 1% OC; Dry weight	United States	Neff et al. 1986
	FW	0.6	µg/kg	SLCA	Guideline; No Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	1.3	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW	2	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	2	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	2.85	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	2.85	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	3	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	4	µg/kg		Texas Water Quality Board Average Historical Concentrations	United States	TWQB 1977
	FW	6.67	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	6.67	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	7	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	10	µg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985
	FW	19	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	90	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	90	µg/kg	EqPA	EPA Sediment Quality Criterion; @ 1% OC; Dry weight	United States	Hansen et al. 1991b
	FW/SW	110	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	199	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW/SW	300	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	910	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
Diethyl Phthalate	FW	320	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	490	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	630	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Di-n-butyl phthalate	FW	42	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	43	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Dinitrocresol	FW	0.184	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Dinoseb	FW	0.014	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Disulfoton	FW	0.052	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Endosulfan	FW	0.3	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	0.3	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
	FW	7.8	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Endosulfan (total)	FW/SW	5.4	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Endosulfan-alpha	FW/SW	2.9	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Endosulfan-alpha + Endosulfan-alpha Sulphate	FW	2	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Endosulfan-beta	FW/SW	14	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Endrin	FW	0.5	µg/kg	SLCA	Guideline; No Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	0.532	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW/SW	1	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	2.67	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	2.67	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	3	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	3	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	3	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	8	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	10.4	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
	FW	10.4	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW	40	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	40	µg/kg	EqPA	EPA Sediment Quality Criterion; @ 1% OC; Dry weight	United States	Hansen et al. 1991a
	FW/SW	42	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	50	µg/kg	SBA	WDNR Criterion; Interim for In-water Disposal of Dredged Sediments	Wisconsin	Sullivan et al. 1985
	FW	62	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	62.4	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	62.4	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW/SW	500	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Endrin (cont.)	FW	1300	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
Ethyl Parathion	FW	0.8	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Ethylbenzene	FW	96	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	1400	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	4800	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Ethylene Dichloride	FW	18	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Fenitrothion	FW	0.74	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Fenthion	FW	22	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Fluoranthene	FW/SW	20–200	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	31	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	33	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	46	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	111	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	111	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	111	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	180	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	320	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	600	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	750	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	1200	µg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	2000	µg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	2000	µg/kg		Criterion	British Columbia	BCMOELP 1998
	FW/SW	2000	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	2355	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	2355	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	2355	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	3500	µg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
	FW/SW	6200	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Fluoranthene (cont.)	FW	10000	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	10200	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	10200	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	10200	µg/kg	EqPA	EPA Sediment Quality Criterion; @ 1% OC; Dry weight	United States	Hansen et al. 1991e
	FW	11000	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	18830	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW	21000	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	75000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	130000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Fluorine	FW	10	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	10	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	10	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	21	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	21.2	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	21.2	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	140	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	144	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	144	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	144	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	150	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	190	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	200	µg/kg		Criterion	British Columbia	BCMOELP 1998
	FW/SW	540	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	1600	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	3000	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	3600	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	4200	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	7000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	73000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	96000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Heptachlor	FW	0.3	µg/kg	SLCA	Guideline; No Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	0.3	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	0.3	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	1.1	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW	2	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	5	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Heptachlor (cont.)	FW	9	µg/kg		Texas Water Quality Board Average Historical Concentrations	United States	TWQB 1977
	FW/SW	10	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	50	µg/kg	SBA	WDNR Criterion; Interim for In-water Disposal of Dredged Sediments	Wisconsin	Sullivan et al. 1985
	FW/SW	Narrative			Interim Sediment Quality Guidelines; Numerical value should be calculated from the USEPA Interim Sediment Criteria for Nonpolar Hydrophobic Organic Contaminants	Oregon	ODEQ 1989b
Heptachlor + Heptachlor Epoxide	FW	0.3	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
	FW	1	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	131	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Heptachlor Epoxide	FW	0.08	µg/kg	SLCA	National Screening Level Criterion; @ 1% OC; Dry weight	United States	Neff et al. 1986
	FW	0.5	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	0.60	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	0.60	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW/SW	1	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	2.74	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	2.74	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	3	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	4.5	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	5	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	5	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	30	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	50	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	260	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	260	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Hexachlorobenzene	FW	0.07	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW/SW	1	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	10	µg/kg	SLCA	Guideline; No Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	10	µg/kg	EqPA	Criterion; No Effect Level	British Columbia	Nagpal et al. 1998
	FW	20	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	20	µg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1998
	FW	20	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	30	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Hexachlorobenzene (cont.)	FW/SW	100	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	240	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	240	µg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1998
	FW	55700	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	75680	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
	FW	90810	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Hexachlorobiphenyl	FW	70	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Hexachlorobutadiene	FW	4	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	54	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
	FW	55	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	320	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	550	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Hexachlorocyclohexane (all isomers)	FW	0.6	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	3	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	120	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	126	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Hexachlorocyclohexane-Alpha	FW/SW	0.3	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	6	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	6	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	10	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	80	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight;	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	100	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
Hexachlorocyclohexane-Beta	FW/SW	0.2	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	5	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	5	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	30	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	200	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	210	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
Hexachlorocyclohexane-Delta	FW	3	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	130	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Hexachlorocyclohexane-Technical	FW/SW	3.7	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Hexachlorocyclopentadiene	FW	44	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	44	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
	FW	440	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Hexachloroethane	FW	1.4	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW/SW	1000	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	3600	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Indeno(1,2,3-cd)pyrene	FW	10.4	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	17	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	30	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	70	µg/kg	SBA	Criterion; No Effect Threshold	British Columbia	Nagpal et al. 1998
	FW/SW	70	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	200	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	200	µg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	200	µg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1998
	FW	240	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	250	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	730	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	750	µg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	760	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	770	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	3200	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	3200	µg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1998
	FW	3500	µg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
	FW	4100	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	15000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	6000000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Iron	FW/SW	20000	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW/SW	40000	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	8000	mg/kg	SBA	Light Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Iron (cont.)	FW	10000	mg/kg		Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	10500	mg/kg	SBA	Moderate Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	13000	mg/kg	SBA	Heavy Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	17000	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	17000–25000	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	190000	mg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	200000	mg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	250000	mg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	>25000	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbor Classification; Dry weight	United States	USEPA 1977
	FW	280000	mg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	290000	mg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	20000	mg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	40000	mg/kg	SLCA	Guideline; Severe Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	59000	mg/kg	SBA	Sediment Quality Guideline	Canada	Hart et al. 1988
Iron (total)	FW	21200	mg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	43766	mg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
Isodecyldiphenyl Phosphate	FW	4270	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	55260	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Isophorone	FW	2400	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Lead	FW/SW	23	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	31	mg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	31.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	31.8	mg/kg	SBA	Texas Water Commission Screening Levels	United States	Davis 1987
	FW	33	mg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	35.0	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	35.0	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	37	mg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	40	mg/kg	SBA	Light Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	40	mg/kg		Interim guideline; Potential adverse effects on water quality; Dry weight	Oregon	ODEQ 1989a

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Lead (cont.)	FW	40	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	40	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW	40–60	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW/SW	42	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	50	mg/kg	SBA	Moderate Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	50	mg/kg		Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	50	mg/kg	SBA	Federal Water Quality Administration Criterion for Dredged Material; Maximum Acceptable Concentration	United States	Pavlou & Weston 1983
	FW	50	mg/kg	SBA	USEPA Region VI Proposed Guideline for Sediment Disposal	United States	Pavlou & Weston 1983
	FW	50	mg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985
	FW	55	mg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	55	mg/kg	SBA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	60	mg/kg	SBA	Heavy Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	>60	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	61.5	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in reservoirs; Dry weight	Texas	TNRCC 1996
	FW	70	mg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW/SW	75	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	82	mg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	91.3	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	91.3	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	99	mg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	106.6	mg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	130	mg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	160	mg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW/SW	170	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	218	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW/SW	218	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	240	mg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Lead (cont.)	FW	250	mg/kg	SLCA	Guideline; Severe Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	260	mg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	490	mg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	700	mg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
	FW	720	mg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Lead (total)	FW	31	mg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	35	mg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	91	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	250	mg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
Lindane	FW	0.2	µg/kg	SLCA	Guideline; No Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	0.9	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	0.9	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	0.94	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	0.94	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	1	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	1.38	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	1.38	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	1.57	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW	3	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	3	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	3	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	3.7	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW/SW	9	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	10	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	50	µg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985
Linear Alkyl Benzene Sulfonates	FW	3730	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
Linuron	FW	2.6	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Malathion	FW	0.1	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW/SW	0.2	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	0.67	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Maneb	FW	0.064	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Manganese	FW	300	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	300–500	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	460	mg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	460.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	490	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW	>500	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	630	mg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	730	mg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	1100	mg/kg	SLCA	Guideline; Severe Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	1100.0	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	1200	mg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	1200	mg/kg	SBA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	1210	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in reservoirs; Dry weight	Texas	TNRCC 1996
	FW	1400	mg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	1700	mg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	1800	mg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Manganese (total)	FW	460	mg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	1100	mg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
MCPA	FW	0.0006	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Mecoprop	FW	0.008	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Mercury	FW	0.1	mg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985
	FW	0.115	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW	0.12	mg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	0.15	mg/kg		Interim guideline; Potential adverse effects on water quality; Dry weight	Oregon	ODEQ 1989a

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Mercury (cont.)	FW/SW	0.15	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW/SW	0.15	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	0.16	mg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	0.16	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in reservoirs; Dry weight	Texas	TNRCC 1996
	FW	0.17	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	0.17	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	0.2	mg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	0.3	mg/kg		Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	0.486	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	0.486	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	0.5	mg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	0.56	mg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	0.6	mg/kg	SBA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	0.71	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	0.8	mg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	1	mg/kg	SBA	Federal Water Quality Administration Criterion for Dredged Material; Maximum Acceptable Concentration	United States	Pavlou & Weston 1983
	FW	1	mg/kg	SBA	USEPA Region VI Proposed Guideline for Sediment Disposal	United States	Pavlou & Weston 1983
	FW/SW	1	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	>1	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	1.6	mg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	1.6	mg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	2	mg/kg	SLCA	Guideline; Severe Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	2.7	mg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	15	mg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
Mercury (total)	FW/SW	0.05	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	0.174	mg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	0.2	mg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW/SW	0.2	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Mercury (total) (cont.)	FW	0.486	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	1	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	2	mg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
Metham Sodium	FW	0.00022	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Methoxychlor	FW/SW	6	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	19	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Methyl Parathion	FW	7.2	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Methylene Chloride	FW	500	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Methylnaphthalene, 2-	FW	20	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	20	µg/kg	SBA	Criterion; No Effect Threshold	British Columbia	Nagpal et al. 1995
	FW/SW	20	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	20.2	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	20.2	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	201	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	201	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	201	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
Mevinphos	FW	0.0004	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Mineral Oil	FW	500	mg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	3000	mg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	5000	mg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
Mirex	FW/SW	0.1	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	7	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	7	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW/SW	7	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	7	µg/kg	SLCA	Criterion; Lowest effect level	British Columbia	Nagpal et al. 1995

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Mirex (cont.)	FW/SW	11	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	800	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	1300	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW/SW	1300	µg/kg	SLCA	Criterion; Severe effect level	British Columbia	Nagpal et al. 1995
Monochlorophenols	FW	14	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Naphthalene	FW	10	µg/kg		Criterion	British Columbia	BCMOELP 1998
	FW	13	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	15	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	20	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	34.6	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	34.6	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	35	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	98	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	140	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	391	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	391	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	391	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	400	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	470	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW/SW	600	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	1400	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	10500	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	37000	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	46000	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	47000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	140000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Nickel	FW	5	mg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	8	mg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	16	mg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	16.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	18	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW	20	mg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Nickel (cont.)	FW	20	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	20–50	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW/SW	21	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	23	mg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	24	mg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	25	mg/kg	SBA	Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	25.2	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in reservoirs; Dry weight	Texas	TNRCC 1996
	FW	33	mg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	35	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	35	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	39	mg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	40	mg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	43	mg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	45	mg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	45	mg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	46	mg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	50	mg/kg	SBA	USEPA Region VI Proposed Guideline for Sediment Disposal	United States	Pavlou & Weston 1983
	FW	>50	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW/SW	51.6	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW/SW	52	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW/SW	61	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	63	mg/kg	SBA	Texas Water Commission Screening Levels	United States	Davis 1987
	FW	75	mg/kg	SLCA	Guideline; Severe Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	100	mg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
	FW	100	mg/kg	SBA	WDNR Criterion; Interim for In-water Disposal of Dredged Sediments	Wisconsin	Sullivan et al. 1985
Nickel (total)	FW	16	mg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	75	mg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Nitrilotriacetic Acid (dissolved)	FW	0.0124	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Nitrobenzene	FW	1650	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Nitrogen (total Kjeldahl)	FW	550	mg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	1000	mg/kg	SBA	Federal Water Quality Administration Criterion for Dredged Material; Maximum Acceptable Concentration	United States	Pavlou & Weston 1983
	FW	1000	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	1000–2000	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	2000	mg/kg		Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	>2000	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	4800	mg/kg	SLCA	Guideline; Severe Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
Oil and grease	FW	1	mg/kg	SBA	Light Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	1.5	mg/kg	SBA	Moderate Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	1.5	mg/kg	SBA	Federal Water Quality Administration Criterion for Dredged Material; Maximum Acceptable Concentration	United States	Pavlou & Weston 1983
	FW	2	mg/kg	SBA	Heavy Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	1000	mg/kg	SBA	WDNR Criterion; Interim for In-water Disposal of Dredged Sediments	Wisconsin	Sullivan et al. 1985
	FW	1500	mg/kg	SBA	Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	1000	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	1000–2000	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	>2000	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
Oxamyl	FW	0.4	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
PAHs (total)	FW	200	µg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	240	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
PAHs (total) (cont.)	FW	260	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	750	µg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	2200	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	3400	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	3500	µg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
	FW	4000	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	4000	µg/kg	WEA	Criterion; Effect Range Low	British Columbia	Nagpal et al. 1998
	FW	22000	µg/kg	AETA	Criterion; Apparent Effect Threshold	British Columbia	Nagpal et al. 1998
	FW	60000	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	62000	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	100000	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	100000	µg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1998
	FW	170000	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	400000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	700000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
PAHs, High Molecular Weight (total)	FW	170	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	190	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	1000	µg/kg	SBA	Criterion; No Effect Threshold	British Columbia	Nagpal et al. 1998
	FW/SW	1000	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	1700	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	2300	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	33000	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	36000	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	91000	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	170000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	310000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
PAHs, Low Molecular Weight (total)	FW	76	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	80	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	100	µg/kg	SBA	Criterion; No Effect Threshold	British Columbia	Nagpal et al. 1998
	FW/SW	100	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	650	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	1200	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	27000	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	29000	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
PAHs, Low Molecular Weight (total; cont.)	FW	65000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	74000	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	330000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	440000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Parathion	FW	0.81	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
	FW	0.81	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
Parathion + Methyl Parathion	FW	0.03	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	0.2	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
PCB 28	FW	1.0	µg/kg	TRA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	4	µg/kg	SBA	Recommended target for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	30	µg/kg	SBA	Recommended directive for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	100	µg/kg	SBA	Recommended limit for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
PCB 52	FW	0.4	µg/kg	TRA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	4	µg/kg	SBA	Recommended target for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	30	µg/kg	SBA	Recommended directive for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	100	µg/kg	SBA	Recommended limit for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
PCB 101	FW	0.8	µg/kg	TRA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	4	µg/kg	SBA	Recommended target for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	30	µg/kg	SBA	Recommended directive for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	100	µg/kg	SBA	Recommended limit for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
PCB 118	FW	0.8	µg/kg	TRA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
PCB 138	FW	1.0	µg/kg	TRA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
PCB 138 (cont.)	FW	4	µg/kg	SBA	Recommended target for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	30	µg/kg	SBA	Recommended directive for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	100	µg/kg	SBA	Recommended limit for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
PCB 153	FW	1.0	µg/kg	TRA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	4	µg/kg	SBA	Recommended target for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	30	µg/kg	SBA	Recommended directive for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	100	µg/kg	SBA	Recommended limit for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
PCB 180	FW	1.2	µg/kg	TRA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	4	µg/kg	SBA	Recommended target for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	30	µg/kg	SBA	Recommended directive for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	100	µg/kg	SBA	Recommended limit for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
PCBs	FW	30	µg/kg		Provisional Objective; Maximum; Dry weight	British Columbia	Swain and Holms 1985
	FW	193	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	27608	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
PCBs (total)	FW	2.9	µg/kg	SLCA	National Screening Level Criterion; @ 1% OC; Dry weight	United States	Neff et al. 1986
	FW	10	µg/kg	SLCA	Guideline; No Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	20	µg/kg	SBA	Recommended target for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW/SW	20	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	20	µg/kg	EqPA	Criterion; No Effect Level; dry weight	British Columbia	BCMOELP 1998
	FW	21	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	21	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	32	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	34	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
PCBs (total)	FW	34.1	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	34.1	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	37	µg/kg		Texas Water Quality Board Average Historical Concentrations	United States	TWQB 1977
	FW	50	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	50	µg/kg	SBA	WDNR Criterion; Interim for In-water Disposal of Dredged Sediments	Wisconsin	Sullivan et al. 1985
	FW	50	µg/kg		Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	70	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	70	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	100	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	150	µg/kg	SBA	Recommended directive for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	190	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	200	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	240	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	272	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	277	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	277	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	400	µg/kg	SBA	Recommended limit for classification of FW and dredged sediments	Netherlands	NIPHEP 1989
	FW	450	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	500	µg/kg		Interim guideline; Potential adverse effects on water quality; Dry weight	Oregon	ODEQ 1989a
	FW	730	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	820	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	5300	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	>10000	µg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	40000	µg/kg	SLCA	Sediment Quality Guideline	Canada	Hart et al. 1988
Pentachlorobenzene	FW	54	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW/SW	690	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Pentachlorophenol	FW	40	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Pentachlorophenol (cont.)	FW	Narrative			The concentration of PCP in sediments must not increase significantly with time	Europe	CEC 1988
Pentachlorophenol, 2,3,4,5,6-	FW	400	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	1000	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Permethrin	FW	44	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Phenanthrene	FW	6.8	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	19	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	27	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	30–70	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	40	µg/kg		Criterion	British Columbia	BCMOELP 1998
	FW	41.9	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	41.9	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	42	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	350	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	400	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	410	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	515	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	515	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	515	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	560	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW/SW	800	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	1200	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	1200	µg/kg	EqPA	EPA Sediment Quality Criterion; @ 1% OC; Dry weight	United States	Hansen et al. 1991c
	FW	1390	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW/SW	1800	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	5700	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	9500	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	14000	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	15000	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	20000	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	110000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	210000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Phenol	FW	1.06	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Phenol (cont.)	FW	48	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	48	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	260	µg/kg	SBA	Light Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	260	µg/kg	SBA	Federal Water Quality Administration Criterion for Dredged Material; Maximum Acceptable Concentration	United States	Pavlou & Weston 1983
	FW	430	µg/kg	SBA	Moderate Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	600	µg/kg	SBA	Heavy Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
Phenols (total chlorinated)	FW	6	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
Phenols (total unchlorinated)	FW	5	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
Phosphorus (total)	FW	100	mg/kg	SBA	Light Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	200	mg/kg	SBA	Moderate Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	300	mg/kg	SBA	Heavy Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	420	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	420–650	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	600	mg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	>650	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	1000	mg/kg	SBA	Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW	2000	mg/kg	SLCA	Guideline; Severe Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
Phoxim	FW	0.06	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Propachlor	FW	0.03	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Pyrazophos	FW	0.0148	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Pyrene	FW	7.6	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW/SW	20–100	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	40	µg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	44	µg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	53.0	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	53.0	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Pyrene (cont.)	FW	53	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	350	µg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	490	µg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	490	µg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	490	µg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW/SW	700	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	875	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	875	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	875	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	1000	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	8500	µg/kg	SLCA	Guideline; Severe Effect Level; Dry weight; @ 1% OC	Ontario	Persaud and Jaagumagi 1993
	FW	8500	µg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
	FW	9000	µg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	9600	µg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	13110	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW	23000	µg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	46000	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	49500	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	85000	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Selenium	FW	0.95	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW	1.0	mg/kg	SBA	WDNR Criterion; Interim for In-water Disposal of Dredged Sediments	Wisconsin	Sullivan et al. 1985
	FW	1.73	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in reservoirs; Dry weight	Texas	TNRCC 1996
Selenium (total)	FW	5	mg/kg		Criterion; dry weight	British Columbia	Nagpal et al. 1995
Silver	FW	0.5	mg/kg	SBA	Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW/SW	1.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW/SW	1	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	1.6	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW	1.6	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in reservoirs; Dry weight	Texas	TNRCC 1996

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Silver (cont.)	FW/SW	3.7	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW/SW	3.7	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	3.9	mg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	4.5	mg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Silver (total)	FW	0.5	mg/kg		Ontario Sediment Quality Guideline	British Columbia	Nagpal et al. 1998
Simazine	FW	0.34	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Sulphide (total)	FW	120	mg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	130	mg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	780	mg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	920	mg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
T4CDD, 2,3,7,8-	FW	0.001	µg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985
	FW	0.001	µg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985
	FW	0.0072	µg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	0.0088	µg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	0.01	µg/kg	SQO	International Joint Commission Sediment Quality Objective	Canada	Boddington et al. 1990
	FW	0.06	µg/kg	SQG	Interim Assessment Concentration; Low risk; For fish; Dry weight	United States	Cook et al. 1993
	FW	0.1	µg/kg	SQG	Interim Assessment Concentration; High risk; sensitive species; For fish; Dry weight	United States	Cook et al. 1993
	FW	100	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
Tetrachlorobenzenes	FW	46	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Tetrachloroethane	FW	2.2	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW/SW	1600	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Tetrachloroethylene	FW	450	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	530	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Thiram	FW	0.0074	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Toluene	FW/SW	890	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	2500	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985

Appendix 3-1. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Freshwater Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Total Organic Carbon	FW	1	%	SLCA	Guideline; Lowest Effect Level; Dry weight; (%)	Ontario	Persaud and Jaagumagi 1993
	FW	7.1	%	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	10	%	SLCA	Guideline; Severe Effect Level; Dry weight; (%)	Ontario	Persaud and Jaagumagi 1993
	FW	14	%	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	14	%	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	25	%	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Toxaphene	FW	0.1	µg/kg	EqPA	New York State Sediment Criterion Value; @ 1% OC	New York State	Newell 1989
	FW/SW	0.1	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	1.5	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	1.5	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	5	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	32	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	50	µg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985
	FW/SW	100	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Triazophos	FW	0.048	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Tributyltin Compounds	FW	0.26	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Trichlorfon	FW	0.00007	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Trichlorobenzene, 1,2,4-	FW/SW	9200	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Trichlorobenzenes	FW	40	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW/SW	910	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	9100	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Trichloroethane, 1,1,1-	FW/SW	170	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW	6800	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Trichloroethylene	FW	0.1	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	1600	µg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	2100	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Trichlorophenols	FW	340	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Trifluralin	FW	24	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Triphenyl Phosphate	FW	1560	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW	15560	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Triphenyltin Compounds	FW	0.158	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
Xylene, m-	FW/SW	25	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Xylene, o-	FW/SW	25	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Xylene, p-	FW/SW	25	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Xylenes	FW/SW	25	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Zinc	FW	50	mg/kg	SBA	Federal Water Quality Administration Criterion for Dredged Material; Maximum Acceptable Concentration	United States	Pavlou & Weston 1983
	FW	75	mg/kg	SBA	USEPA Region VI Proposed Guideline for Sediment Disposal	United States	Pavlou & Weston 1983
	FW	90	mg/kg	SBA	Light Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW	90	mg/kg	SQG	Non-polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	90–200	mg/kg	SQG	Moderately Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	93	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in streams; Dry weight	Texas	TNRCC 1996
	FW	95.4	mg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989
	FW	98	mg/kg	ELA	Threshold Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	100	mg/kg	SBA	Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	FW/SW	100	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	100	mg/kg		Interim criteria; For In-water disposal of dredged sediments; Dry weight	Wisconsin	Sullivan et al. 1985
	FW	110	mg/kg	ERA	Effect Range Low for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	120	mg/kg	SLCA	Guideline; Lowest Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	120	mg/kg	SBA	Texas Water Commission Screening Levels	United States	Davis 1987
	FW	120	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in	Texas	TNRCC 1996
	FW/SW	120.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW	123	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Zinc (cont.)	FW	123	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW	143	mg/kg	SBA	Sediment Quality Guideline	Canada	Hart et al. 1988
	FW	145	mg/kg	SBA	Moderate Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW/SW	150	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	190	mg/kg	EqPA	Chronic EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW	200	mg/kg	SBA	Heavy Pollution; 1968 FWPCA Chicago Guideline	Chicago, Illinois	Pavlou & Weston 1983
	FW/SW	200	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	>200	mg/kg	SQG	Heavily Polluted; USEPA Region 5 Harbour Classification; Dry weight	United States	USEPA 1977
	FW	250	mg/kg		Interim guideline; Potential adverse effects on water quality; Dry weight	Oregon	ODEQ 1989a
	FW	300	mg/kg		Recommended Target for classification (see reference) of freshwater and dredged sediments; Not polluted	Netherlands	NIPHEP 1989
	FW	315	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW	315	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW/SW	410	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW/SW	410	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW	500	mg/kg	PAETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	520	mg/kg	AETA	Sediment Quality Value; Microtox; Dry weight	Washington	Cubbage et al. 1997
	FW	540	mg/kg	ELA	Probable Effect Level for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW/SW	540	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW	550	mg/kg	ERA	Effect Range Median for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	820	mg/kg	SLCA	Guideline; Severe Effect Level; Dry weight	Ontario	Persaud and Jaagumagi 1993
	FW	1000	mg/kg	PAETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
	FW	1000	mg/kg		Recommended Directive for classification (see reference) of freshwater and dredged sediments; Slightly polluted	Netherlands	NIPHEP 1989
	FW	1300	mg/kg	AETA	No Effect Concentration for Hyalella azteca 28-d test; Dry weight	United States	Ingersoll et al. 1996
	FW	2500	mg/kg		Recommended Limit for classification (see reference) of freshwater and dredged sediments; Polluted	Netherlands	NIPHEP 1989
	FW	3200	mg/kg	AETA	Sediment Quality Value; Hyalella; Dry weight	Washington	Cubbage et al. 1997
Zinc (total)	FW	120	mg/kg	SLCA	Criterion; Lowest Effect Level	British Columbia	Nagpal et al. 1995
	FW	123	mg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW	315	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW	820	mg/kg	SLCA	Criterion; Severe Effect Level	British Columbia	Nagpal et al. 1995
Zineb	FW	0.0036	µg/kg	EqPA	Ecotoxicological value; Dry weight; @ 1% OC	Netherlands	Stortelder et al. 1989

Appendix 3 - 2

A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Acenaphthene	EST/SW	6.71	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	6.71	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	6.71	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	7	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	10	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	16	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	16	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	16	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	16	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	50	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	56	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	56	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	EST/SW	63	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	EST/SW	88.9	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	88.9	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	88.9	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	89	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	150	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	150	µg/kg		Criterion	British Columbia	BCMOELP 1998
	SW	160	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	EST/SW	500	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	SW	500	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	500	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	500	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	570	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	630	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	650	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	730	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	FW/SW	1300	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	SW	2000	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2400	µg/kg	EqPA	EPA Sediment Quality Criterion; @ 1% OC; Dry weight	United States	Hansen et al. 1991d
	SW	2400	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	16500	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Acenaphthylene	EST/SW	5.87	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	5.87	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	5.87	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	6	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	10	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	44	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	44	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	44	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	47.4	µg/kg	SLCA	Guideline; Screening Level Concentration (New value; 1987); @ 1% OC; Dry weight	United States	Neff et al. 1987
	SW	60	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	EST/SW	64	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	EST/SW	128	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	128	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	128	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	128	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	>160	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	>160	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	560	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	640	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	SW	640	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	660	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	660	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	660	µg/kg	ERA	Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	1300	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1300	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	6000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Aldrin	SW	0.1	µg/kg	CoA	Criterion; Significantly toxic to R. abronius	British Columbia	Nagpal et al. 1995
	SW	0.44	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	FW/SW	0.6	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	2	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	5	µg/kg	EqPA	Criterion; Chronic	British Columbia	Nagpal et al. 1995

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Aldrinb (cont.)	SW	5.25	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	SW	8.4	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	FW/SW	40	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
Aldrin + Dieldrin	SW	84	µg/kg		Criteria; @ 1% OC	New York State	Newell 1989
Aniline	SW	2.48	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	SW	2.48	µg/kg		Criteria; @ 1% OC; Interim	New York State	Newell 1989
Anthracene	FW/SW	20	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	46.9	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	46.9	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	46.9	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	47	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	60	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	60	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	EST/SW	85	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	EST/SW	85.3	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	100	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	EST/SW	130	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	163	µg/kg	SLCA	Guideline; Screening Level Concentration (New value; 1987); @ 1% OC; Dry weight	United States	Neff et al. 1987
	EST/SW	245	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	245	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	245	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	245	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	260	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	260	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	380	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	EST	560	µg/kg	SQG	Low Abundance Threshold Concentration; Praxillella gracilis test	Puget Sound, Washington	Tetra Tech 1986
	EST	560	µg/kg	SQG	Low Abundance Threshold Concentration; Euphilomedes producta	Puget Sound, Washington	Tetra Tech 1986
	SW	>620	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	960	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	960	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	960	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	1100	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	SW	1100	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry	California	Becker et al. 1990

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Anthracene (cont.)	SW	1100	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	1300	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1900	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2200	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	4400	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	11000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	SW	12000	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	13000	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
Antimony	EST/SW	2	mg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	FW/SW	2	mg/kg	SQG	Sediment Quality Guideline; Low; Dry weight	Australia & New Zealand	ANZECC 1998
	FW/SW	3.2	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	EST/SW	25	mg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	FW/SW	25	mg/kg	SQG	Sediment Quality Guideline; High; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	26	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	26	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	FW/SW	70	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	SW	150	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	200	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
Aroclor 1016	FW/SW	100	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	400	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
Aroclor 1248	FW/SW	50	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	600	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
Aroclor 1254	FW/SW	60	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	63	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	63.3	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	63.3	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	FW/SW	300	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	418	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	EST/SW	709	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	709	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Aroclor 1254 (cont.)	SW	709	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
Aroclor 1260	FW/SW	5	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	200	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
Arsenic	FW/SW	3.0	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	5.7	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in tidal streams; Dry weight	Texas	TNRCC 1996
	FW/SW	6.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	EST	6.9	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in estuaries; Dry weight	Texas	TNRCC 1996
	FW/SW	7	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	7.24	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	7.24	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	7.24	mg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	8	mg/kg	SQG	Sediment Quality Guideline; Lower chemical exceedance level; Dry weight	Hong Kong	HKGS 1998
	SW	8.0	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	8.2	mg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	8.2	mg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Chronic); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	8.25	mg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	SW	10	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	New England	NERBC 1980
	SW	16	mg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Acute); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	FW/SW	17	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	<20	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	Norway	Knutzen et al. 1993
	FW/SW	20	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	20.0	mg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	20	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	New England	NERBC 1980
	SW	20	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	China	Tang et al. 1998
	SW	20	mg/kg	SQG	Sediment Quality Guideline; Screening level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	20–80	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	<33	mg/kg	AETA	Criterion; For Wetlands creation cover, Levee restoration, Landfill daily cover; Dry weight	California	CDWR 1995
	EST/SW	33	mg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	FW/SW	33.0	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	EST/SW	33–85	mg/kg	AETA	Criterion; For Wetlands creation noncover; Dry weight	California	CDWR 1995
	FW/SW	40	mg/kg		Interim Sediment Quality Guidelines; Potential Adverse Effect on water quality	Oregon	ODEQ 1989b

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Arsenic (cont.)	EST/SW	41.6	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	41.6	mg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	41.6	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	42	mg/kg	SQG	Sediment Quality Guideline; Upper chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	SW	57	mg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	57	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	<=58	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	>=64	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	65	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	China	Tang et al. 1998
	EST/SW	70	mg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	EST/SW	70	mg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	FW/SW	70	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	70	mg/kg	SQG	Sediment Quality Guideline; Maximum level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	70	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	70	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	70	mg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	>72	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>72	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	80–400	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	85	mg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	85	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	93	mg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	93	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	93	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	China	Tang et al. 1998
	SW	400–1000	mg/kg	SQG	Sediment Quality Guideline; Class IV (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	700	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	700	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	>1000	mg/kg	AETA	Criterion; For Class I (see reference); Dry weight	California	CDWR 1995
	SW	>1000	mg/kg	SQG	Sediment Quality Guideline; Class V (see reference); Dry weight	Norway	Knutzen et al. 1993
Arsenic (total)	SW	7.2	mg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	33	mg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	SW	42	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	85	mg/kg	ERA	Criterion; Effects range medium	British Columbia	Nagpal et al. 1995

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Azinphos-methyl	SW	0.03	µg/kg		Criteria; @ 1% OC	New York State	Newell 1989
	SW	0.03	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
Barium	SW	48	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	50	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	290	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in tidal streams; Dry weight	Texas	TNRCC 1996
	EST	397	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in estuaries; Dry weight	Texas	TNRCC 1996
Benzanthracene, 1,2-	FW/SW	50–100	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	74.8	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	74.8	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	74.8	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	75	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	130	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	150	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	150	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	EST/SW	230	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	EST/SW	261	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	261	µg/kg	SLCA	Guideline; Screening Level Concentration (New value; 1987); @ 1% OC; Dry weight	United States	Neff et al. 1987
	SW	261	µg/kg	SLCA	Guideline; Screening Level Concentration (Old value; 1986); @ 1% OC; Dry weight	United States	Neff et al. 1987
	FW/SW	400	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	420	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	420	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	EST/SW	450	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	FW/SW	500	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	693	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	693	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	693	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	693	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	1100	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	1100	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	1300	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Benzanthracene, 1,2- (cont.)	SW	>1300	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	>1300	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	EST/SW	1600	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	EST/SW	1600	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	SW	1600	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1600	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2700	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	4500	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	5100	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	5100	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	21000	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	SW	55000	µg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Acute); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	55000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Benzene	FW/SW	57	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	SW	340	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Benzo(a)fluoranthene	SW	2300	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	4500	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
Benzo(a)pyrene	FW/SW	10–100	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	60	µg/kg		Criterion	British Columbia	BCMOELP 1998
	EST/SW	88.8	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	88.8	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	88.8	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	89	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	160	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	396	µg/kg	SLCA	Guideline; Screening Level Concentration (Old value; 1986); @ 1% OC; Dry weight	United States	Neff et al. 1987
	SW	397	µg/kg	SLCA	Guideline; Screening Level Concentration (New value; 1987); @ 1% OC; Dry weight	United States	Neff et al. 1987
	EST/SW	400	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	EST/SW	430	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Benzo(a)pyrene (cont.)	SW	430	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	430	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	FW/SW	500	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	640	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	640	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	680	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	FW/SW	700	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	763	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	763	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	763	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	763	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	990	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	>1300	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>1300	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	EST/SW	1600	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	SW	1600	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1600	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2100	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	2400	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	2500	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	3000	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	3600	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	6800	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	45000	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	SW	450000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	SW	450000	µg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Chronic); @ 1% OC; Dry weight	United States	Lyman et al. 1987
Benzo(bk)fluoranthene	SW	3200	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	3600	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	3700	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	7800	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	8000	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Benzo(bk)fluoranthene (cont.)	SW	9900	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
Benzo(ghi)perylene	SW	70	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	FW/SW	100	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	310	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	310	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	EST	400	µg/kg	SQG	Low Abundance Threshold Concentration; Praxillella gracilis test	Puget Sound, Washington	Tetra Tech 1986
	SW	490	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	490	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	EST	570	µg/kg	SQG	Low Abundance Threshold Concentration; Nucula tenuis	Puget Sound, Washington	Tetra Tech 1986
	SW	670	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	720	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	740	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	780	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	1400	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2600	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	5400	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
Benzo(k)fluoranthene	SW	490	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	490	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	4300	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	5000	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1250000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Benzofluoranthene	SW	300	µg/kg	BA	Guideline; No effect threshold; 1% organic carbon; Dry weight	British Columbia	Nagpal et al. 1998
Benzofluoranthene (total)	SW	2300	µg/kg		Criterion; No adverse effect on biota; 1% organic carbon	British Columbia	Nagpal et al. 1995
Benzofluoranthene, 3,4-	SW	>630	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	>630	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	930	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	930	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Benzofluoranthenes	FW/SW	300	µg/kg		Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	320	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	7800	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	9900	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
Benzoic Acid	SW	650	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	650	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	650	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	650	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	650	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	760	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
Benzyl Alcohol	SW	57	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	57	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	73	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	73	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	73	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	73	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	870	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	870	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
Beryllium	SW	0.36	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Biphenyl	SW	17	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	17	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	17	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	27	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	27	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	260	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	260	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	270	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Biphenyl (cont.)	SW	270	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	300	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	310	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	FW/SW	1100	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Bis(2-ethylhexyl) Phthalate	EST/SW	182	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	470	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	470	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	780	µg/kg		Criterion; Minor Adverse Effect on biota	British Columbia	Nagpal et al. 1995
	SW	780	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	1300	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1900	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1900	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1900	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	2647	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	3100	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	5100	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	5100	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	>25000	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	>25000	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
Bromoform	FW/SW	650	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Butyl Phthalate, N-	FW/SW	11000	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Butylbenzyl Phthalate	SW	49	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	49	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	63	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	160	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	160	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	470	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Butylbenzyl Phthalate (cont.)	SW	>610	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>610	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	640	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	640	µg/kg		Criterion; Minor Adverse Effect on biota	British Columbia	Nagpal et al. 1995
	SW	900	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	900	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	FW/SW	11000	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	SW	55000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Cadmium	FW/SW	0.2	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	<0.25	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	0.25–1	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	0.48	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	0.57	mg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	FW/SW	0.6	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	EST/SW	0.68	mg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	0.7	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	0.7	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST	0.83	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in estuaries; Dry weight	Texas	TNRCC 1996
	FW/SW	0.9	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	0.96	mg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	1	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	China	Tang et al. 1998
	SW	1	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in tidal streams; Dry weight	Texas	TNRCC 1996
	SW	1.0	mg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	1–5	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	1.2	mg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	1.2	mg/kg	SQG	Sediment Quality Guideline; Screening level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	FW/SW	1.5	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	1.5	mg/kg	SQG	Sediment Quality Guideline; Lower chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	SW	1.7	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	FW/SW	3	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	>3	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Connecticut	NERBC 1980

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Cadmium (cont.)	SW	4	mg/kg	SQG	Sediment Quality Guideline; Upper chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	EST/SW	4.2	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	4.2	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	4.21	mg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	<5	mg/kg	AETA	Criterion; For Wetlands creation cover, Levee restoration, Landfill daily cover; Dry weight	California	CDWR 1995
	EST/SW	5	mg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	EST/SW	5–9	mg/kg	AETA	Criterion; For Wetlands creation noncover; Dry weight	California	CDWR 1995
	SW	5–10	mg/kg	SQG	Sediment Quality Guideline; Class IV (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	>5	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Massachusetts	NERBC 1980
	SW	5.1	mg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	5.10	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988	Puget Sound, Washington	Barrick et al. 1988a
	SW	5.80	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	6.7	mg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	6.7	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	>7	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Connecticut	NERBC 1980
	SW	7.7	mg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Chronic); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	7.75	mg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	SW	8	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	China	Tang et al. 1998
	SW	8.9	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	8.9	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	9	mg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	EST/SW	9.6	mg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	FW/SW	9.6	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW/SW	9.6	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	SW	9.6	mg/kg	SQG	Sediment Quality Guideline; Maximum level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	9.6	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	9.6	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	10	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	China	Tang et al. 1998
	SW	>10	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Massachusetts	NERBC 1980
	SW	>10	mg/kg	SQG	Sediment Quality Guideline; Class V (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	24	mg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Acute); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	>32	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	>32	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	EST/SW	>200	mg/kg	AETA	Criterion; For Class I (see reference); Dry weight	California	CDWR 1995

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Cadmium (total)	SW	0.68	mg/kg		Working Guideline; Interim Threshold Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	4.2	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	5.0	mg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	SW	9.0	mg/kg	ERA	Criterion; Effects range median	British Columbia	Nagpal et al. 1995
Campesterol	SW	73	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Carbazole	SW	970	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	3600	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Carbon Tetrachloride	FW/SW	1200	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Chlordane	SW	0.02	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	EST/SW	0.5	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	0.5	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	0.5	µg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	SW	0.6	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	FW/SW	1	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	2.26	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	2.26	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	2.26	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	4.79	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	4.79	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	4.79	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	5	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	EST/SW	6	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	6	µg/kg	ERA	Criterion; Effects range median	British Columbia	Nagpal et al. 1995
	FW/SW	7	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	30	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
Chlordane (total)	SW	2	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	5	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
Chlorinated Benzenes (total)	SW	90	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Chlorobenzene	FW/SW	35	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	346	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Chlorobenzene (cont.)	FW/SW	820	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Chlorophenol, 2-	SW	8	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	36	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Chlorophenols	EST/SW	10	µg/kg		Provisional Objective; Maximum for Sturgeon and Roberts Banks; Dry weight	British Columbia	Swain and Holms 1985
Chlorpyrifos	SW	4.4	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	SW	7.2	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	14	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Cholesterol	SW	160	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	260	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Chromium	SW	6.25	mg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	20–300	mg/kg		Interim Sediment Quality Guidelines; Potential Adverse Effect on water quality	Oregon	ODEQ 1989b
	FW/SW	26.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	EST	29	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in estuaries; Dry weight	Texas	TNRCC 1996
	SW	45	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in tidal streams; Dry weight	Texas	TNRCC 1996
	SW	50	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	China	Tang et al. 1998
	EST/SW	52.3	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	52.3	mg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	52.3	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW/SW	55	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	55	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	60.0	mg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	<70	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	70–300	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	80	mg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	FW/SW	80	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	80	mg/kg	SQG	Sediment Quality Guideline; Lower chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	EST/SW	81	mg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	81	mg/kg	SQG	Sediment Quality Guideline; Screening level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Chromium (cont.)	SW	100	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	New England	NERBC 1980
	FW/SW	100	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	<=101.2	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	Spain	DelValls and Chapman
	SW	<=110	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	FW/SW	110.0	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	SW	120	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	China	Tang et al. 1998
	SW	>=134	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	EST/SW	145	mg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	EST/SW	160	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	160	mg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	160	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	160	mg/kg	SQG	Sediment Quality Guideline; Upper chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	SW	>240	mg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	>240	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	>240	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	260	mg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	270	mg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	270	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	China	Tang et al. 1998
	SW	>=283.9	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	Spain	DelValls and Chapman
	SW	300	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	New England	NERBC 1980
	SW	300–1500	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	310	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	310	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	370	mg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	FW/SW	370	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	370	mg/kg	SQG	Sediment Quality Guideline; Maximum level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	>820	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	>820	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	1500–5000	mg/kg	SQG	Sediment Quality Guideline; Class IV (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	>5000	mg/kg	SQG	Sediment Quality Guideline; Class V (see reference); Dry weight	Norway	Knutzen et al. 1993
Chromium (total)	SW	27	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	52	mg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	80	mg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	SW	145	mg/kg	ERA	Criterion; Effects range median	British Columbia	Nagpal et al. 1995

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Chromium (total; cont.)	SW	160	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	<220	mg/kg	AETA	Criterion; For Wetlands creation cover, Levee restoration, Landfill daily cover; Dry weight	California	CDWR 1995
	EST/SW	220–300	mg/kg	AETA	Criterion; For Wetlands creation noncover; Dry weight	California	CDWR 1995
	SW	260	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	270	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	>1000	mg/kg	AETA	Criterion; For Class I (see reference); Dry weight	California	CDWR 1995
Chrysene	FW/SW	100	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	108	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	108	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	108	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	108	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	140	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	190	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	190	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	200	µg/kg		Criterion	British Columbia	BCMOELP 1998
	EST/SW	384	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	384	µg/kg	SLCA	Guideline; Screening Level Concentration (Old value; 1986); @ 1% OC; Dry weight	United States	Neff et al. 1987
	SW	384	µg/kg	SLCA	Guideline; Screening Level Concentration (New value; 1987); @ 1% OC; Dry weight	United States	Neff et al. 1987
	EST/SW	400	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	FW/SW	600	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	>610	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	670	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	780	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	>780	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	FW/SW	800	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	846	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	846	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	846	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	846	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	1100	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	1400	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2100	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Chrysene (cont.)	SW	2100	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	EST/SW	2800	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	EST/SW	2800	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	2800	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2800	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	4400	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	SW	4600	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	6700	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	9200	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	9200	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	115000	µg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Acute); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	115000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Copper	FW/SW	16.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	EST/SW	18.7	mg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	18.7	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	18.7	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST	24	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in estuaries; Dry weight	Texas	TNRCC 1996
	FW/SW	28	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	28	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	34	mg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	34	mg/kg	SQG	Sediment Quality Guideline; Screening level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	34	mg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	SW	34	mg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Chronic); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	<35	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	35	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	China	Tang et al. 1998
	SW	35–150	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	38.5	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in tidal streams; Dry weight	Texas	TNRCC 1996
	SW	54	mg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Acute); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	FW/SW	65	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	65	mg/kg	SQG	Sediment Quality Guideline; Lower chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	SW	66	mg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Copper (cont.)	SW	66	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	<=68	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	EST/SW	70	mg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	EST/SW	81	mg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	FW/SW	86	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	<90	mg/kg	AETA	Criterion; For Wetlands creation cover, Levee restoration, Landfill daily cover; Dry weight	California	CDWR 1995
	EST/SW	90–390	mg/kg	AETA	Criterion; For Wetlands creation noncover; Dry weight	California	CDWR 1995
	SW	98	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	>=98	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	100	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	China	Tang et al. 1998
	SW	100.	mg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	EST/SW	108	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	108	mg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	108	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW/SW	110.0	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	SW	110	mg/kg	SQG	Sediment Quality Guideline; Upper chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	SW	150–700	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	200	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	China	Tang et al. 1998
	SW	200	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	New England	NERBC 1980
	EST/SW	270	mg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	FW/SW	270	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	270	mg/kg	SQG	Sediment Quality Guideline; Maximum level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	310	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	310	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	310	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	390	mg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	390	mg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	390	mg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	390	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	390	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	390	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	390	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	400	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	New England	NERBC 1980

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Copper (cont.)	SW	530	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	>690	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>690	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	700–1500	mg/kg	SQG	Sediment Quality Guideline; Class IV (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	810	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1300	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	>1500	mg/kg	SQG	Sediment Quality Guideline; Class V (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	>5000	mg/kg	AETA	Criterion; For Class I (see reference); Dry weight	California	CDWR 1995
Copper (total)	SW	19	mg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	70	mg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	SW	108	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	390	mg/kg	ERA	Criterion; Effects range median	British Columbia	Nagpal et al. 1995
Coprosterol	SW	140	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	160	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Cresol, o-	SW	>40	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	>40	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	63	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	63	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	63	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	63	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	72	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Cresol, p-	SW	670	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	670	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	670	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	670	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Cresol, p- (cont.)	SW	670	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1200	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1800	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	3600	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
Cyanide	SW	25	mg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Cymene	SW	600	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1100	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1100	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	2300	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	2800	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
DDD	SW	1	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	1.22	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	2	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	2	µg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	SW	2	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	7.81	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	8	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	16	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	17	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	17	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	>17	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	EST/SW	20	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	20	µg/kg	ERA	Criterion; Effects range median	British Columbia	Nagpal et al. 1995
	SW	22	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	SW	43	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	210	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	210	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	>1700	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
DDD (cont.)	SW	>1700	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	3250	µg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Chronic); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	3250	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
DDD, o,p'-	SW	1.4	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	1.4	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	2.4	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	2.4	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	3.1	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
DDDs (sum)	EST/SW	1.22	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	1.22	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW/SW	2	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	7.81	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	7.81	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW/SW	10	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	60	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
DDE	FW/SW	2	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	2	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	2	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	2.07	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	2.2	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	2.6	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	>2.6	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	2.9	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	FW/SW	7	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	9	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	15	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	15	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	27	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	FW/SW	50	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	60	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	EST/SW	374	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
DDE (cont.)	SW	374	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	2800	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	2800	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	7000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	SW	7000	µg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Acute); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	>7800	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>7800	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry	California	Becker et al. 1990
DDE, o,p'-	SW	8.0	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	8.0	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
DDEs (sum)	EST/SW	2.07	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	2.07	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	374	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	374	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
DDT	SW	0.7	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	EST/SW	1	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	1	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	1.19	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	1.6	µg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Chronic); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	EST/SW	<3	µg/kg	AETA	Criterion; For Wetlands creation cover, Levee restoration, Landfill daily cover; Dry weight	California	CDWR 1995
	EST/SW	3–100	µg/kg	AETA	Criterion; For Wetlands creation noncover; Dry weight	California	CDWR 1995
	SW	3.9	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	4.7	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	EST/SW	4.77	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	5	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	6.3	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	6.3	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	7	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	8.28	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	SW	9.6	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	9.6	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	FW/SW	10	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	11	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
DDT (cont.)	SW	34	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	210	µg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Acute); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	428	µg/kg	SLCA	Guideline; Screening Level Concentration (Old value; 1986); @ 1% OC; Dry weight	United States	Neff et al. 1987
	SW	505	µg/kg	SLCA	Guideline; Screening Level Concentration (New value; 1987); @ 1% OC; Dry weight	United States	Neff et al. 1987
	SW	>620	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	1300	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
	EST/SW	>2000	µg/kg	AETA	Criterion; For Class I (see reference); Dry weight	California	CDWR 1995
DDT and metabolites	SW	1.5	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
DDT, o,p'-	SW	3.0	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	3.0	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
DDTs (sum)	EST/SW	1.19	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	1.19	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	4.77	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	4.77	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
DDTs (total)	EST/SW	1.58	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	EST/SW	3	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	EST/SW	3.89	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	4	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	6	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	9	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	24	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	27	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	27	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	EST/SW	46.1	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	FW/SW	50	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	51.7	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	52	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	350	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	<=2240	µg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	>=2930	µg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
DDTs (total; cont.)	SW	3000	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	3000	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	>9300	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	>9300	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
Diazinon	FW/SW	0.19	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Dibenzanthracene, 1,2:5,6-	FW/SW	5	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	6	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	6.22	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	6.22	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	6.22	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	60	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	60	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	63	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	63	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	EST/SW	63.4	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	EST/SW	120	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	120	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	120	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	EST/SW	135	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	135	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	135	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	135	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	230	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	230	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	260	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	EST/SW	260	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	SW	260	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	>300	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	>300	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	330	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	540	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	970	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Dibenzanthracene, 1,2:5,6- (cont.)	SW	1200	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	>1200	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	35000	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
Dibenzofuran	SW	150	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	150	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	540	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	540	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	540	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	540	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	580	µg/kg		Criterion; Minor Adverse Effect	British Columbia	Nagpal et al. 1995
	SW	580	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	700	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1700	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	FW/SW	2000	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Dichlorobenzene, m-	SW	23	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	FW/SW	1700	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Dichlorobenzene, o-	SW	23	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	23	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	35	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	50	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	50	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	FW/SW	340	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Dichlorobenzene, p-	SW	31	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	31	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	90	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	90	µg/kg		Criterion; Minor Adverse Effect	British Columbia	Nagpal et al. 1995

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Dichlorobenzene, p- (cont.)	SW	110	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	110	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	120	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	120	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	120	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	260	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	FW/SW	350	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Dichlorobenzenes	FW/SW	120	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	340	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	SW	700	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	1200	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Dichlorophenol, 2,4-	SW	5	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	9	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Dieldrin	EST/SW	0.02	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	0.02	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	FW/SW	0.1–0.8	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	0.2	µg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	SW	0.7	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	0.71	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	0.71	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	0.72	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	1.3	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW/SW	2	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	4	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	4.3	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	4.3	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	4.3	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	6.2	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	6.2	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	6.6	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	6.6	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Dieldrin (cont.)	EST/SW	8	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	8	µg/kg	ERA	Criterion; Effects range median	British Columbia	Nagpal et al. 1995
	SW	12	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>12	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	57.7	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW/SW	110	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	SW	130	µg/kg	EqPA	EPA Sediment Quality Criterion; @ 1% OC; Dry weight	United States	Hansen et al. 1991b
	SW	170	µg/kg	ERA	Criterion; (May not protect locally sensitive species)	British Columbia	Nagpal et al. 1995
	SW	170	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	300	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
Diethyl Phthalate	SW	97	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	200	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	280	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	280	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	320	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	SW	610	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	610	µg/kg		Working Guideline; No adverse effect on biota; Dry weight	British Columbia	Nagpal et al. 1998
	SW	610	µg/kg		Working Guideline; Lowest Apparent Effect Threshold benthic community composition; Dry weight	British Columbia	Nagpal et al. 1998
	SW	610	µg/kg	AETA	Criterion; Benthic community composition	British Columbia	Nagpal et al. 1995
	SW	610	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	FW/SW	630	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	SW	1100	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	1100	µg/kg		Criterion; Minor Adverse Effect	British Columbia	Nagpal et al. 1995
	SW	1100	µg/kg		Working Guideline; Minor Adverse Effect; Dry weight	British Columbia	Nagpal et al. 1998
	SW	>1500	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>1500	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
Dimethyl Phthalate	SW	71	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	160	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	490	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Dimethyl Phthalate (cont.)	SW	530	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	530	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	530	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	1400	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1400	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
Dimethylnaphthalene, 2,6-	SW	33	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	33	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	33	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	65	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	65	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
Dimethylphenol, 2,4-	SW	29	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	29	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	29	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	29	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	29	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	72	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	210	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
Di-n-butyl phthalate	SW	>360	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	>360	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>360	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	>360	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	1400	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1400	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1400	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2200	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	2200	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	17000	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Di-n-butyl phthalate (cont.)	SW	17000	µg/kg		Criterion; Minor Adverse Effect on biota	British Columbia	Nagpal et al. 1995
	SW	500000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Endosulfan	SW	0.04	µg/kg		Criteria; @ 1% OC	New York State	Newell 1989
	SW	0.04	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	1.2	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Endosulfan (total)	FW/SW	5.4	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Endosulfan-alpha	FW/SW	2.9	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Endosulfan-beta	FW/SW	14	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Endrin	EST/SW	0.02	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	0.02	µg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	SW	0.02	µg/kg		Working Guideline; Effects Range Low; Dry weight	British Columbia	Nagpal et al. 1998
	SW	0.02	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	SW	0.532	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	FW/SW	1	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	2.15	µg/kg	EqPA	Interim Criterion (FCV); @ 1% OC; Dry weight	United States	USEPA 1988b
	SW	2.15	µg/kg		Criteria; @ 1% OC; Interim	New York State	Newell 1989
	EST/SW	4.5	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	7.3	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	7.3	µg/kg	EqPA	EPA Sediment Quality Criterion; @ 1% OC; Dry weight	United States	Hansen et al. 1991a
	SW	7.3	µg/kg		Proposed EPA Criterion; May not protect locally sensitive species	British Columbia	Nagpal et al. 1995
	FW/SW	8	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	42	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	SW	45	µg/kg	ERA	Criterion; effects range median	British Columbia	Nagpal et al. 1995
	SW	45	µg/kg		Working Guideline; Effects Range Median; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	500	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
Ethylbenzene	SW	10	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	33	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	37	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	37	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1400	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Ethylbenzene (cont.)	FW/SW	4800	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Fluoranthene	FW/SW	20–200	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	39	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	EST/SW	113	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	113	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	113	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	113	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	170	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	>290	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	390	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	432	µg/kg	SLCA	Guideline; Screening Level Concentration (Old value; 1986); @ 1% OC; Dry weight	United States	Neff et al. 1987
	SW	580	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	580	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	FW/SW	600	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	600	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	EST/SW	600	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	600	µg/kg	ERA	Criterion; Effect range low	British Columbia	Nagpal et al. 1995
	EST/SW	630	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	644	µg/kg	SLCA	Guideline; Screening Level Concentration (New value; 1987); @ 1% OC; Dry weight	United States	Neff et al. 1987
	EST/SW	1494	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	1494	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	1494	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	1494	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	1600	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	1700	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	FW/SW	2000	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	2500	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	3100	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	EST/SW	3600	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	3600	µg/kg	ERA	Criterion; Effect range median	British Columbia	Nagpal et al. 1995
	SW	3600	µg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Acute); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	>3700	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>3700	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Fluoranthene (cont.)	SW	3900	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	5100	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	FW/SW	6200	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	SW	6300	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	9000	µg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Chronic); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	12000	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	13400	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	13400	µg/kg	EqPA	EPA Sediment Quality Criterion; @ 1% OC; Dry weight	United States	Hansen et al. 1991e
	SW	24000	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	30000	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
Fluorine	FW/SW	10	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	>12	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	13	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	19	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	19	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	19	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	19	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	21	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	21.2	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	35	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	50	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	EST/SW	64	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	101	µg/kg	SLCA	Guideline; Screening Level Concentration (New value; 1987); @ 1% OC; Dry weight	United States	Neff et al. 1987
	EST/SW	144	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	144	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	160	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	SW	200	µg/kg		Criterion	British Columbia	BCMOELP 1998
	SW	210	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	210	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	230	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	EST/SW	540	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Fluorine (cont.)	SW	540	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	FW/SW	540	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	SW	540	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	540	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	640	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	640	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	790	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	1000	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	3600	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	7000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Heptachlor	SW	0.04	µg/kg		Criterion; 99th Percentile chronic permissible concentration	British Columbia	Nagpal et al. 1995
	SW	0.06	µg/kg		Criterion; 95th Percentile chronic permissible concentration	British Columbia	Nagpal et al. 1995
	SW	0.06	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	FW/SW	0.3	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	0.3	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	1.04	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	SW	5	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	10	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	Narrative			Interim Sediment Quality Guidelines; Numerical value should be calculated from the USEPA Interim Sediment Criteria for Nonpolar Hydrophobic Organic Contaminants	Oregon	ODEQ 1989b
Heptachlor Epoxide	FW/SW	1	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	5	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	30	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
Heptachlor + Heptachlor Epoxide	SW	0.3	µg/kg		Criteria; @ 1% OC	New York State	Newell 1989
	SW	0.9	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	13	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Hexachlorobenzene	SW	0.3	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	FW/SW	1	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	>1.4	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Hexachlorobenzene (cont.)	SW	>1.4	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	>1.5	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>1.5	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	3.8	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	3.8	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	>8.0	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	>8.0	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	22	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	23	µg/kg		Criterion; Minor effect on biota	British Columbia	Nagpal et al. 1995
	SW	23	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	FW/SW	30	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	70	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	FW/SW	100	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	130	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	230	µg/kg	AETA	Criterion; Maximum level for dredge disposal	British Columbia	Nagpal et al. 1995
	SW	230	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	230	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	75680	µg/kg		Criteria; @ 1% OC	New York State	Newell 1989
Hexachlorobutadiene	SW	11	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	16	µg/kg		Criteria; @ 1% OC	New York State	Newell 1989
	SW	16	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	39	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	39	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	62	µg/kg		Criterion; Minor Adverse Effect on biota	British Columbia	Nagpal et al. 1995
	SW	62	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	120	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	164	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	180	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Hexachlorobutadiene (cont.)	SW	270	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	270	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	290	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	320	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Hexachlorocyclohexane (all isomers)	SW	0.3	µg/kg		Criteria; @ 1% OC	New York State	Newell 1989
	SW	0.3	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	10	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Hexachlorocyclohexane-Alpha	FW/SW	0.3	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	10	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	80	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
Hexachlorocyclohexane-Beta	FW/SW	0.2	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	30	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	200	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
Hexachlorocyclohexane-Delta	FW/SW	130	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Hexachlorocyclohexane-	FW/SW	3.7	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Hexachlorocyclopentadiene	SW	7	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	7	µg/kg		Criteria; @ 1% OC	New York State	Newell 1989
	SW	68	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Hexachloroethane	SW	140	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	140	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	FW/SW	1000	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	SW	3600	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Hexadecanoic Acid Methyl Ester	SW	990	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1100	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	2200	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
Hydrocarbons, Aliphatic	EST	92400	µg/kg	AETA	Test result; Mississippi AET; Mysid Bioassay	Mississippi Sound, Mississippi	Lytle & Lytle 1985
	EST	130000	µg/kg	AETA	Test result; Mississippi AET; Amphipod Bioassay	Mississippi Sound, Mississippi	Lytle & Lytle 1985

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Indeno(1,2,3-cd)pyrene	SW	60	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	FW/SW	70	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	340	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	600	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	690	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	690	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	880	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	1800	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2600	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	6000000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Indeno(1,2,3-cd)pyrene (total)	SW	340	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
Iron	FW/SW	20000	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	SW	37000	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	37000	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	FW/SW	40000	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	SW	50000	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Isophorone	SW	2400	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Lead	FW/SW	23	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	<30	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	30.0	mg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	30–120	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	30.2	mg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	30.2	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	30.2	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW/SW	31.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	EST	32	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in estuaries; Dry weight	Texas	TNRCC 1996
	SW	33	mg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	SW	33	mg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Chronic); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	EST/SW	35	mg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	41	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Lead (cont.)	EST/SW	46.7	mg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	47	mg/kg	SQG	Sediment Quality Guideline; Screening level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	<=49	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	EST/SW	<50	mg/kg	AETA	Criterion; For Wetlands creation cover, Levee restoration, Landfill daily cover; Dry weight	California	CDWR 1995
	SW	50	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	China	Tang et al. 1998
	EST/SW	50–110	mg/kg	AETA	Criterion; For Wetlands creation noncover; Dry weight	California	CDWR 1995
	EST/SW	66	mg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	<=66.8	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	Spain	DelValls and Chapman
	SW	71	mg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	FW/SW	75	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	75	mg/kg	SQG	Sediment Quality Guideline; Lower chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	SW	>=84.6	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	Spain	DelValls and Chapman
	SW	96	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in tidal streams; Dry weight	Texas	TNRCC 1996
	SW	100	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	New England	NERBC 1980
	EST/SW	110	mg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	110	mg/kg	SQG	Sediment Quality Guideline; Upper chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	EST/SW	112	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	112	mg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	112	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	>=115	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	120	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	120–600	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	130	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	China	Tang et al. 1998
	SW	150	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	150	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	FW/SW	170	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	200	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	New England	NERBC 1980
	EST/SW	218	mg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	FW/SW	218	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW/SW	218	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	SW	218	mg/kg	SQG	Sediment Quality Guideline; Maximum level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	250	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	China	Tang et al. 1998
	SW	300	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Lead (cont.)	SW	>340	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	>340	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	450	mg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	450	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	530	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	530	mg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	531	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	600–1500	mg/kg	SQG	Sediment Quality Guideline; Class IV (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	660	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	660	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	660	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	660	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	840	mg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Acute); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	>1500	mg/kg	SQG	Sediment Quality Guideline; Class V (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	>2000	mg/kg	AETA	Criterion; For Class I (see reference); Dry weight	California	CDWR 1995
Lead (total)	SW	30	mg/kg		Interim Guideline; 1% organic carbon	British Columbia	Nagpal et al. 1998
	SW	30	mg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	35	mg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	SW	110	mg/kg	ERA	Criterion; Effects range medium	British Columbia	Nagpal et al. 1995
	SW	112	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	112	mg/kg		Guideline; Probable effect level; Dry weight basis	British Columbia	Nagpal et al. 1995
	SW	130	mg/kg	SQTA	Criterion; major biological effects	British Columbia	Nagpal et al. 1995
Lindane	SW	0.3	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	0.32	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	0.32	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	0.32	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	0.7	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	0.7	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	FW/SW	0.9	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	0.99	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	0.99	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Lindane (cont.)	SW	0.99	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	1	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	1.3	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	1.3	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	>1.3	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	1.57	µg/kg	EqPA	Criterion; Interim (caution; significantly toxic to bivalve larvae @ 0.0003 +- 0.0007 µg/g	British Columbia	Nagpal et al. 1995
	SW	3	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	3	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	3.7	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW/SW	9	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
Malathion	FW/SW	0.2	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	0.67	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Manganese	FW/SW	460.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	SW	480	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	480	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	490	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in tidal streams; Dry weight	Texas	TNRCC 1996
	EST	630	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in estuaries; Dry weight	Texas	TNRCC 1996
	SW	1000	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	FW/SW	1100.0	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
Mercury	SW	0.008	mg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Chronic); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	EST/SW	0.13	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	0.13	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	0.13	mg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	<0.15	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	0.15	mg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	EST/SW	0.15	mg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	FW/SW	0.15	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	FW/SW	0.15	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	0.15	mg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	0.15	mg/kg	SQG	Sediment Quality Guideline; Screening level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	0.15	mg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Acute); @ 1% OC; Dry weight	United States	Lyman et al. 1987

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Mercury (cont.)	SW	0.15–0.6	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	0.2	mg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	SW	0.2	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	China	Tang et al. 1998
	EST/SW	0.21	mg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	0.24	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in tidal streams; Dry weight	Texas	TNRCC 1996
	EST	0.32	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in estuaries; Dry weight	Texas	TNRCC 1996
	EST/SW	<0.35	mg/kg	AETA	Criterion; For Wetlands creation cover, Levee restoration, Landfill daily cover; Dry weight	California	CDWR 1995
	EST/SW	0.35–1.3	mg/kg	AETA	Criterion; For Wetlands creation noncover; Dry weight	California	CDWR 1995
	SW	<=0.37	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	0.41	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	0.41	mg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	<=0.46	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	Spain	DelValls and Chapman
	SW	0.5	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	New England	NERBC 1980
	SW	0.5	mg/kg	SQG	Sediment Quality Guideline; Lower chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	SW	0.51	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	0.51	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	0.51	mg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	>=0.57	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	>=0.57	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	Spain	DelValls and Chapman
	SW	0.59	mg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	0.59	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	0.6–3	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	0.7	mg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	0.70	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	0.70	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	0.71	mg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	FW/SW	0.71	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	SW	0.71	mg/kg	SQG	Sediment Quality Guideline; Maximum level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	0.88	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	FW/SW	1	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	1	mg/kg	SQG	Sediment Quality Guideline; Upper chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	SW	1.2	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Mercury (cont.)	SW	1.2	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	EST/SW	1.3	mg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	1.5	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	New England	NERBC 1980
	SW	1.5	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	China	Tang et al. 1998
	SW	2	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	China	Tang et al. 1998
	SW	2.1	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2.1	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2.1	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	3–5	mg/kg	SQG	Sediment Quality Guideline; Class IV (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	>5	mg/kg	SQG	Sediment Quality Guideline; Class V (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	>40	mg/kg	AETA	Criterion; For Class I (see reference); Dry weight	California	CDWR 1995
Mercury (total)	FW/SW	0.05	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	0.130	mg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	0.15	mg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	FW/SW	0.2	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	0.70	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	1	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	1.3	mg/kg	ERA	Criterion; Effects range median	British Columbia	Nagpal et al. 1995
Methoxychlor	FW/SW	6	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	19	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Methoxyphenol, 2-	SW	580	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	930	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	930	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	930	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Methyl Phenanthrene, 1-	SW	24	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	24	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	24	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	300	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	300	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	310	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Methyl Phenanthrene, 1- (cont.)	SW	370	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	370	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	370	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1300	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1300	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Methyl Phenanthrene, 2-	SW	470	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	470	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	490	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	490	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1500	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1500	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Methylene Chloride	SW	500	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Methylnaphthalene, 1-	SW	52	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	52	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	>52	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	>52	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>52	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
Methylnaphthalene, 2-	SW	10	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	FW/SW	20	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	20	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	20.2	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	65	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	65	µg/kg	ERA	Criterion; Effect range low	British Columbia	Nagpal et al. 1995
	EST/SW	67	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	EST/SW	70	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	70	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	70	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	70	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Methylnaphthalene, 2 (cont.)	SW	>130	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	>130	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	EST/SW	201	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	201	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	EST	380	µg/kg	SQG	Low Abundance Threshold Concentration; Praxillella gracilis test	Puget Sound, Washington	Tetra Tech 1986
	EST	380	µg/kg	SQG	Low Abundance Threshold Concentration; Euphilomedes producta	Puget Sound, Washington	Tetra Tech 1986
	SW	380	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	EST	565	µg/kg	SQG	Low Abundance Threshold Concentration; Nucula tenuis	Puget Sound, Washington	Tetra Tech 1986
	SW	640	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	EST/SW	670	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	EST/SW	670	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	SW	670	µg/kg	ERA	Criterion; Effect range median	British Columbia	Nagpal et al. 1995
	SW	670	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	670	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	670	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	670	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1400	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1900	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
Methylpyrene, 1-	SW	85	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	280	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	280	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	280	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Methylpyrene, 2-	SW	410	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	410	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	510	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	510	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988	Puget Sound, Washington	Barrick et al. 1988b
Mirex	FW/SW	0.1	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	7	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	7	µg/kg	SLCA	Criterion; Lowest effect level	British Columbia	Nagpal et al. 1995
	FW/SW	11	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Mirex (cont.)	FW/SW	800	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	1300	µg/kg	SLCA	Criterion; Severe effect level	British Columbia	Nagpal et al. 1995
Naphthalene	SW	10	µg/kg		Criterion	British Columbia	BCMOELP 1998
	FW/SW	20	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	34.6	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	35	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	51	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	EST/SW	160	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	>160	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	>160	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	200	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	EST/SW	210	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	EST/SW	340	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	367	µg/kg	SLCA	Guideline; Screening Level Concentration (Old value; 1986); @ 1% OC; Dry weight	United States	Neff et al. 1987
	EST/SW	391	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	391	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	FW/SW	400	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	414	µg/kg	SLCA	Guideline; Screening Level Concentration (New value; 1987); @ 1% OC; Dry weight	United States	Neff et al. 1987
	FW/SW	470	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	FW/SW	600	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	720	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	SW	>930	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>930	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	>930	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	>930	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	990	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	EST	1100	µg/kg	SQG	Low Abundance Threshold Concentration; Praxillella gracilis test	Puget Sound, Washington	Tetra Tech 1986
	EST	1300	µg/kg	SQG	Low Abundance Threshold Concentration; Euphilomedes producta	Puget Sound, Washington	Tetra Tech 1986
	EST	1400	µg/kg	SQG	Low Abundance Threshold Concentration; Nucula tenuis	Puget Sound, Washington	Tetra Tech 1986
	SW	1700	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	EST/SW	2100	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	EST/SW	2100	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Naphthalene (cont.)	SW	2100	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2100	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2100	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2100	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2400	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2700	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	10500	µg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Acute); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	10500	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Nickel	SW	5	mg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	EST/SW	15.9	mg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	FW/SW	16.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	EST	18	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in estuaries; Dry weight	Texas	TNRCC 1996
	SW	20	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in tidal streams; Dry weight	Texas	TNRCC 1996
	EST/SW	20.9	mg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	FW/SW	21	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	21	mg/kg	SQG	Sediment Quality Guideline; Screening level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	28	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	<30	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	30	mg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	30–130	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	Norway	Knutzen et al. 1993
	FW/SW	35	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	35	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	39	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	40	mg/kg	SQG	Sediment Quality Guideline; Lower chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	SW	40	mg/kg	SQG	Sediment Quality Guideline; Upper chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	EST/SW	42.8	mg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	45.0	mg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	EST/SW	50	mg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	EST/SW	51.6	mg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	FW/SW	51.6	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW/SW	52	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	52	mg/kg	SQG	Sediment Quality Guideline; Maximum level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	FW/SW	61	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Nickel (cont.)	SW	61	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	<=88	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	>=94	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	>99	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	100	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	New England	NERBC 1980
	SW	130–600	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	<140	mg/kg	AETA	Criterion; For Wetlands creation cover, Levee restoration, Landfill daily cover; Dry weight	California	CDWR 1995
	EST/SW	140–200	mg/kg	AETA	Criterion; For Wetlands creation noncover; Dry weight	California	CDWR 1995
	SW	>170	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	>170	mg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	>170	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	>170	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	>170	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	1500	mg/kg	SQG	Sediment Quality Guideline; Class IV (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	>1500	mg/kg	SQG	Sediment Quality Guideline; Class V (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	>4000	mg/kg	AETA	Criterion; For Class I (see reference); Dry weight	California	CDWR 1995
Nickel (total)	SW	30	mg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	SW	50	mg/kg	ERA	Criterion; Effects range median	British Columbia	Nagpal et al. 1995
Nitrobenzene	SW	1650	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Nitrogen (total Kjeldahl)	SW	0.28	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	0.28	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	0.28	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	0.29	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	0.89	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
Nitrosodiphenylamine, N-	SW	28	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	40	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	48	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	74	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Nitrosodiphenylamine, N- (cont.)	SW	110	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	110	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	110	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	130	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	220	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
Octyl Phthalate, N-	SW	25	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	580	µg/kg		Criterion; No adverse effect on biota; 1% organic carbon	British Columbia	Nagpal et al. 1995
	SW	580	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	6200	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	45000	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	45000	µg/kg		Criterion; Minor Adverse Effect on biota; 1% organic carbon	British Columbia	Nagpal et al. 1995
Oil and grease	SW	1100	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1100	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	3400	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	4300	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	4300	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	4300	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	4500	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	4600	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
PAHs (total)	EST/SW	1684	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	2900	µg/kg	EqPA	Guideline; Mean Threshold Effect Concentration; Dry weight; @ 1% OC	United States	Swartz 1999
	EST/SW	4000	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	EST/SW	4022	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	EST/SW	16770	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	18000	µg/kg	EqPA	Guideline; Mean Median Effects Concentration; Dry weight; @ 1% OC	United States	Swartz 1999
	EST/SW	35000	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	EST/SW	44792	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	EST/SW	100000	µg/kg	EqPA	Guideline; Consensus Extreme Effects Concentration; Dry weight; @ 1% OC	United States	Swartz 1999
	EST	205000	µg/kg	AETA	Test result; Mississippi AET; Amphipod Bioassay	Mississippi Sound, Mississippi	Lytle & Lytle 1985

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
PAHs, High Molecular Weight	EST/SW	655	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	FW/SW	1000	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	1200	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	EST/SW	1700	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	1700	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	1700	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	EST/SW	1800	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	5200	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	5200	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	6676	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	9600	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	SW	9600	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	9600	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	>11000	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>11000	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	12000	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	12000	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	17000	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	18000	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	53000	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor	Washington	WSDOE 1990
	SW	69000	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	69000	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
PAHs, Low Molecular Weight (total)	FW/SW	100	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	312	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	320	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	320	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	500	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	EST/SW	552	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	560	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	560	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	EST/SW	610	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	EST/SW	1442	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	2100	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	2100	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
PAHs, Low Molecular Weight (total) (cont.)	EST/SW	3160	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	SW	3700	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	3700	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	5200	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	5200	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	5200	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	6100	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	7800	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	13000	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	24000	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	65000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
PCBs	SW	30	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	36.6	µg/kg	SLCA	Guideline; Screening Level Concentration (New value; 1987); @ 1% OC; Dry weight	United States	Neff et al. 1987
	SW	42.6	µg/kg	SLCA	Guideline; Screening Level Concentration (Old value; 1986); @ 1% OC; Dry weight	United States	Neff et al. 1987
	SW	70	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	SW	130	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	414	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	1000	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1100	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1100	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2500	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	3100	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	138038	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
PCBs (total)	FW/SW	20	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	FW/SW	20	µg/kg	EqPA	Criterion; No Effect Level; dry weight	British Columbia	BCMOELP 1998
	SW	20	µg/kg	EqPA	Criterion; No effect level	British Columbia	Nagpal et al. 1995
	SW	21.5	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	21.5	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
PCBs (total; cont.)	EST/SW	21.6	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	22	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	EST/SW	22.7	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	EST/SW	<50	µg/kg	AETA	Criterion; For Wetlands creation cover, Levee restoration, Landfill daily cover; Dry weight	California	CDWR 1995
	EST/SW	50	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	EST/SW	50–400	µg/kg	AETA	Criterion; For Wetlands creation noncover; Dry weight	California	CDWR 1995
	SW	<=57	µg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	88	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	88	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	FW/SW	100	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	120	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	EST/SW	130	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	EST/SW	180	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	SW	>=180	µg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	EST/SW	189	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	189	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	189	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	189	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	FW/SW	200	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	260	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	360	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	360	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	400	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	650	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	>960	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>960	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	>100000	µg/kg	AETA	Criterion; For Class I (see reference); Dry weight	California	CDWR 1995
PCPs	SW	10	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
Pentachlorobenzene	FW/SW	690	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Pentachlorobutadiene	SW	95	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	770	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	2800	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	3200	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
Pentachlorocyclopentane	SW	11	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	25	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Pentachlorophenol	SW	>340	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	>340	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	360	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	360	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	690	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	690	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
Phenanthrene	FW/SW	30–70	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	42	µg/kg		Guideline; Interim	British Columbia	Nagpal et al. 1998
	EST/SW	86.7	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	86.7	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	86.7	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	87	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	150	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	170	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	170	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	EST/SW	225	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	225	µg/kg	ERA	Criterion; Effect range low	British Columbia	Nagpal et al. 1995
	EST/SW	240	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	240	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	SW	259	µg/kg	SLCA	Guideline; Screening Level Concentration (Old value; 1986); @ 1% OC; Dry weight	United States	Neff et al. 1987
	SW	270	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	270	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Phenanthrene (cont.)	SW	>290	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	320	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	368	µg/kg	SLCA	Guideline; Screening Level Concentration (New value; 1987); @ 1% OC; Dry weight	United States	Neff et al. 1987
	FW/SW	400	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	510	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	510	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	EST/SW	544	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	544	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	544	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	SW	544	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	FW/SW	800	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	1000	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	1020	µg/kg	EqPA	Interim Criterion (Final Residue Value); @ 1% OC; Dry weight	United States	USEPA 1988b
	EST/SW	1380	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	1380	µg/kg	ERA	Criterion; Effect range median	British Columbia	Nagpal et al. 1995
	EST/SW	1500	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	SW	1500	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1500	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1600	µg/kg	EqPA	EPA Sediment Quality Criterion; @ 1% OC; Dry weight	United States	Hansen et al. 1991c
	SW	1600	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	FW/SW	1800	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	SW	3200	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	4800	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	5400	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	5400	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	6900	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	14000	µg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Chronic); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	14000	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Phenol	SW	200	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	200	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	>230	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Phenol (cont.)	SW	>230	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	420	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	420	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	670	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1200	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1200	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1200	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1200	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
Phenols (total)	EST	2430	µg/kg	AETA	Test result; Mississippi AET; Mysid Bioassay	Mississippi Sound, Mississippi	Lytle & Lytle 1985
Pyrene	FW/SW	20–100	µg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	153	µg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	153	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	SW	153	µg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	153	µg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	260	µg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	EST/SW	350	µg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	SW	350	µg/kg	ERA	Criterion; Effect range low	British Columbia	Nagpal et al. 1995
	EST/SW	430	µg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	434	µg/kg	SLCA	Guideline; Screening Level Concentration (Old value; 1986); @ 1% OC; Dry weight	United States	Neff et al. 1987
	SW	490	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	490	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	EST/SW	665	µg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	665	µg/kg	SLCA	Guideline; Screening Level Concentration (New value; 1987); @ 1% OC; Dry weight	United States	Neff et al. 1987
	FW/SW	700	µg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	700	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	700	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	>840	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	FW/SW	1000	µg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	1398	µg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	1398	µg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Pyrene (cont.)	SW	1398	µg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	1398	µg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998
	EST	1900	µg/kg	SQG	Low Abundance Threshold Concentration; Euphilomedes producta	Puget Sound, Washington	Tetra Tech 1986
	EST	1900	µg/kg	SQG	Low Abundance Threshold Concentration; Praxillella gracilis test	Puget Sound, Washington	Tetra Tech 1986
	SW	1900	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	EST/SW	2200	µg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	2200	µg/kg	ERA	Criterion; Effect range median	British Columbia	Nagpal et al. 1995
	EST/SW	2600	µg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	SW	2600	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	2600	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	2600	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	EST	3300	µg/kg	SQG	Low Abundance Threshold Concentration; Nucula tenuis	Puget Sound, Washington	Tetra Tech 1986
	SW	3300	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	4300	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	10000	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	14000	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	16000	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	16000	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	49500	µg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Chronic); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	49500	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Retene	SW	1200	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1700	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	2000	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Selenium	SW	0.2	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	0.2	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	EST/SW	<0.7	mg/kg	AETA	Criterion; For Wetlands creation cover, Levee restoration, Landfill daily cover; Dry weight	California	CDWR 1995
	EST/SW	0.7–1.4	mg/kg	AETA	Criterion; For Wetlands creation noncover; Dry weight	California	CDWR 1995
	SW	1	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1.3	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in tidal streams; Dry weight	Texas	TNRCC 1996

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Selenium (cont.)	EST	1.7	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in estuaries; Dry weight	Texas	TNRCC 1996
	EST/SW	>200	mg/kg	AETA	Criterion; For Class I (see reference); Dry weight	California	CDWR 1995
Silver	SW	<0.3	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	0.3–1.3	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	0.73	mg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995
	EST/SW	<1.0	mg/kg	AETA	Criterion; For Wetlands creation cover, Levee restoration, Landfill daily cover; Dry weight	California	CDWR 1995
	EST/SW	1	mg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	EST/SW	1.0	mg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	FW/SW	1	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	FW/SW	1.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	SW	1	mg/kg	SQG	Sediment Quality Guideline; Screening level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	1	mg/kg	SQG	Sediment Quality Guideline; Lower chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	EST/SW	1.0–2.2	mg/kg	AETA	Criterion; For Wetlands creation noncover; Dry weight	California	CDWR 1995
	SW	<=1.2	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	Spain	DelValls and Chapman
	EST/SW	1.2	mg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	SW	1.3–5	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	>=1.3	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	Spain	DelValls and Chapman
	EST	1.6	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in estuaries; Dry weight	Texas	TNRCC 1996
	SW	1.6	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in tidal streams; Dry weight	Texas	TNRCC 1996
	EST/SW	1.77	mg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	2	mg/kg	SQG	Sediment Quality Guideline; Upper chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	EST/SW	2.2	mg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	2.3	mg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	2.4	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	EST/SW	3.7	mg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	FW/SW	3.7	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	FW/SW	3.7	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	3.7	mg/kg	SQG	Sediment Quality Guideline; Maximum level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	3.7	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	3.7	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	<=4.0	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	5–10	mg/kg	SQG	Sediment Quality Guideline; Class IV (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	6.1	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Silver (cont.)	SW	6.1	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	6.1	mg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	6.1	mg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	>=8.1	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	>8.6	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	>10	mg/kg	SQG	Sediment Quality Guideline; Class V (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	>11	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>11	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	EST/SW	>1000	mg/kg	AETA	Criterion; For Class I (see reference); Dry weight	California	CDWR 1995
Silver (total)	SW	1.0	mg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	SW	2.2	mg/kg	ERA	Criterion; Effects range median	British Columbia	Nagpal et al. 1995
Sulphide (total)	SW	45	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	45	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	45	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	45	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	45	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	540	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight	Puget Sound, Washington	Barrick et al. 1988b
	SW	630	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
T4CDD, 2,3,7,8-	SW	100	µg/kg		Criteria; @ 1% OC	New York State	Newell 1989
Tetrachlorobutadiene	SW	380	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	3100	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	13100	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
Tetrachloroethane	FW/SW	1600	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Tetrachloroethylene	SW	57	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Tetrachloroethylene (cont.)	SW	140	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	140	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	140	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	450	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	530	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Thallium	SW	0.24	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	0.24	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	0.24	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	0.40	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	10	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	10	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
Tin	SW	1.4	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	6.5	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	6.5	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	6.5	mg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	<=8.0	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	15	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	15	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>=15.0	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
Toluene	FW/SW	890	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
	SW	2500	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
Total Organic Carbon	SW	15.1	%	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	15.1	%	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	15.1	%	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	15.1	%	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Total Volatile Solids	SW	22.2	%	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	22.2	%	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Total Volatile Solids (cont.)	SW	22.2	%	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	26.93	%	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Toxaphene	SW	0.002	µg/kg	EqPA	Criterion; Equilibrium Partitioning Methodology; @ 1% OC; Dry weight	United States	Pavlou et al. 1987
	FW/SW	0.1	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	0.1	µg/kg		Criteria; @ 1% OC	New York State	Newell 1989
	SW	1.4	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	5	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	100	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Trichlorobenzene, 1,2,4-	SW	8.1	µg/kg		Criterion; No adverse effect on biota	British Columbia	Nagpal et al. 1995
	SW	8.1	µg/kg	AETA	Sediment Quality Standard; No Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	18	µg/kg		Criterion; Minor Adverse Effect	British Columbia	Nagpal et al. 1995
	SW	18	µg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Total; Dry weight; @ 1% OC	Washington	WSDOE 1990
	SW	31	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	51	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	64	µg/kg		Criterion; Maximum level for dredge disposal	British Columbia	Nagpal et al. 1995
	SW	64	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	64	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	FW/SW	9200	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Trichlorobenzenes	FW/SW	910	µg/kg	EqPA	Chronic criterion; @ 1% OC	New York State	NYSDEC 1994
	SW	910	µg/kg		Criteria; @ 1% OC	New York State	Newell 1989
	FW/SW	9100	µg/kg	EqPA	Acute criterion; @ 1% OC	New York State	NYSDEC 1994
Trichlorobutadiene	SW	820	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	5800	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	35800	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988b
Trichloroethane, 1,1,1-	FW/SW	170	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Trichloroethylene	SW	0.80	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	1600	µg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	FW/SW	2100	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Trichlorophenol, 2,4,5-	SW	3	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	29	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Trichlorophenol, 2,4,6-	SW	6	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	25	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
Trimethyl napthalene, 2,3,5-	SW	14	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	14	µg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	14	µg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	54	µg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988b
	SW	160	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	160	µg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
Xylene, m-	FW/SW	25	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Xylene, o-	FW/SW	25	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Xylene, p-	FW/SW	25	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Xylenes	FW/SW	25	µg/kg	EqPA	Guideline; Sediment Quality Advisory Level; @ 1% OC	United States	USEPA 1997a
Xylenes (total)	SW	40	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	100	µg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	120	µg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	120	µg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
Zinc	FW/SW	100	mg/kg	SBA	Sediment Quality Criterion; No Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST	110	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in estuaries; Dry weight	Texas	TNRCC 1996
	EST/SW	120	mg/kg	ERA	Effects range - low; Dry weight	United States	Long and Morgan 1991
	FW/SW	120.0	mg/kg	SLCA	Criterion; Lowest Effect Level; Dry weight	New York State	NYSDEC 1994
	EST/SW	124	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	124	mg/kg	ELA	Guideline; Threshold Effect Level; Dry weight	Florida	MacDonald et al. 1995

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Zinc (cont.)	EST/SW	124	mg/kg	ERA	Interim Guideline; Threshold Effect Level; Dry weight	Canada	Environment Canada 1999
	SW	<150	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	Norway	Knutzen et al. 1993
	FW/SW	150	mg/kg	SLCA	Sediment Quality Criterion; Minimal Effect Threshold; Dry weight	St. Lawrence River, Canada	MENVIQ/EC 1992
	EST/SW	150	mg/kg	ERA	Guideline; Effects range - low; Dry weight	United States	Long et al. 1995
	SW	150	mg/kg	SQG	Sediment Quality Guideline; Class I (see reference); Dry weight	China	Tang et al. 1998
	SW	150	mg/kg	AETA	Apparent Effect Threshold; Bivalve larvae abnormality; Dry weight	California	Becker et al. 1990
	SW	150	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Northern California; Dry weight	California	Becker et al. 1990
	SW	150.	mg/kg		Proposed Objective; Burrard Inlet	Burrard Inlet, British Columbia	Nijman and Swain 1989
	SW	150–700	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	<=156	mg/kg	SQTA	Guideline; For no, or minimal adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	EST/SW	<160	mg/kg	AETA	Criterion; For Wetlands creation cover, Levee restoration, Landfill daily cover; Dry weight	California	CDWR 1995
	EST/SW	160	mg/kg	AETA	Guideline; Puget Sound Screening level for open water disposal; Dry weight	Puget Sound, Washington	Phillips et al. 1988
	EST/SW	160–270	mg/kg	AETA	Criterion; For Wetlands creation noncover; Dry weight	California	CDWR 1995
	SW	190	mg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Chronic); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	190	mg/kg	EqPA	Chronic Marine EqP Threshold; @ 1% OC; Dry weight	United States	Bolton et al. 1985
	SW	191	mg/kg	SQG	Sediment Quality Guideline; NRCC 85th percentile level in tidal streams; Dry weight	Texas	TNRCC 1996
	FW/SW	200	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	200	mg/kg	SQG	Sediment Quality Guideline; Lower chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	SW	200	mg/kg	SQG	Sediment Quality Guideline; Low level; Dry weight	New England	NERBC 1980
	SW	200	mg/kg	SQG	Sediment Quality Guideline; Screening level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	>=225	mg/kg	SQTA	Guideline; Results in major adverse biological effects; Dry weight	San Francisco Bay	DelValls and Chapman
	SW	230	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Northern California; Dry weight	California	Becker et al. 1990
	SW	260	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	EST/SW	270	mg/kg	ERA	Effects range - median; Dry weight	United States	Long and Morgan 1991
	SW	270	mg/kg	SQG	Sediment Quality Guideline; Upper chemical exceedence level; Dry weight	Hong Kong	HKGS 1998
	EST/SW	271	mg/kg	ERA	Probable Effect Level; Dry weight	Canada	Environment Canada 1999
	EST/SW	271	mg/kg	ERA	Probable Effect Level; Dry weight	Nova Scotia	NSDOE 1998
	EST/SW	271	mg/kg	ELA	Guideline; Probable Effect Level; Dry weight	Florida	MacDonald et al. 1995
	SW	340	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; All of California; Dry weight	California	Becker et al. 1990
	SW	340	mg/kg	AETA	Apparent Effect Threshold; Benthic effects; Southern California; Dry weight	California	Becker et al. 1990
	SW	350	mg/kg	SQG	Sediment Quality Guideline; Class II (see reference); Dry weight	China	Tang et al. 1998
	SW	400	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	New England	NERBC 1980
	EST/SW	410	mg/kg	ERA	Guideline; Effects range - median; Dry weight	United States	Long et al. 1995
	FW/SW	410	mg/kg	SQG	Sediment Quality Guideline; High level; Dry weight	Australia & New Zealand	ANZECC 1998

Appendix 3-2. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Marine and Estuarine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Zinc (cont.)	FW/SW	410	mg/kg	SLCA	Criterion; Severe Effect Level; Dry weight	New York State	NYSDEC 1994
	SW	410	mg/kg	SQG	Sediment Quality Guideline; Maximum level for sea disposal; Dry weight	Australia & New Zealand	ANZECC 1998
	SW	410	mg/kg	AETA	Sediment Quality Standard; No Effect Level; Dry weight	Washington	WSDOE 1990
	SW	410	mg/kg	AETA	Apparent Effect Threshold; Benthic infauna abundance; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	FW/SW	540	mg/kg	SLCA	Sediment Quality Criterion; Toxic Effect Threshold; Dry weight; @ 1% OC	St. Lawrence River, Canada	MENVIQ/EC 1992
	SW	560	mg/kg	EqPA	Criterion; Equilibrium Partitioning Based (Acute); @ 1% OC; Dry weight	United States	Lyman et al. 1987
	SW	600	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	China	Tang et al. 1998
	SW	700–3000	mg/kg	SQG	Sediment Quality Guideline; Class III (see reference); Dry weight	Norway	Knutzen et al. 1993
	SW	870	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	>870	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; All of California; Dry weight	California	Becker et al. 1990
	SW	>870	mg/kg	AETA	Apparent Effect Threshold; Amphipod mortality; Southern California; Dry weight	California	Becker et al. 1990
	SW	960	mg/kg	AETA	Sediment Impact Zone Maximum Level; Minimum Cleanup Level; Minor Adverse Effect Level; Dry weight	Washington	WSDOE 1990
	SW	960	mg/kg	AETA	Apparent Effect Threshold; Amphipod toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1600	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1600	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1600	mg/kg	AETA	Apparent Effect Threshold; Oyster larvae toxicity; Dry weight; 1988 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	1600	mg/kg	AETA	Apparent Effect Threshold; Microtox bioassay; Dry weight; 1986 data	Puget Sound, Washington	Barrick et al. 1988a
	SW	3000–10000	mg/kg	SQG	Sediment Quality Guideline; Class IV (see reference); Dry weight	Norway	Knutzen et al. 1993
	EST/SW	>10000	mg/kg	AETA	Criterion; For Class I (see reference); Dry weight	California	CDWR 1995
	SW	>10000	mg/kg	SQG	Sediment Quality Guideline; Class V (see reference); Dry weight	Norway	Knutzen et al. 1993
Zinc (total)	SW	120	mg/kg	ERA	Criterion; Effects range low	British Columbia	Nagpal et al. 1995
	SW	124	mg/kg		Working Sediment Quality Guideline; Interim; Dry weight	British Columbia	Nagpal et al. 1998
	SW	270	mg/kg	ERA	Criterion; Effects range median	British Columbia	Nagpal et al. 1995
	SW	271	mg/kg		Working Guideline; Probable Effect Level; Dry weight	British Columbia	Nagpal et al. 1998

Appendix 3 - 3

A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Wildlife Using Freshwater, Estuarine and Marine Ecosystems

Appendix 3-3. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Wildlife Utilizing Freshwater, Estuarine and Marine Ecosystems.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Aldrin + Dieldrin	FW/SW	7.7	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Chlordane	FW/SW	0.06	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Chlorophenols	EST/SW	10	µg/kg		Provisional Objective; Maximum for Sturgeon and Roberts Banks; Dry weight	British Columbia	Swain and Holms 1985
	FW	10	µg/kg		Provisional Objective; Maximum for Fraser River; Dry weight	British Columbia	Swain and Holms 1985
DDT and metabolites	FW/SW	10	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Endrin	FW	8	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Heptachlor + Heptachlor Epoxide	FW	0.3	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Hexachlorobenzene	FW	120	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Hexachlorobutadiene	FW/SW	40	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Hexachlorocyclohexane (all isomers)	FW/SW	15	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Mirex	FW/SW	37	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Octachlorostyrene	FW/SW	5	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
PCBs	FW/SW	14	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	30	µg/kg		Provisional Objective; Maximum; Dry weight	British Columbia	Swain and Holms 1985
T4CDD, 2,3,7,8-	FW/SW	0.002	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	0.0025	µg/kg	SQG	Interim Assessment Concentration; Low risk; For mammalian wildlife; Dry weight	United States	Cook et al. 1993
	FW	0.021	µg/kg	SQG	Interim Assessment Concentration; Low risk; For avian wildlife; Dry weight	United States	Cook et al. 1993
	FW	0.025	µg/kg	SQG	Interim Assessment Concentration; High risk - sensitive species; For mammalian wildlife; Dry weight	United States	Cook et al. 1993
	FW	0.210	µg/kg	SQG	Interim Assessment Concentration; High risk - sensitive species; For avian wildlife; Dry weight	United States	Cook et al. 1993

Appendix 3 - 4

A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Human Health

Appendix 3-4. A Summary of the Available Sediment Quality Criteria and Guidelines for Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Acrolein	FW	69000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	170000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Acrylonitrile	FW	0.96	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	11	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Aldrin	FW	0.05	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	0.33	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Aldrin + Dieldrin	FW/SW	1	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Antimony	FW	0.014	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	4.3	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Arsenic	FW	0.2	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Azobenzene	FW/SW	10	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Benzanthracene, 1,2-	SW	7	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	13	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Benzene	FW	1.8	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW/SW	6	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	EST	110	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Benzidine	FW	0.005	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	0.02	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Benzo(a)pyrene	SW	7	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	13	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Benzo(k)fluoranthene	SW	7	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	13	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Benzofluoranthene, 3,4-	SW	7	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	13	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Beryllium	FW	0.00015	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	0.0025	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993

Appendix 3-4. A Summary of the Available Sediment Quality Criteria and Guidelines for Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Bis(2-chloroisopropyl) Ether	FW	3400	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	430000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Bis(2-ethylhexyl) Phthalate	FW	380	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	1300	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Butyl Phthalate, N-	FW	240000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	1100000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Cadmium	FW	0.64	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Carbon Tetrachloride	FW	4.1	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW/SW	6	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	EST	72	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Chlordane	FW/SW	0.01	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	1.1	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	1.2	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Chlorobenzene	EST	46000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Chloroform	EST	1800	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Chloro-o-toluidine	FW/SW	6.5	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Chromium (III)	FW	530	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	11000	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Chrysene	SW	7	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	13	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Cyanides	FW	0.7	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	220.0	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
DDE	EST	32	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW	32	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
DDT and metabolites	FW/SW	0.1	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994

Appendix 3-4. A Summary of the Available Sediment Quality Criteria and Guidelines for Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
DDTs (sum)	EST	32	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW	32	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW	200	µg/kg		Interim guideline; Includes DDD and DDE	Oregon	ODEQ 1989a
Dichlorobenzene, m-	EST	150000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Dichlorobenzene, o-	FW	150000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	970000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Dichlorobenzene, p-	FW	550	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	3600	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Dichlorobenzidine, 3,3'-	FW	4.5	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	9	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Dichloroethyl Ether, sym-	FW	0.09	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW/SW	0.3	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	EST	4.3	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Dichloropropene, 1,3-	FW	0.4	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	60	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Dieldrin	FW	0.65	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	0.7	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW/SW	1	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Diethyl Phthalate	FW	1700000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	8600000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Dimethyl Phthalate	FW	11000000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	110000000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Dimethylphenol, 2,4-	EST	220000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Dinitrocresol	FW	70	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	4200	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Dinitrophenol, 2,4-	FW	110	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	22000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993

Appendix 3-4. A Summary of the Available Sediment Quality Criteria and Guidelines for Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Dinitrotoluene, 2,4-	FW	0.42	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	35	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Diphenylhydrazine	FW/SW	5.8	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Diphenylhydrazine, 1,2-	FW	1	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	14	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Endosulfan (total)	FW	250	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	500	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Endrin	FW	8	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Endrin (total)	FW	3000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	3200	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Ethylbenzene	EST	1100000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Ethylene Dichloride	FW	0.6	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW/SW	7	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	EST	150	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Fluoranthene	FW	49000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	62000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Halomethanes	EST	1800	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Heptachlor	FW	1.8	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	1.9	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Heptachlor + Heptachlor Epoxide	FW/SW	0.008	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Heptachlor Epoxide	EST	0.8	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW	0.8	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Hexachlorobenzene	FW	1.5	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	EST	6	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW	6	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993

Appendix 3-4. A Summary of the Available Sediment Quality Criteria and Guidelines for Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Hexachlorobutadiene	FW	1.2	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW/SW	3	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	EST	140	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Hexachlorocyclohexane (all isomers)	FW/SW	0.6	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Hexachlorocyclohexane-Alpha	FW	0.5	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	1.71	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Hexachlorocyclohexane-Beta	FW	1.8	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	6	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Hexachlorocyclopentadiene	EST	75000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Hexachloroethane	FW	170	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	760	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Indeno(1,2,3-cd)pyrene	SW	7	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	13	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Isophorone	EST	27	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW	38	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Lindane	FW	2.5	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	8.1	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Mercury	FW	0.3	mg/kg	SBA	Criterion; MOE Dredged Material Classification; Open water disposal	Ontario	OMOE 1987
	EST	1.0	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW	1.0	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Methylbenz(a)anthracene	SW	7	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	13	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Methylene Chloride	FW	4.2	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	1400	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Mirex	FW/SW	0.7	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Nickel	FW	28	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993

Appendix 3-4. A Summary of the Available Sediment Quality Criteria and Guidelines for Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Nickel (cont.)	EST	220	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Nitrobenzene	FW	50	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	5400	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Nitrosodimethylamine, N-	FW	0.00006	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	0.7	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Nitrosodiphenylamine, N-	FW	370	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	1200	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
PAHs (total)	FW	0.08	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	0.93	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
PCBs	FW/SW	0.008	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
PCBs (total)	EST	2.2	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW	2.2	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Pentachlorophenol	FW	3.1	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	90	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Phenol	EST	6500000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
T4CDD, 2,3,7,8-	EST	0.00007	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW	0.00007	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW/SW	0.1	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Tetrachloroethane	FW	0.86	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	54	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Tetrachloroethane, 1,1,1,2-	FW/SW	3	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Tetrachloroethylene	FW/SW	8	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	19000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	210000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Thallium	FW	0.20	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	0.7	mg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993

Appendix 3-4. A Summary of the Available Sediment Quality Criteria and Guidelines for Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Toluene	FW	110000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	3200000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Toluidine, o-	FW/SW	5	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
Toxaphene	FW/SW	0.2	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	8.8	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	9	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Tributyltin	EST	300	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Trichloroethane, 1,1,1-	FW	1100	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	62000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Trichloroethane, 1,1,2-	FW	2.7	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	FW/SW	6	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	EST	190	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Trichloroethylene	FW/SW	20	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	33	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	980	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Trichlorophenol, 2,4,6-	FW	50000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	150000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Vinyl Chloride	FW/SW	0.7	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	150	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	40000	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
Vinylidene Chloride	FW/SW	0.2	µg/kg	EqPA	Criteria for bioaccumulation; @ 1% OC	New York State	NYSDEC 1994
	FW	0.32	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993
	EST	18	µg/kg	TRA	Sediment Quality Objective; based on Maximum Tissue Residue Level	California	CSWRCB 1993

Appendix 3 - 5

A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Agricultural Uses

Appendix 3-5. A Summary of the Available Sediment Quality Criteria and Guidelines for the Protection of Agricultural Uses.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Arsenic	FW	20	mg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987
Cadmium	FW	1.6	mg/kg	SBA	Criterion; Unrestricted Land Use; Dry weight	Ontario	OMOE 1987
	FW	4.0	mg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987
Chromium	FW	120	mg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987
	FW	120	mg/kg	SBA	Criterion; Unrestricted Land Use; Dry weight	Ontario	OMOE 1987
Cobalt	FW	20.0	mg/kg	SBA	Criterion; Unrestricted Land Use; Dry weight	Ontario	OMOE 1987
	FW	25.0	mg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987
Copper	FW	100.0	mg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987
	FW	100.0	mg/kg	SBA	Criterion; Unrestricted Land Use; Dry weight	Ontario	OMOE 1987
					Criterion; Unrestricted Land Use; Dry weight		
Iron	FW	35000	mg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987
	FW	35000	mg/kg	SBA	Criterion; Unrestricted Land Use; Dry weight	Ontario	OMOE 1987
Lead	FW	60	mg/kg	SBA	Criterion; Unrestricted Land Use; Dry weight	Ontario	OMOE 1987
	FW	500	mg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987
Mercury	FW	0.5	mg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987
	FW	0.5	mg/kg	SBA	Criterion; Unrestricted Land Use; Dry weight	Ontario	OMOE 1987
Molybdenum	FW	4.0	mg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987
	FW	4.0	mg/kg	SBA	Criterion; Unrestricted Land Use; Dry weight	Ontario	OMOE 1987
Nickel	FW	32	mg/kg	SBA	Criterion; Unrestricted Land Use; Dry weight	Ontario	OMOE 1987
	FW	60	mg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987
PCBs (total)	FW	2000	µg/kg	SBA	Criterion; Unrestricted Land Use; Dry weight	Ontario	OMOE 1987
	FW	2000	µg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987
Selenium	FW	1.6	mg/kg	SBA	Criterion; Unrestricted Land Use; Dry weight	Ontario	OMOE 1987
	FW	2	mg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987
Zinc	FW	220	mg/kg	SBA	Criterion; Unrestricted Land Use; Dry weight	Ontario	OMOE 1987
	FW	500	mg/kg	SBA	Criterion; Restricted Land Use; For urban soils only; Dry weight	Ontario	OMOE 1987

Appendix 4 - 1

A Summary of the Available Tissue Residue Criteria and Guidelines for the Protection of Freshwater, Estuarine and Marine Aquatic Life

Appendix 4-1. A Summary of the Available Tissue Residue Quality Criteria and Guidelines for the Protection of Freshwater, Estuarine and Marine Aquatic Life.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Chlorophenols	FW	0.100	mg/kg		Provisional Objective; Maximum for Fraser River; Wet weight	British Columbia	Swain and Holms 1985
Fecal Coliforms	SW	300	MPN/100mL		Guideline; Shellfish waters; In the shellfish flesh and intervalvular liquid	Europe	CEC 1988
Mercury (total)	FW/EST/SW	0.3	mg/kg		Maximum in wet flesh; A representative sample of fish flesh chosen as an indicator, with respect to discharges relating to the chlor-alkali industry	Europe	CEC 1988
	FW/EST/SW	Narrative			The concentration in shellfish shall not increase significantly with time	Europe	CEC 1988
PCBs	FW	0.5	mg/kg		Provisional Objective; Maximum in fish muscle; Wet weight	British Columbia	Swain and Holms 1985

Appendix 4 - 2

A Summary of the Available Tissue Residue Criteria and Guidelines for the Protection of Wildlife Utilizing Freshwater, Estuarine and Marine Ecosystems

Appendix 4-2. A Summary of the Available Tissue Residue Quality Criteria and Guidelines for the Protection of Wildlife Utilizing Freshwater, Estuarine and Marine Ecosystems.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Aldrin + Dieldrin	FW/EST/SW	0.022	mg/kg		1 in 100 cancer risk criteria for piscivorous wildlife	New York State	Newell et al. 1987
	FW/EST/SW	0.12	mg/kg		Non-carcinogenic final fish flesh criteria for piscivorous wildlife	New York State	Newell et al. 1987
Chlordane	FW/EST/SW	0.37	mg/kg		1 in 100 cancer risk criteria for piscivorous wildlife	New York State	Newell et al. 1987
	FW/EST/SW	0.5	mg/kg		Non-carcinogenic final fish flesh criteria for piscivorous wildlife	New York State	Newell et al. 1987
Chlorophenols	FW	0.100	mg/kg		Provisional Objective; Maximum for Fraser River; Wet weight	British Columbia	Swain and Holms 1985
DDTs (total)	FW/EST/SW	0.2	mg/kg		Non-carcinogenic final fish flesh criteria for piscivorous wildlife	New York State	Newell et al. 1987
	FW/EST/SW	0.27	mg/kg		1 in 100 cancer risk criteria for piscivorous wildlife	New York State	Newell et al. 1987
	FW/EST/SW	1	mg/kg		Objective; Whole fish; Wet weight basis; For protection of fish consuming birds	Ontario	Environment Ontario 1984
	FW/EST/SW	0.014	mg/kg		Guideline; Maximum tissue residue for the protection of wildlife consumers of aquatic biota	Canada	CCME 1999
Hexachlorobenzene	FW/EST/SW	0.2	mg/kg		1 in 100 cancer risk criteria for piscivorous wildlife	New York State	Newell et al. 1987
	FW/EST/SW	0.33	mg/kg		Non-carcinogenic final fish flesh criteria for piscivorous wildlife	New York State	Newell et al. 1987
Hexachlorocyclohexane (all isomers)	FW/EST/SW	0.1	mg/kg		Non-carcinogenic final fish flesh criteria for piscivorous wildlife	New York State	Newell et al. 1987
	FW/EST/SW	0.51	mg/kg		1 in 100 cancer risk criteria for piscivorous wildlife	New York State	Newell et al. 1987
Mirex	FW/EST/SW	0.33	mg/kg		Non-carcinogenic final fish flesh criteria for piscivorous wildlife	New York State	Newell et al. 1987
	FW/EST/SW	0.37	mg/kg		1 in 100 cancer risk criteria for piscivorous wildlife	New York State	Newell et al. 1987
PCB 28	FW/EST/SW	0.01	mg/kg	TTA	Ecotoxicological value for fish-eating predators	Netherlands	Stortelder et al. 1989
PCB 52	FW/EST/SW	0.004	mg/kg	TTA	Ecotoxicological value for fish-eating predators	Netherlands	Stortelder et al. 1989
PCB 101	FW/EST/SW	0.008	mg/kg	TTA	Ecotoxicological value for fish-eating predators	Netherlands	Stortelder et al. 1989
PCB 118	FW/EST/SW	0.008	mg/kg	TTA	Ecotoxicological value for fish-eating predators	Netherlands	Stortelder et al. 1989
PCB 138	FW/EST/SW	0.01	mg/kg	TTA	Ecotoxicological value for fish-eating predators	Netherlands	Stortelder et al. 1989
PCB 153	FW/EST/SW	0.01	mg/kg	TTA	Ecotoxicological value for fish-eating predators	Netherlands	Stortelder et al. 1989
PCB 180	FW/EST/SW	0.012	mg/kg	TTA	Ecotoxicological value for fish-eating predators	Netherlands	Stortelder et al. 1989

Appendix 4-2. A Summary of the Available Tissue Residue Quality Criteria and Guidelines for the Protection of Wildlife Utilizing Freshwater, Estuarine and Marine Ecosystems.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
PCBs	FW	0.5	mg/kg		Provisional Objective; Maximum in fish muscle; Wet weight	British Columbia	Swain and Holms 1985
	FW/EST/SW	0.00000079	mg TEQ/kg		Guideline; Maximum tissue residue for the protection of wildlife consumers of aquatic biota	Canada	CCME 1999
PCBs (total)	FW/EST/SW	0.1	mg/kg		Maximum	British Columbia	BCMOELP 1998
	FW/EST/SW	0.11	mg/kg		1 in 100 cancer risk criteria for piscivorous wildlife	New York State	Newell et al. 1987
	FW/EST/SW	0.11	mg/kg		Non-carcinogenic final fish flesh criteria for piscivorous wildlife	New York State	Newell et al. 1987
Pentachlorophenol	FW/EST/SW	2.0	mg/kg		Non-carcinogenic final fish flesh criteria for piscivorous wildlife	New York State	Newell et al. 1987
Selenium (total)	FW	3	mg/kg		Criterion; Maximum; Wet weight	British Columbia	Nagpal et al. 1995
T4CDD, 2,3,7,8-	FW/EST/SW	0.0000023	mg/kg		1 in 100 cancer risk criteria for piscivorous wildlife	New York State	Newell et al. 1987
	FW/EST/SW	0.000003	mg/kg		Non-carcinogenic final fish flesh criteria for piscivorous wildlife	New York State	Newell et al. 1987
Tetrachlorophenol, 2,3,4,6-	FW/EST/SW	0.67	mg/kg		Non-carcinogenic final fish flesh criteria for piscivorous wildlife	New York State	Newell et al. 1987
Toxaphene	FW/EST/SW	0.0063	mg/kg		Guideline; Maximum tissue residue for the protection of wildlife consumers of aquatic biota	Canada	CCME 1999

Appendix 4 - 3

A Summary of the Available Tissue Residue Criteria and Guidelines for the Protection of Human Health

Appendix 4-3. A Summary of the Available Tissue Residue Quality Criteria and Guidelines for the Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Acenaphthene	FW/EST/SW	650	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Acetone	FW/EST/SW	1100	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Acetophenone	FW/EST/SW	1100	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Acetylene Dichloride	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Acrolein	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Acrylonitrile	FW/EST/SW	0.2	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	11	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Alachlor	FW/EST/SW	1.3	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	110	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Aldicarb	FW/EST/SW	11	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Aldrin	FW/EST/SW	0.0063	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.1	mg/kg		Legal limit in fish and fisheries products	Thailand	USEPA 1989b
	FW/EST/SW	0.32	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Aldrin + Dieldrin	FW/EST/SW	0.1	mg/kg		Legal limit in fish and fisheries products	Sweden	USEPA 1989b
	FW/EST/SW	0.3	mg/kg		Objective; Edible portion of fish	Ontario	Environment Ontario 1984
	FW/EST/SW	0.3	mg/kg		Legal limit in fish and fisheries products	United States	USEPA 1989b
	FW/EST/SW	0.5–1.0	mg/kg		Legal limit in fish and fisheries products	Germany	USEPA 1989b
Aniline	FW/EST/SW	19	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Anthracene	FW/EST/SW	3200	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Antimony	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Hong Kong	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	New Zealand	USEPA 1989b
	FW/EST/SW	1.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Australia	USEPA 1989b
	FW/EST/SW	4.3	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Aroclor 1016	FW/EST/SW	0.014	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.75	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a

Appendix 4-3. A Summary of the Available Tissue Residue Quality Criteria and Guidelines for the Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Aroclor 1221	FW/EST/SW	0.014	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.22	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Aroclor 1232	FW/EST/SW	0.014	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.22	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Aroclor 1242	FW/EST/SW	0.014	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.22	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Aroclor 1248	FW/EST/SW	0.014	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.22	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Aroclor 1254	FW/EST/SW	0.014	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.22	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Aroclor 1260	FW/EST/SW	0.014	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.22	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Arsenic	FW/EST/SW	0.062	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.1	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Venezuela	USEPA 1989b
	FW/EST/SW	0.12–1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Chile	USEPA 1989b
	FW/EST/SW	1	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Australia	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Ecuador	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	India	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	New Zealand	USEPA 1989b
	FW/EST/SW	1	mg/kg		Legal limit for hazardous metals in fish and fisheries products	United Kingdom	USEPA 1989b
	FW/EST/SW	1.4 – 10	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Hong Kong	USEPA 1989b
	FW/EST/SW	1.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products; Inorganic	Australia	USEPA 1989b
	FW/EST/SW	2	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Thailand	USEPA 1989b
	FW/EST/SW	3.2	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
	FW/EST/SW	3.5–5.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Zambia	USEPA 1989b
	FW/EST/SW	4.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Poland	USEPA 1989b
	FW/EST/SW	5.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Finland	USEPA 1989b
	FW/EST/SW	30	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Philippines	USEPA 1989b
Arsenic (total)	FW	3.5	mg/kg		Criterion; Wet weight	British Columbia	Nagpal et al. 1995
Atrazine	FW/EST/SW	0.49	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a

Appendix 4-3. A Summary of the Available Tissue Residue Quality Criteria and Guidelines for the Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Atrazine (cont.)	FW/EST/SW	380	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Barium	FW/EST/SW	750	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Benzanthracene, 1,2-	FW/EST/SW	0.15	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Benzene	FW/EST/SW	3.7	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Benzidine	FW/EST/SW	0.00047	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Benzidine	FW/EST/SW	32	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Benzo(a)pyrene	FW/EST/SW	0.001	mg/kg		Criterion; Maximum; heavy consumer (200 g/wk); Wet weight	British Columbia	BCMOELP 1998
	FW/EST/SW	0.002	mg/kg		Criterion; Maximum; moderate consumer (100 g/wk); Wet weight	British Columbia	BCMOELP 1998
	FW/EST/SW	0.004	mg/kg		Criterion; Maximum; low consumer (50 g/wk); Wet weight	British Columbia	BCMOELP 1998
	FW/EST/SW	0.015	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Benzo(k)fluoranthene	FW/EST/SW	1.5	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Benzofluoranthene, 3,4-	FW/EST/SW	0.15	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Benzoic Acid	FW/EST/SW	43000	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Benzotrichloride	FW/EST/SW	0.0083	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Benzyl Alcohol	FW/EST/SW	3200	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Benzyl Chloride	FW/EST/SW	0.63	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Beryllium	FW/EST/SW	25	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	54000	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Biphenyl	FW/EST/SW	540	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Bis(2-ethylhexyl) Phthalate	FW/EST/SW	7.7	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Boron	FW/EST/SW	970	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a

Appendix 4-3. A Summary of the Available Tissue Residue Quality Criteria and Guidelines for the Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Bromodichloromethane	FW/EST/SW	1.7	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Bromoform	FW/EST/SW	14	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Bromoxynil	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Butyl Phthalate, N-	FW/EST/SW	1100	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Butylbenzyl Phthalate	FW/EST/SW	2200	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Cadmium	FW/EST/SW	0–0.1	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Venezuela	USEPA 1989b
	FW/EST/SW	0.1	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Switzerland	USEPA 1989b
	FW/EST/SW	0.2–5.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Australia	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Chile	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Germany	USEPA 1989b
	FW/EST/SW	0.5–1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Netherlands	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	New Zealand	USEPA 1989b
	FW/EST/SW	2.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Hong Kong	USEPA 1989b
	FW/EST/SW	5.4	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Carbaryl	FW/EST/SW	1100	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Carbofuran	FW/EST/SW	54	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Carbon Disulfide	FW/EST/SW	1100	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Carbon Tetrachloride	FW/EST/SW	0.83	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	7.5	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chloramben	FW/EST/SW	160	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chlordane	FW/EST/SW	0.01	mg/kg		Legal limit in fish and fisheries products	Germany	USEPA 1989b
	FW/EST/SW	0.083	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.3	mg/kg		Legal limit in fish and fisheries products	United States	USEPA 1989b
	FW/EST/SW	0.65	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a

Appendix 4-3. A Summary of the Available Tissue Residue Quality Criteria and Guidelines for the Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Chlordane, alpha (cis)	FW/EST/SW	0.083	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.65	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chlordane, beta (trans)	FW/EST/SW	0.083	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.65	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chlordane, gamma (trans)	FW/EST/SW	0.083	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.65	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chlordecone	FW/EST/SW	0.3–0.4	mg/kg		Legal limit in fish and fisheries products	United States	USEPA 1989b
Chlorobenzene	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chlorobenzilate	FW/EST/SW	0.4	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chloroethyl Vinyl Ether, 2-	FW/EST/SW	270	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chloroform	FW/EST/SW	18	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	110	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chloronaphthalene, 2-	FW/EST/SW	860	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chlorophenol, 2-	FW/EST/SW	10	mg/kg		Criterion; Flavour Impairment	British Columbia	BCMOELP 1998
	FW/EST/SW	54	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chlorophenol, 3-	FW/EST/SW	20	mg/kg		Criterion; Flavour Impairment	British Columbia	BCMOELP 1998
Chlorophenol, 4-	FW/EST/SW	40	mg/kg		Criterion; Flavour Impairment	British Columbia	BCMOELP 1998
Chlorpyrifos	FW/EST/SW	32	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chromium	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Hong Kong	USEPA 1989b
	FW/EST/SW	54	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Chrysene	FW/EST/SW	15	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Copper	FW/EST/SW	10	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Chile	USEPA 1989b

Appendix 4-3. A Summary of the Available Tissue Residue Quality Criteria and Guidelines for the Protection of Human Health.

Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Copper (cont.)	FW/EST/SW	10	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Ecuador	USEPA 1989b
	FW/EST/SW	10	mg/kg		Legal limit for hazardous metals in fish and fisheries products	India	USEPA 1989b
	FW/EST/SW	10	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Venezuela	USEPA 1989b
	FW/EST/SW	10–30	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Poland	USEPA 1989b
	FW/EST/SW	10–70	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Australia	USEPA 1989b
	FW/EST/SW	20	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Thailand	USEPA 1989b
	FW/EST/SW	20	mg/kg		Legal limit for hazardous metals in fish and fisheries products	United Kingdom	USEPA 1989b
	FW/EST/SW	30	mg/kg		Legal limit for hazardous metals in fish and fisheries products	New Zealand	USEPA 1989b
	FW/EST/SW	100	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Zambia	USEPA 1989b
	FW/EST/SW	400	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Cresol, m-	FW/EST/SW	540	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Cresol, o-	FW/EST/SW	540	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Cresol, p-	FW/EST/SW	54	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Cresols	FW/EST/SW	54	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Cumene	FW/EST/SW	430	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Cyanazine	FW/EST/SW	0.13	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	22	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Cyanide	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
D, 2,4-	FW/EST/SW	110	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
DCPA	FW/EST/SW	110	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
DDD	FW/EST/SW	0.45	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	5.0	mg/kg		Legal limit in fish and fisheries products	United States	USEPA 1989b
DDD, o,p'-	FW/EST/SW	0.45	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
DDE	FW/EST/SW	0.32	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	5.0	mg/kg		Legal limit in fish and fisheries products	United States	USEPA 1989b

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
DDE, o,p'-	FW/EST/SW	0.32	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
DDT	FW/EST/SW	0.32	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	5.4	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
DDT, o,p'-	FW/EST/SW	0.32	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	5.4	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
DDTs (sum)	FW/EST/SW	2.0–5.0	mg/kg		Legal limit in fish and fisheries products	Denmark	USEPA 1989b
	FW/EST/SW	5	mg/kg		Legal limit in fish and fisheries products	Thailand	USEPA 1989b
	FW/EST/SW	5.0	mg/kg		Legal limit in fish and fisheries products	United States	USEPA 1989b
	FW/EST/SW	5	mg/kg		Maximum residue limit in fish	Canada	H&WC 1990
DDTs (total)	FW/EST/SW	0.32	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	5.4	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Decabromodiphenyl oxide	FW/EST/SW	110	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dianisidine	FW/EST/SW	7.7	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Diazinon	FW/EST/SW	9.7	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dibenzanthracene, 1,2:5,6-	FW/EST/SW	0.015	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Dibenzofuran	FW/EST/SW	43	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dibromochloromethane	FW/EST/SW	1.3	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dibromochloropropane	FW/EST/SW	0.077	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Dicamba	FW/EST/SW	320	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dichlorobenzene, m-	FW/EST/SW	960	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dichlorobenzene, o-	FW/EST/SW	970	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dichlorobenzene, p-	FW/EST/SW	4.5	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Dichlorobenzenes	FW/EST/SW	4.5	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	960	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dichlorobenzidine, 3,3'-	FW/EST/SW	0.24	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Dichlorodifluoromethane	FW/EST/SW	2200	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dichloroethyl Ether, sym-	FW/EST/SW	0.098	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Dichloroethylene, 1,2- (cis)	FW/EST/SW	110	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dichloroisopropyl Ether, Bis-2,	FW/EST/SW	1.5	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	430	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dichloromethyl Ether, sym-	FW/EST/SW	0.00049	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Dichlorophenol, 2,3-	FW/EST/SW	80	mg/kg		Criterion; Flavour Impairment	British Columbia	BCMOELP 1998
Dichlorophenol, 2,4-	FW/EST/SW	0.2	mg/kg		Criterion; Flavour Impairment	British Columbia	BCMOELP 1998
	FW/EST/SW	32	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dichlorophenol, 2,5-	FW/EST/SW	20	mg/kg		Criterion; Flavour Impairment	British Columbia	BCMOELP 1998
Dichlorophenol, 2,6-	FW/EST/SW	30	mg/kg		Criterion; Flavour Impairment	British Columbia	BCMOELP 1998
Dichloropropene, 1,3-	FW/EST/SW	0.62	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	3.2	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dichlorvos	FW/EST/SW	0.37	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	5.4	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dicofol	FW/EST/SW	0.24	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Dideoxyinosine	FW/EST/SW	2.0–5.0	mg/kg		Legal limit in fish and fisheries products	Germany	USEPA 1989b
	FW/EST/SW	5.0	mg/kg		Legal limit in fish and fisheries products	Sweden	USEPA 1989b
	FW/EST/SW	5.0	mg/kg		Legal limit in fish and fisheries products	United States	USEPA 1989b
Dieldrin	FW/EST/SW	0.0067	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Dieldrin (cont.)	FW/EST/SW	0.3	mg/kg		Legal limit in fish and fisheries products	Thailand	USEPA 1989b
	FW/EST/SW	0.54	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Diethyl Phthalate	FW/EST/SW	8600	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
	FW/EST/SW	110000	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dimethylmercury	FW/EST/SW	1.1	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dimethylphenol, 2,4-	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dinitrobenzene, m-	FW/EST/SW	1.1	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dinitrobenzene, o-	FW/EST/SW	4.3	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dinitrobenzene, p-	FW/EST/SW	4.3	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dinitrophenol, 2,4-	FW/EST/SW	22	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
	FW/EST/SW	22	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dinitrotoluene, 2,6-	FW/EST/SW	11	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Dinoseb	FW/EST/SW	11	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Diphenylhydrazine, 1,2-	FW/EST/SW	0.13	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Disulfoton	FW/EST/SW	0.43	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Endosulfan (total)	FW/EST/SW	65	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Endosulfan-alpha	FW/EST/SW	65	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Endosulfan-beta	FW/EST/SW	65	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Endrin	FW/EST/SW	0.01	mg/kg		Legal limit in fish and fisheries products	Germany	USEPA 1989b
	FW/EST/SW	0.3	mg/kg		Legal limit in fish and fisheries products	Thailand	USEPA 1989b
	FW/EST/SW	0.3	mg/kg		Legal limit in fish and fisheries products	United States	USEPA 1989b
	FW/EST/SW	3.2	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Ethion	FW/EST/SW	5.4	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Ethyl Acetate	FW/EST/SW	9700	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Ethyl Chloride	FW/EST/SW	4300	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Ethyl Parathion	FW/EST/SW	65	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Ethylbenzene	FW/EST/SW	1100	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Ethylene Dibromide	FW/EST/SW	0.0013	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Ethylene Dichloride	FW/EST/SW	1.2	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Ethylidene Chloride	FW/EST/SW	1100	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Fecal Coliforms	SW	300	MPN/100mL		Guideline; Shellfish waters; In the shellfish flesh and intervalvular liquid	Europe	CEC 1988
Fluoranthene	FW/EST/SW	430	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Fluorine	FW/EST/SW	430	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Fonofos	FW/EST/SW	22	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Heptachlor	FW/EST/SW	0.024	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	5.4	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Heptachlor + Heptachlor Epoxide	FW/EST/SW	0.01	mg/kg		Legal limit in fish and fisheries products	Germany	USEPA 1989b
	FW/EST/SW	0.3	mg/kg		Legal limit in fish and fisheries products	Thailand	USEPA 1989b
	FW/EST/SW	0.3	mg/kg		Legal limit in fish and fisheries products	United States	USEPA 1989b
Heptachlor Epoxide	FW/EST/SW	0.012	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.14	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Hexachlorobenzene	FW/EST/SW	0.067	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.2	mg/kg		Legal limit in fish and fisheries products	Sweden	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit in fish and fisheries products	Germany	USEPA 1989b

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Hexachlorobenzene (cont.)	FW/EST/SW	8.6	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Hexachlorobutadiene	FW/EST/SW	1.4	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	2.2	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Hexachlorocyclohexane-Alpha	FW/EST/SW	0.017	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Hexachlorocyclohexane-Beta	FW/EST/SW	0.06	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Hexachlorocyclohexane-Delta	FW/EST/SW	0.06	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Hexachlorocyclohexane-Technical	FW/EST/SW	0.06	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	3.2	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Hexachlorocyclopentadiene	FW/EST/SW	75	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Hexachloroethane	FW/EST/SW	7.7	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	11	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Hexazinone	FW/EST/SW	360	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Hydroquinone	FW/EST/SW	430	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Indeno(1,2,3-cd)pyrene	FW/EST/SW	0.15	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Isophorone	FW/EST/SW	110	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	2200	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Isopropalin	FW/EST/SW	160	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Isopropylacetone	FW/EST/SW	860	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Lead	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Germany	USEPA 1989b
	FW/EST/SW	0.5,2.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Netherlands	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Philippines	USEPA 1989b
	FW/EST/SW	0.5–10	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Zambia	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Switzerland	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Thailand	USEPA 1989b

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Lead (cont.)	FW/EST/SW	1.0–2.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Poland	USEPA 1989b
	FW/EST/SW	1.0–2.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Sweden	USEPA 1989b
	FW/EST/SW	1.5–5.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Australia	USEPA 1989b
	FW/EST/SW	2.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Chile	USEPA 1989b
	FW/EST/SW	2.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Finland	USEPA 1989b
	FW/EST/SW	2.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Italy	USEPA 1989b
	FW/EST/SW	2.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	New Zealand	USEPA 1989b
	FW/EST/SW	2.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Venezuela	USEPA 1989b
	FW/EST/SW	2.0–10	mg/kg		Legal limit for hazardous metals in fish and fisheries products	United Kingdom	USEPA 1989b
	FW/EST/SW	5.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Ecuador	USEPA 1989b
	FW/EST/SW	5.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	India	USEPA 1989b
	FW/EST/SW	6.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Hong Kong	USEPA 1989b
Lead (total)	FW/EST/SW	0.8	mg/kg		Criterion; Maximum; Wet weight; For fish consumed by humans	British Columbia	BCMOELP 1998
Lindane	FW/EST/SW	0.083	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.2	mg/kg		Permissible residual quantity in fish	USSR	UNEP 1983a
	FW/EST/SW	0.2	mg/kg		Legal limit in fish and fisheries products	Sweden	USEPA 1989b
	FW/EST/SW	0.3	mg/kg		Objective; Edible portion of fish	Ontario	Environment Ontario 1984
	FW/EST/SW	0.5	mg/kg		Legal limit in fish and fisheries products	Iceland	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit in fish and fisheries products	Thailand	USEPA 1989b
	FW/EST/SW	2.0	mg/kg		Legal limit in fish and fisheries products	Germany	USEPA 1989b
	FW/EST/SW	3.2	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Malathion	FW/EST/SW	0.6	mg/kg		Legal limit in fish and fisheries products	Thailand	USEPA 1989b
	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Maleic Anhydride	FW/EST/SW	1100	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Manganese	FW/EST/SW	54	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Mercury	FW/EST/SW	0.1–0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Venezuela	USEPA 1989b
	FW/EST/SW	0.2–0.3	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Zambia	USEPA 1989b
	FW/EST/SW	0.2–1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	USSR	USEPA 1989b
	FW/EST/SW	0.3	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Japan	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Denmark	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Hong Kong	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Israel	USEPA 1989b

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Mercury (cont.)	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Korea	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Philippines	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Spain	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Switzerland	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Thailand	USEPA 1989b
	FW/EST/SW	0.5,0.7	mg/kg		Legal limit for hazardous metals in fish and fisheries products	France	USEPA 1989b
	FW/EST/SW	0.5,1	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Australia	USEPA 1989b
	FW/EST/SW	0.7	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Greece	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Ecuador	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Finland	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Germany	USEPA 1989b
	FW/EST/SW	1.1	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Mercury (total)	FW/EST/SW	0.4	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Japan	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Guideline in fish, with exception that swordfish be limited in consumption to one meal per week; Enforced under Canadian Food and Drugs Act	Canada	H&WC 1990
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Brazil	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Criterion; Maximum total Hg in edible portion of fish and shellfish; Wet weight	British Columbia	BCMOELP 1998
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	India	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Legal limit for hazardous metals in fish and fisheries products	New Zealand	USEPA 1989b
	FW/EST/SW	0.5	mg/kg		Objective; In whole fish	Ontario	Environment Ontario 1984
	FW/EST/SW	0.7	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Italy	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Netherlands	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Sweden	USEPA 1989b
	FW/EST/SW	1.0	mg/kg		Legal limit for hazardous metals in fish and fisheries products	United States	USEPA 1989b
Methoxychlor	FW/EST/SW	54	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Methyl Bromide	FW/EST/SW	15	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Methyl Chloride	FW/EST/SW	8.3	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Methyl Ethyl Ketone	FW/EST/SW	6500	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Methylene Chloride	FW/EST/SW	14	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	650	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Metribuzin	FW/EST/SW	270	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Mirex	FW/EST/SW	0.01	mg/kg		Legal limit in fish and fisheries products	Germany	USEPA 1989b
	FW/EST/SW	0.06	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.1	mg/kg		Legal limit in fish and fisheries products	United States	USEPA 1989b
	FW/EST/SW	2.2	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Molybdenum	FW/EST/SW	54	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Naphthalene	FW/EST/SW	430	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Naphthylamine, 2-	FW/EST/SW	0.00083	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Nickel	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Nitrobenzene	FW/EST/SW	5.4	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Nitrophenol, p-	FW/EST/SW	670	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Nitrosodibutylamine, N-	FW/EST/SW	0.02	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Nitrosodimethylamine, N-	FW/EST/SW	0.0021	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Nitrosodi-n-propylamine, N-	FW/EST/SW	0.015	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Nitrosodiphenylamine, N-	FW/EST/SW	22	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Octyl Phthalate, N-	FW/EST/SW	220	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Parathion	FW/EST/SW	0.2	mg/kg		Legal limit in fish and fisheries products	Thailand	USEPA 1989b
PCB 28	FW/EST/SW	0.1	mg/kg	TTA	product standard in fish for human consumption	Netherlands	Stortelder et al. 1989
PCB 52	FW/EST/SW	0.04	mg/kg	TTA	product standard in fish for human consumption	Netherlands	Stortelder et al. 1989
PCB 101	FW/EST/SW	0.08	mg/kg	TTA	product standard in fish for human consumption	Netherlands	Stortelder et al. 1989
PCB 118	FW/EST/SW	0.08	mg/kg	TTA	product standard in fish for human consumption	Netherlands	Stortelder et al. 1989

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
PCB 138	FW/EST/SW	0.1	mg/kg	TTA	product standard in fish for human consumption	Netherlands	Stortelder et al. 1989
PCB 153	FW/EST/SW	0.1	mg/kg	TTA	product standard in fish for human consumption	Netherlands	Stortelder et al. 1989
PCB 180	FW/EST/SW	0.12	mg/kg	TTA	product standard in fish for human consumption	Netherlands	Stortelder et al. 1989
PCBs	FW/EST/SW	0.014	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.22	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
	FW/EST/SW	1.0	mg/kg		Legal limit in fish and fisheries products	Switzerland	USEPA 1989b
	FW/EST/SW	2.0	mg/kg		Legal limit in fish and fisheries products	United States	USEPA 1989b
	FW/EST/SW	2.0–5.0	mg/kg		Legal limit in fish and fisheries products	Sweden	USEPA 1989b
	FW/EST/SW	5.0	mg/kg		Legal limit in fish and fisheries products	Netherlands	USEPA 1989b
PCBs (total)	FW/EST/SW	2.0	mg/kg		Criterion; Maximum Recommended; Wet weight	British Columbia	BCMOELP 1998
PCBs (total)	FW/EST/SW	2	mg/kg		Maximum residue limit in fish; Enforced under Canadian Food and Drugs Act	Canada	H&WC 1990
Pentachlorobenzene	FW/EST/SW	8.6	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Pentachlorophenol	FW/EST/SW	0.9	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	320	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Pentachlorophenol, 2,3,4,5,6-	FW/EST/SW	20	mg/kg		Criterion; Flavour Impairment	British Columbia	BCMOELP 1998
Phenol	FW/EST/SW	6500	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Phenolics	FW	Narrative			Imperative for salmonid and cyprinid waters, phenolic compounds must not be	Europe	CEC 1988
Phorate	FW/EST/SW	2.2	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Phthalic Anhydride	FW/EST/SW	22000	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Prometon	FW/EST/SW	160	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Prometryn	FW/EST/SW	43	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Propachlor	FW/EST/SW	140	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Propylene Dichloride	FW/EST/SW	1.6	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Propyzamide	FW/EST/SW	810	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Pseudocumene	FW/EST/SW	5.4	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Pyrene	FW/EST/SW	320	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Quinoline	FW/EST/SW	0.009	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Quintozine	FW/EST/SW	0.41	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	32	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Selenium	FW/EST/SW	0.05–0.3	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Chile	USEPA 1989b
	FW/EST/SW	1–2	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Australia	USEPA 1989b
	FW/EST/SW	2	mg/kg		Legal limit for hazardous metals in fish and fisheries products	New Zealand	USEPA 1989b
	FW/EST/SW	54	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Silver	FW/EST/SW	54	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Silvex	FW/EST/SW	86	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Simazine	FW/EST/SW	0.9	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	54	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Strontium	FW/EST/SW	6500	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Styrene	FW/EST/SW	2200	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
T, 2,4,5-	FW/EST/SW	110	mg/kg			United States	USEPA 1997a
T4CDD, 2,3,7,8-	FW/EST/SW	0.00000069	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.00002	mg/kg		Maximum in fish; Stipulated in Canadian Food and Drug Regulations	Canada	H&WC 1990
Terbufos	FW/EST/SW	0.27	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Terbutryn	FW/EST/SW	11	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Tetrachlorobenzene, 1,2,4,5-	FW/EST/SW	3.2	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Tetrachloroethane	FW/EST/SW	0.54	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Tetrachloroethylene	FW/EST/SW	2.1	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	110	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Tetrachlorophenol, 2,3,4,6-	FW/EST/SW	320	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Tin	FW/EST/SW	6500	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Toluene	FW/EST/SW	2200	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Toxaphene	FW/EST/SW	0.098	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	0.1	mg/kg		Guideline	Germany	de Geus et al. 1999
	FW/EST/SW	5.0	mg/kg		Legal limit in fish and fisheries products	United States	USEPA 1989b
Trichlorobenzene, 1,2,4-	FW/EST/SW	110	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Trichloroethane, 1,1,1-	FW/EST/SW	970	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Trichloroethane, 1,1,2-	FW/EST/SW	1.9	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	43	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Trichloroethylene	FW/EST/SW	9.8	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	65	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Trichlorofluoromethane	FW/EST/SW	3200	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Trichlorophenol, 2,4,5-	FW/EST/SW	1100	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Trichlorophenol, 2,4,6-	FW/EST/SW	9.8	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	50	mg/kg		Criterion; Flavour Impairment	British Columbia	BCMOELP 1998
Trifluralin	FW/EST/SW	14	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	81	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Trinitrotoluene, 2,4,6-	FW/EST/SW	3.6	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	5.4	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a

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Chemical Name	Water Type	Guideline	Units	Approach	Application	Jurisdiction	Reference
Vanadium	FW/EST/SW	75	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Vinyl Acetate	FW/EST/SW	11000	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Vinyl Chloride	FW/EST/SW	0.01	mg/kg		Legal limit in fish and fisheries products	Sweden	USEPA 1989b
	FW/EST/SW	0.057	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
Vinylidene Chloride	FW/EST/SW	0.18	mg/kg		Guideline; Risk Level of 10E-05	United States	USEPA 1997a
	FW/EST/SW	97	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Xylene, m-	FW/EST/SW	22000	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Xylene, o-	FW/EST/SW	22000	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Xylenes	FW/EST/SW	22000	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a
Zinc	FW/EST/SW	30–50	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Poland	USEPA 1989b
	FW/EST/SW	40	mg/kg		Legal limit for hazardous metals in fish and fisheries products	New Zealand	USEPA 1989b
	FW/EST/SW	40–1000	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Australia	USEPA 1989b
	FW/EST/SW	50	mg/kg		Legal limit for hazardous metals in fish and fisheries products	India	USEPA 1989b
	FW/EST/SW	50	mg/kg		Legal limit for hazardous metals in fish and fisheries products	United Kingdom	USEPA 1989b
	FW/EST/SW	100	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Chile	USEPA 1989b
	FW/EST/SW	100	mg/kg		Legal limit for hazardous metals in fish and fisheries products	Zambia	USEPA 1989b
	FW/EST/SW	3200	mg/kg		Guideline; Non-Cancer Hazard Quotient = 1	United States	USEPA 1997a