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REVISION NOTE #1:

Document #7151, effective 12-10-99, readopted with amendments and renumbered the former Chapter Env-Ws 430 as Env-Ws 1700, containing Part Env-Ws 1701 through Part Env-Ws 1709. Document #7151 made extensive changes to the wording, format, structure, and numbering of rules in the former Chapter Env-Ws 430. Document #7151 superseded all prior filings for rules in the former Chapter Env-Ws 430. The prior filings for former Chapter Env-Ws 430 included the following documents:

- #1881, eff 12-7-81
- #2707, eff 5-15-84; EXPIRED 5-15-90
- #4896, eff 8-3-90
- #6301, INTERIM, eff 8-2-96
- #6351, eff 10-5-96

REVISION NOTE #2:

Document #9162, effective 5-21-08, readopted with amendments and renumbered former Chapter Env-Ws 1700 as Chapter Env-Wq 1700. Former Chapter Env-Ws 1700 contained Part Env-Ws 1701 through Part Env-Ws 1709. The redesignation from subtitle Env-Ws to subtitle Env-Wq was done pursuant to a rules reorganization plan for Department rules approved by the Director of the Office of Legislative Services on 9-7-05. Document #9162 replaced all prior filings for rules in the former Chapter Env-Ws 1700. The prior filings included the following documents:

Former Part Env-Ws 1701 through Part Env-Ws 1709:

- #7151, eff 12-10-99
- #9034, INTERIM, eff 12-10-07

Former Part Env-Ws 1710 Emergency Water Transfer:

- #7669, EMERGENCY, eff 3-29-02, EXPIRED 9-25-02

REVISION NOTE #3:

Document #12042, effective 12-1-16, readopted with amendments Env-Wq 1700 and renumbered various rules in the former Env-Wq 1700. A cross-reference table of the prior rules compared to the rules in Document #12042 is in Appendix B. Document #12042 replaces all prior filings for rules in the former Chapter Env-Wq 1700. The prior filings for the former Chapter Env-Wq 1700 since Document #9162 includes the following documents:

#9984, eff 8-23-11, affecting Env-Wq 1708.12 #10726, eff 11-22-14, affecting Env-Wq 1701.03

The rules in the former Chapter Env-Wq 1700 which had last been filed under Document #9162 did not expire on 5-21-16 since they were extended pursuant to RSA 541-A:14-a until replaced by the rules in Document #12042, effective 12-1-16.

CHAPTER Env-Wq 1700 SURFACE WATER QUALITY REGULATIONS

Statutory Authority: RSA 485-A:6, I & XI-c and RSA 485-A:8, VI

PART Env-Wq 1701 PURPOSE; APPLICABILITY; COMPLIANCE SCHEDULES

Env-Wq 1701.01 Purpose. The purpose of these rules is to establish water quality standards for the state's surface water uses as set forth in RSA 485-A:8, I, II, III and V. These standards are intended to protect public health and welfare, enhance the quality of water and serve the purposes of the federal Clean Water Act, 33 U.S.C. 1251 et seq., and RSA 485-A. These standards provide for the protection and propagation of fish, shellfish, and wildlife, and provide for such uses as recreational activities in and on the surface waters, public water supplies, agricultural and industrial uses, and navigation in accord with RSA 485-A:8, I and II.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1701.02 Applicability. These rules shall apply to:

- (a) All surface waters; and
- (b) Any person who:
 - (1) Causes any point or nonpoint source discharge of any pollutant to surface waters;
 - (2) Undertakes hydrologic modifications, such as dam construction or water withdrawals; or
 - (3) Undertakes any other activity that affects the beneficial uses or the water quality of surface waters.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1701.03 Compliance Schedules in NPDES Permits.

(a) A National Pollutant Discharge Elimination System (NPDES) permit issued or renewed for a discharge to New Hampshire surface waters, as defined herein, shall not specify a schedule leading to compliance with New Hampshire or federal surface water quality standards, or both, unless:

- (1) The permittee cannot comply with the permit limits or other requirements immediately upon issuance of the permit; and
- (2) The compliance schedule is provided to afford the permittee adequate time to comply with one or more permit requirements or limitations that are based on new, newly interpreted, or revised water quality standards that became effective after issuance of the original discharge permit and after July 1, 1977.

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(b) A compliance schedule established to meet any surface water quality standard that applies to the New Hampshire waters receiving the discharge shall:

- (1) Include dates for specified tasks or activities leading to compliance;
- (2) Include interim effluent limits as the U.S. Environmental Protection Agency (EPA) deems necessary; and
- (3) Require compliance at the earliest practicable time.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

PART Env-Wq 1702 DEFINITIONS

Env-Wq 1702.01 “7Q10” means the lowest average flow that occurs for 7 consecutive days on an annual basis with a recurrence interval of once in 10 years on average, expressed in terms of volume per time period.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.02 “Acute toxicity” means an adverse effect such as mortality or debilitation caused by an exposure of 96 hours or less to a toxic substance.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.03 “Antidegradation” means a provision of the water quality standards that maintains and protects existing water quality and uses.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.04 “Assimilative capacity” means the amount of a pollutant or combination of pollutants that can safely be released to a waterbody without causing violations of applicable water quality criteria or negatively impacting uses.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.05 “Benthic community” mean the community of plants and animals that live on, over, or in the substrate of the surface water.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.06 “Benthic deposit” means any sludge, sediment, or other organic or inorganic accumulations on the bottom of the surface water.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.07 “Best management practices” means those practices that are determined, after problem assessment and examination of all alternative practices and technological, economic, and institutional considerations, to be the most effective practicable means of preventing or reducing the amount of pollution generated by point or nonpoint sources to a level compatible with water quality goals.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

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Env-Wq 1702.08 “Biological integrity” means the ability of an aquatic ecosystem to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of similar natural habitats of a region.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.09 “Biota” means species of plants or animals occurring in surface waters.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.10 “Chronic toxicity” means an adverse effect, such as reduced reproductive success or growth or poor survival of sensitive life stages, that occurs as a result of prolonged exposure to a toxic substance.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.11 “Class A and B waters” means those surface waters that are legislatively classified as Class A or B waters pursuant to RSA 485-A:8, I, II and III.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.12 “Clean Water Act (CWA)” means the federal Clean Water Act, Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, Pub. L. 97-117, Pub. L. 100-4, 33 U.S.C. 1251 et seq.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.13 “Community” means one or more populations co-occurring in surface waters.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.14 “Criterion” means:

- (a) A designated concentration of a pollutant;
- (b) A narrative statement concerning that pollutant that when not exceeded, will protect an organism, a population, a community, or a prescribed water use; or
- (c) A numeric value or narrative statement related to other characteristics of the surface waters, such as flow and biological community integrity.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.15 “Cultural eutrophication” means the human-induced addition of wastes that contain nutrients to surface waters, resulting in excessive plant growth or a decrease in dissolved oxygen, or both.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.16 “Department” means the department of environmental services.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

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Env-Wq 1702.17 “Designated uses” means those uses specified in water quality standards for each waterbody or segment whether or not such uses are presently occurring. The term includes the following:

(a) Swimming and other recreation in and on the water, meaning the surface water is suitable for swimming, wading, boating of all types, fishing, surfing, and similar activities;

(b) Fish consumption, meaning the surface water can support a population of fish free from toxicants and pathogens that could pose a human health risk to consumers;

(c) Shellfish consumption, meaning the tidal surface water can support a population of shellfish free from toxicants and pathogens that could pose a human health risk to consumers;

(d) Aquatic life integrity, meaning the surface water can support aquatic life, including a balanced, integrated, and adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of similar natural habitats of the region;

(e) Wildlife, meaning the surface water can provide habitat capable of supporting any life stage or activity of undomesticated fauna on a regular or periodic basis; and

(f) Potential drinking water supply, meaning the surface water could be suitable for human intake and meet state and federal drinking water requirements after adequate treatment.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.18 “Discharge” means:

(a) The addition, introduction, leaking, spilling, or emitting of a pollutant to surface waters, either directly or indirectly through the groundwater, whether done intentionally, unintentionally, negligently or otherwise; or

(b) The placing of a pollutant in a location where the pollutant is likely to enter surface waters.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.19 “Dissolved oxygen” means the oxygen dissolved as a gas in sewage, water or other liquid expressed in milligrams per liter (mg/l), parts per million (ppm), or percent saturation.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.20 “Effluent limitation(s)” means any restriction(s) imposed by the department pursuant to RSA 485-A on quantities, discharge rates, characteristics, or concentrations of pollutants, or any combination thereof, that are allowed to be discharged to surface waters.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.21 “Epilimnion” means the upper, well-circulated warm layer of a thermally stratified lake, pond, impoundment or reservoir.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.22 “Existing uses” means those uses, other than assimilation or waste transport, that actually occurred in the waterbody on or after November 28, 1975, whether or not they are included in the water quality standards.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

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Env-Wq 1702.23 “High quality waters” means any surface water whose water quality is better than required by any aquatic life and/or human health water quality criteria contained in these rules or other criteria assigned to the surface water, or whose qualities and characteristics make the surface water critical to the propagation or survival of important living natural resources.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.24 “Industrial waste” means “industrial waste” as defined in RSA 485-A:2, VI, as reprinted in Appendix C.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.25 “Maintain and protect” means to preserve the existing and designated uses of surface waters.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.26 “Mixing zone” means a defined area or volume of the surface water surrounding or adjacent to a wastewater discharge where the surface water, as a result of the discharge, might not meet all applicable water quality standards.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.27 “Most sensitive use” means the use that is most susceptible to degradation by a specific pollutant, combination of pollutants, or activity, such as drinking, swimming, boating, fish and aquatic life propagation, fish consumption by higher level consumers including man, or irrigation.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.28 “Naturally-occurring conditions” means conditions that exist in the absence of human influences.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.29 “Nephelometric turbidity unit (NTU)” means a standard used to measure the optical property that causes light to be scattered and absorbed rather than transmitted in straight lines through water, as measured by a nephelometer.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.30 “Noncontact cooling water” means water used for cooling that does not come into direct contact with any raw material, intermediate product, waste product or finished product and to which no pollutants, other than heat, have been added.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.31 “Nonpoint source” means any source other than a point source.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.32 “No observed effect concentration (NOEC)” means the highest measured continuous concentration, in percent, of an effluent at which no adverse effects are observed on the aquatic test organisms.

Source. (See Revision Notes at beginning of chapter)

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#12042, eff 12-1-16

Env-Wq 1702.33 “Nuisance species” means any species of flora or fauna living in or near the water whose noxious characteristics or presence in sufficient number or mass prevent or interfere with a designated use of those surface waters.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.34 “Other wastes” means “other wastes” as defined in RSA 485-A:2, VIII, as reprinted in Appendix C.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.35 “Outstanding resource water (ORW)” means surface waters of exceptional recreational or ecological significance.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.36 “pH” means a measure of the hydrogen ion concentration in a solution, expressed as the logarithm to the base 10, of the reciprocal of the hydrogen ion concentration in gram moles per liter.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.37 “Point source” means a discernible, confined, and discrete conveyance from which pollutants are or might be discharged, excluding return flows from irrigated agriculture or agricultural stormwater runoff. The term includes, but is not limited to, a pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.38 “Pollutant” means “pollutant” as defined in 40 CFR 122.2, as reprinted in Appendix D.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.39 “Pollution” means the man-made or man-induced alteration of the chemical, physical, biological, or radiological integrity of water.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.40 “Population” means a group of individuals of one biological species co-occurring in time and space.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.41 “Publicly owned treatment works (POTW)” means any device or system used in the treatment of municipal sewage and/or industrial wastewater that is owned by the state or a political subdivision of the state.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.42 “Radionuclide” means a radioactive atomic nucleus specified by its atomic number, atomic mass and energy state.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

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Env-Wq 1702.43 “Sewage” means “sewage” as defined in RSA 485-A:2, X, as reprinted in Appendix C.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.44 “Surface waters” means “surface waters of the state” as defined in RSA 485-A:2, XIV, as reprinted in Appendix C, and waters of the United States as defined in 40 CFR 122.2.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.45 “Tainting substance” means any material that can impart objectionable taste, odor, or color to the flesh of fish or other edible aquatic organisms.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.46 “Tidal waters” means those portions of the Atlantic Ocean within the jurisdiction of the state, and all other surface waters subject to the rise and fall of the tide.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.47 “Toxicity test” means a test to determine the toxicity of a chemical or an effluent that involves exposing test organisms in a laboratory setting to one or more concentrations of the chemical or dilutions of the effluent in accordance with standard laboratory procedures.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.48 “Toxic unit chronic (TU_c)” means the reciprocal of the effluent dilution that causes no unacceptable effect to the test organisms by the end of the chronic exposure period, which can be calculated by dividing 100 by the chronic NOEC value.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.49 “Waste” means “waste” as defined in RSA 485-A:2, XVI, as reprinted in Appendix C.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.50 “Water quality standards” means the combination of designated uses of surface waters, and the water quality criteria for such surface waters based upon such uses.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.51 “Wetland” means “wetland” as defined in RSA 482-A:2, X, as reprinted in Appendix C. Wetlands include, but are not limited to, swamps, marshes, bogs and similar areas as delineated in accordance with Env-Wt 100 et seq.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1702.52 “Zone of passage” means an area bordering a mixing zone that is free from pollutants and allows for unobstructed movement of aquatic organisms.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES

PART Env-Wq 1703 WATER QUALITY STANDARDS

Env-Wq 1703.01 Water Use Classifications; Designated Uses.

- (a) All surface waters shall be classified as provided in RSA 485-A:8, based on the standards established therein for class A and class B waters. Each classification shall identify the most sensitive use it is intended to protect.
- (b) All surface waters shall be restored to meet the water quality criteria for their designated classification including existing and designated uses, and to maintain the chemical, physical, and biological integrity of surface waters.
- (c) All surface waters shall provide, wherever attainable, for the protection and propagation of fish, shellfish and wildlife, and for recreation in and on the surface waters.
- (d) Unless high or low flows are caused by naturally-occurring conditions, surface water quantity shall be maintained at levels that protect existing uses and designated uses.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.02 Wetlands Criteria.

- (a) Subject to (b), below, wetlands shall be subject to the criteria listed in this part.
- (b) Wherever the naturally-occurring conditions of the wetlands are different from the criteria listed in these rules, the naturally-occurring conditions shall be the applicable water quality criteria.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.03 General Water Quality Criteria.

- (a) The presence of pollutants in the surface waters shall not justify further introduction of pollutants from point or nonpoint sources, alone or in any combination.
- (b) Once classified, state surface waters shall retain their legislated classification until such time as they are reclassified in accordance with RSA 485-A:10, even if they fail to meet any or all of the general, class-specific, or toxic criteria contained in this part.
- (c) Unless otherwise specifically allowed by a statute, rule, order, or permit, the following physical, chemical, and biological criteria shall apply to all surface waters:

- (1) All surface waters shall be free from substances in kind or quantity that:
 - a. Settle to form harmful benthic deposits;
 - b. Float as foam, debris, scum or other visible substances;
 - c. Produce odor, color, taste or turbidity that is not naturally occurring and would render the surface water unsuitable for its designated uses;
 - d. Result in the dominance of nuisance species; or
 - e. Interfere with recreational activities;
- (2) The level of radioactive materials in all surface waters shall not be in concentrations or combinations that would:
 - a. Be harmful to human, animal or aquatic life or the most sensitive designated use;

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- b. Result in radionuclides in aquatic life exceeding the recommended limits for consumption by humans; or
 - c. Exceed limits specified in EPA's national drinking water regulations or subtitle Env-Dw, whichever are more stringent; and
- (3) Tainting substances shall not be present in concentrations that individually or in combination are detectable by taste and odor tests performed on the edible portions of aquatic organisms.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.04 Class-Specific Criteria.

(a) In addition to the general water quality criteria specified in Env-Wq 1703.03, the class-specific criteria specified in Env-Wq 1703.05 through Env-Wq 1703.33 shall apply to all surface waters unless otherwise specifically allowed by a statute, rule, order, or permit.

(b) The surface waters in each classification shall satisfy all criteria applicable to the lower classification(s).

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.05 Combined Sewer Overflows.

(a) An applicant for a surface water discharge permit under RSA 485-A:13 who asserts that class B criteria cannot reasonably be met at all times in the receiving water due to combined sewer overflows shall conduct a use attainability analysis (UAA) in accordance with 40 CFR § 131.10 and submit the UAA to the department.

(b) If, after public notice and comment, the department determines, based on the UAA and any public comments received, that the UAA supports the establishment of less stringent criteria, the department shall recommend a change in the classification of the waterbody to the legislature.

(c) Exceedances of class B criteria and uses due to combined sewer overflows shall be limited to those identified in the long-term combined sewer overflow plan developed in accordance with "EPA Combined Sewer Overflow (CSO) Control Policy", EPA 830-B-94-001, dated April, 1994, available as noted in Appendix B, after full implementation of the control measures.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.06 Bacteria.

(a) Uses and criteria associated with bacteria shall be as set forth in RSA 485-A:8, I, II, and V, as summarized in Appendix E.

(b) Subject to (c), below, the bacteria criteria shall be applied at the end of a wastewater treatment facility's discharge pipe.

(c) For any combined sewer overflow that discharges into non-tidal surface waters, a bacteria criteria of 1,000 Escherichia coli per 100 milliliters shall apply at the end of the combined sewer overflow's discharge pipe.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

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Env-Wq 1703.07 Dissolved Oxygen.

(a) Class A waters shall have a dissolved oxygen content of at least 75% saturation, based on a daily average, and an instantaneous minimum of at least 6 mg/l at any place or time except as naturally occurs.

(b) Except as naturally occurs and subject to (c) and (e), below, class B waters shall have a dissolved oxygen content of:

- (1) At least 75% of saturation, as specified in RSA 485-A:8, II, based on a daily average; and
- (2) An instantaneous minimum dissolved oxygen concentration of at least 5 mg/l.

(c) In areas identified by the New Hampshire fish and game department (NHF&G) as cold water fish spawning areas of species whose early life stages are buried in the gravel on the bed of the surface water, the 7 day mean dissolved oxygen concentration shall be at least 9.5 mg/l and the instantaneous minimum dissolved oxygen concentration shall be at least 8 mg/l for the period from October 1 of one year to May 14 of the next year, provided that the time period shall be extended to June 30 for a specific discharge to a specific waterbody if modeling done in consultation with the NHF&G determines the extended period is necessary to protect spring spawners or late hatches of fall spawners, or both.

(d) Unless naturally occurring or subject to (a), above, surface waters within the top 25 percent of depth of thermally unstratified lakes, ponds, impoundments, and reservoirs or within the epilimnion shall contain a dissolved oxygen content of at least 75 percent saturation, based on a daily average and an instantaneous minimum dissolved oxygen content of at least 5 mg/l. Unless naturally occurring, the dissolved oxygen content below those depths shall be consistent with that necessary to maintain and protect existing and designated uses.

(e) As specified in RSA 485-A:8, III, waters in a temporary partial use area established under RSA 485-A:8, II as a surface water that is receiving a combined sewer overflow discharge shall contain not less than 5 parts per million of dissolved oxygen for the duration of the discharge and up to 3 days following cessation of the discharge.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.08 Benthic Deposits.

(a) Class A waters shall contain no benthic deposits, unless naturally occurring.

(b) Class B waters shall contain no benthic deposits that have a detrimental impact on the benthic community, unless naturally occurring.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.09 Oil and Grease.

(a) Class A waters shall contain no oil or grease, unless naturally occurring.

(b) Class B waters shall contain no oil or grease in such concentrations that would impair any existing or designated uses.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.10 Color.

(a) Class A waters shall contain no color, unless naturally occurring.

(b) Class B waters shall contain no color in such concentrations that would impair any existing or designated uses, unless naturally occurring.

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Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.11 Turbidity.

- (a) Class A waters shall contain no turbidity, unless naturally occurring.
- (b) Class B waters shall not exceed naturally occurring conditions by more than 10 NTUs.
- (c) Turbidity in waters identified in RSA 485-A:8, III shall comply with the applicable long-term combined sewer overflow plan prepared in accordance with Env-Wq 1703.05(c).
- (d) For purposes of state enforcement actions, if a discharge causes or contributes to an increase in turbidity of 10 NTUs or more above the turbidity of the receiving water upstream of the discharge or otherwise outside of the visible discharge, a violation of the turbidity standard shall be deemed to have occurred.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.12 Slicks, Odors, and Surface Floating Solids.

- (a) Class A waters shall contain no slicks, odors, or surface floating solids unless naturally occurring.
- (b) Class B waters shall contain no slicks, odors, or surface floating solids that would impair any existing or designated use, unless naturally occurring.
- (c) Slicks, odors, and surface floating solids in waters in temporary partial use areas shall comply with the applicable long-term combined sewer overflow plan prepared in accordance with Env-Wq 1703.05(c).

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.13 Temperature.

- (a) There shall be no change in temperature in class A waters, unless naturally occurring.
- (b) Temperature in class B waters shall be as specified in RSA 485-A:8, II and VIII.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.14 Nutrients.

- (a) Class A waters shall contain no phosphorus or nitrogen unless naturally occurring.
- (b) Class B waters shall contain no phosphorus or nitrogen in such concentrations that would impair any existing or designated uses, unless naturally occurring.
- (c) Existing discharges containing phosphorus or nitrogen, or both, which encourage cultural eutrophication shall be treated to remove the nutrient(s) to ensure attainment and maintenance of water quality standards.
- (d) There shall be no new or increased discharge of phosphorus into lakes or ponds.
- (e) There shall be no new or increased discharge containing phosphorus or nitrogen to tributaries of lakes or ponds that would contribute to cultural eutrophication or growth of weeds or algae in such lakes and ponds.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

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Env-Wq 1703.15 Gross Beta Radioactivity. Class A and B waters shall not contain gross beta radioactivity in excess of 1,000 picocuries per liter.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.16 Strontium-90. Class A and B waters shall not contain strontium-90 in excess of 10 picocuries per liter.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.17 Radium-226. Class A and B waters shall contain no radium-226 in excess of 3 picocuries per liter.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.18 pH.

- (a) The pH of class A waters shall be as naturally occurs.
- (b) As specified in RSA 485-A:8, II, the pH of class B waters shall be 6.5 to 8.0 unless due to natural causes.
- (c) As specified in RSA 485-A:8, III, the pH of waters in temporary partial use areas shall be 6.0 to 9.0 unless due to natural causes.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.19 Biological and Aquatic Community Integrity.

- (a) All surface waters shall support and maintain a balanced, integrated, and adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of similar natural habitats of a region.
- (b) Differences from naturally-occurring conditions shall be limited to non-detrimental differences in community structure and function.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.20 Risk Factors for Human Health Criteria.

- (a) The department shall use a risk factor of one in 1,000,000 when determining human health criteria for all new discharges.
- (b) The department shall use a one in 1,000,000 risk factor when determining human health criteria for any modification to a permit for an existing discharge unless the applicant for a water discharge permit can demonstrate that the criteria obtained using the one in 1,000,000 risk factor cannot be achieved because it is either technologically impossible or economically unfeasible.
- (c) When establishing an alternative risk factor under (b), above, the department shall not allow a risk factor greater than one in 100,000.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.21 Water Quality Criteria for Toxic Substances.

- (a) Unless naturally occurring or allowed under Env-Wq 1707, all surface waters shall be free from toxic substances or chemical constituents in concentrations or combinations that:

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- (1) Injure or are inimical to plants, animals, humans or aquatic life; or
- (2) Persist in the environment or accumulate in aquatic organisms to levels that result in harmful concentrations in:
 - a. Edible portions of fish, shellfish, other aquatic life, or
 - b. Wildlife that might consume aquatic life.

(b) Unless allowed under Env-Wq 1707 or naturally occurring, concentrations of toxic substances in all surface waters shall not exceed the recommended safe exposure levels of the most sensitive surface water use shown in Table 1703-1, subject to the notes in Env-Wq 1703.22, as follows:

Table 1703-1: Water Quality Criteria For Toxic Substances

CAS Number	Chemical Name	Protection of Aquatic Life				Protection of Human Health	
		Concentration in micrograms per liter (µg/l)				Units per Liter	
		Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water & Fish Ingestion	Fish Consumption Only
83329	Acenaphthene	1,700	520	970	710	20 µg ^j	20 µg ^j
107028	Acrolein	3	3	55	--	6 µg	400 µg
107131	Acrylonitrile	7,550	2,600	--	--	0.061 µg ^c	7 µg ^c
309002	Aldrin	3.0 ^k	--	1.3 ^k	--	0.049 ng ^c	0.05 ng ^c
N/A	Alkalinity	--	20,000 ^u	--	--	--	--
7429905	Aluminum	750 ^s	87 ^s	--	--	--	--
7664417	Ammonia ^a	Note a	Note a	Note a	Note a	--	--
62533	Aniline	28	14	77	37	--	--
120127	Anthracene	(see Polynuclear Aromatic Hydrocarbons)				8,300 µg	40,000 µg
7440360	Antimony	9,000	1,600	--	--	5.6 µg	640 µg
7440382	Arsenic	340 ^{d,i}	150 ^{d,i}	69 ^{d,i}	36 ^{d,i}	18 ng ^{b,c}	140 ng ^{b,c}
1332214	Asbestos	--	--	--	--	7,000,000 fibres ^c	--
7440393	Barium	--	--	--	--	1.0 mg	--
71432	Benzene	5,300	--	5,100	700	2.2 µg ^c	58 µg ^c
92875	Benzidine	2,500	--	--	--	0.14 ng ^c	11 ng ^c
56553	Benzo(a) Anthracene	(see Polynuclear Aromatic Hydrocarbons)				0.0038 µg ^c	0.018 µg ^c
50328	Benzo(a) Pyrene	(see Polynuclear Aromatic Hydrocarbons)				0.0038 µg ^c	0.018 µg ^c
205992	Benzo(b) Fluoranthene	(see Polynuclear Aromatic Hydrocarbons)				0.0038 µg ^c	0.018 µg ^c
192972	Benzo(e) Pyrene	(see Polynuclear Aromatic Hydrocarbons)				--	--
191242	Benzo(g,h,i) Perylene	(see Polynuclear Aromatic Hydrocarbons)				--	--
205823	Benzo(j) Fluoranthene	(see Polynuclear Aromatic Hydrocarbons)				--	--
207089	Benzo(k) Fluoranthene	(see Polynuclear Aromatic Hydrocarbons)				0.012 µg ^c	0.018 µg ^c
7440417	Beryllium	130	5.3	--	--	Note 1	--
N/A	BHC (Hexachloro-cyclohexane)	100 ^e	--	0.34 ^e	--	(see individual compounds)	
319846	alpha-BHC	(see BHC)				2.6 ng ^c	4.9 ng ^c
319857	beta-BHC	(see BHC)				9.1 ng ^c	17 ng ^c
319868	delta-BHC	(see BHC)				0.0123 µg	0.0414 µg
58899	gamma-BHC (Lindane)	0.95	0.08	0.16 ^k	--	4.2 µg ^l	4.4 µg
608731	technical-BHC	(see Hexachlorocyclo-hexane-(Technical))				(see Hexachlorocyclo-hexane-(Technical))	
111911	Bis (2-Chloroethoxy) methane	(see Chloroalkyl ethers)				--	--
111444	Bis (2-Chloroethyl) Ether	(see Chloroalkyl ethers)				0.03 µg ^c	2.2 µg ^c

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CAS Number	Chemical Name	Protection of Aquatic Life Concentration in micrograms per liter (µg/l)				Protection of Human Health Units per Liter	
		Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water & Fish Ingestion	Fish Consumption Only
108601	Bis (2-Chloroiso- propyl) ether	(see Chloroalkyl ethers)				1,400 µg	65,000 µg
117817	Bis (2-Ethylhexy)Phthalate	(see Phthalate esters)				1.2 µg ^c	2.2 µg ^c
75252	Bromoform	(see Halomethanes)				7 µg ^c	140 µg ^c
101553	4-Bromophenyl phenyl ether	(see Haloethers)				--	--
85687	Butyl benzyl phthalate	(see Phthalate esters)				1,500 µg	1,900 µg
7440439	Cadmium ⁱ	0.39 ^{f,d}	0.21 ^{f,d}	33 ^d	7.9 ^d	Note 1	--
63252	Carbaryl	2.1	2.1	1.6	--	--	--
56235	Carbon Tetrachloride	35,200	--	50,000	--	0.4 µg ^c	5 µg ^c
57749	Chlordane	2.4 ^k	0.0043 ^k	0.09 ^k	0.004 ^k	0.8 ng ^c	0.81 ng ^c
N/A	Chlorinated benzenes	250 ^e	50 ^e	160 ^e	129 ^e	(see individual compounds)	
108907	Chlorobenzene	(See Chlorinated benzenes)				20 µg ^j	20 µg ^j
16887006	Chlorides	860,000	230,000	--	--	--	--
70776033	Chlorinated naphthalenes	1,600 ^c	--	7.5 ^e	--	(see individual compounds)	
7782505	Chlorine	19	11	13	7.5	Note 1	--
N/A	Chloroalkyl ethers	238,000 ^c	--	--	--	(see individual compounds)	
111444	Chloroethyl ether (Bis-2)	see Bis (2-Chloroethyl) Ether				see Bis (2-Chloroethyl) Ether	
110758	Chloroethyl vinyl ether-2	(see Chloroalkyl ethers)				--	--
124481	Chlorodibromomethane	(see Halomethanes)				0.8 µg ^c	21 µg ^c
111911	Chloroethoxy methane (Bis-2)	(see Bis (2-Chloroethoxy) methane)				(see Bis (2-Chloroethoxy) methane)	
67663	Chloroform	28,900	1,240	(see Halomethanes)		60 µg ^c	2,000 µg ^c
108601	Chloroisopropyl ether (Bis-2)	see Bis (2-Chloroisopropyl) ether				see Bis (2-Chloroisopropyl) ether	
59507	p-Chloro-m-cresol	(see 3-Methyl-4-chlorophenol)				(see 3-Methyl-4-chlorophenol)	
542881	Chloromethyl ether (Bis)	(see Chloroalkyl ethers)				0.15 ng ^c	0.17 ng ^c
91587	Chloronaphthalene 2	(see Chlorinated naphthalenes)				1,000 µg	1,600 µg
95578	Chlorophenol 2	4,380	2,000	--	--	0.1 µg ^j	0.1 µg ^j
108430	Chlorophenol 3	--	--	--	--	0.1 µg ^j	0.1 µg ^j
106489	Chlorophenol 4	--	--	29,700	--	0.1 µg ^j	0.1 µg ^j
93721	Chlorophenoxy herbicides (2,4,5-TP)	--	--	--	--	100 µg ^l	--
94757	Chlorophenoxy herbicides (2,4-D)	--	--	--	--	1,300 µg ^l	--
7005723	Chlorophenyl phenyl ether 4	(see Haloethers)				--	--
2921882	Chlorpyrifos	0.083	0.041	0.011	0.0056	--	--
59507	Chloro-4 Methyl-3 Phenol	(see 3-Methyl-4-chlorophenol)				(see 3-Methyl-4-chlorophenol)	
18540299	Chromium+6	16 ^{d,i}	11 ^{d,i}	1,100 ^{d,i}	50 ^{d,i}	note 1	--
16065831	Chromium+3	152 ^{f,d,i}	19.8 ^{f,d,i}	10,300	--	note 1	--
218019	Chrysene	(see Polynuclear Aromatic Hydrocarbons)				0.12 µg ^c	0.13 µg ^c
7440508	Copper ⁱ	2.9 ^{f,d}	2.3 ^{f,d}	4.8 ^d	3.1 ^d	1,000 µg ^j	1,000 µg ^j
57125	Cyanide	22 ^m	5.2 ^m	1.0 ^m	1.0 ^m	140 µg ^q	140 µg ^q
72559	DDE(4,4')	1,050	--	14	--	0.22 ng ^c	0.22 ng ^c
72548	DDD(4,4')	0.6	--	3.6	--	0.31 ng ^c	0.31 ng ^c
50293	DDT(4,4')	1.1 ^{k,t}	0.001 ^{k,t}	0.13 ^{k,t}	0.001 ^{k,t}	0.22 ng ^c	0.22 ng ^c
8065483	Demeton	--	0.1	--	0.1	--	--

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		Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water & Fish Ingestion	Fish Consumption Only
333415	Diazinon	0.17	0.17	0.82	0.82	--	--
53703	Dibenzo(a,h)Anthracene	(see Polynuclear Aromatic Hydrocarbons)				0.0038 µg ^c	0.018 µg ^c
84742	Dibutyl Phthalate	(see Di-n-butyl Phthalate)				(see Di-n-butyl Phthalate)	
N/A	Dichlorobenzenes	1,120 ^e	763 ^e	1,970 ^e	--	(see individual compounds)	
95501	Dichlorobenzene(1,2)	(see Dichlorobenzenes)				1,000 µg ^l	3,000 µg
541731	Dichlorobenzene(1,3)	(see Dichlorobenzenes)				320 µg	960 µg
106467	Dichlorobenzene(1,4)	(see Dichlorobenzenes)				300 µg ^l	900 µg
91941	Dichlorobenzidine(3,3)	--	--	--	--	0.049 µg ^c	0.15 µg ^c
75274	Dichlorobromomethane	(see Halomethanes)				0.95 µg ^c	27 µg ^c
75718	Dichlorodifluoromethane	(see Halomethanes)				6.9 mg ^c	570 mg ^c
107062	Dichloroethane(1,2)	118,000	20,000	113,000	--	9.9 µg ^c	650 µg ^c
25323302	Dichloroethylenes	11,600 ^e	--	224,000 ^e	--	(see individual compounds)	
75354	Dichloroethylene(1,1)	(see Dichloroethylenes)				330 µg ^l	20,000 µg
156605	Dichloroethylene (1,2-Trans)	(see Dichloroethylenes)				140 µg ^l	10,000 µg
576249	Dichlorophenol(2,3)	--	--	--	--	0.04 µg ^j	0.04 µg ^j
120832	Dichlorophenol(2,4)	2,020	365	--	--	0.3 µg ^j	0.3 µg ^j
583788	Dichlorophenol(2,5)	--	--	--	--	0.5 µg ^j	0.5 µg ^j
87650	Dichlorophenol(2,6)	--	--	--	--	0.2 µg ^j	0.2 µg ^j
95772	Dichlorophenol(3,4)	--	--	--	--	0.3 µg ^j	0.3 µg ^j
26638197	Dichloropropanes	23,000 ^e	5,700 ^e	10,300 ^e	3,040 ^e	(see individual compounds)	
78875	Dichloropropane(1,2)	(see Dichloropropanes)				0.9 µg ^c	31 µg ^c
26952238	Dichloropropenes	6,060 ^e	244 ^e	790 ^e	--	(see individual compounds)	
542756	Dichloropropene(1,3)	(see Dichloropropenes)				0.34 µg ^c	21 µg ^c
60571	Dieldrin	0.24	0.056	0.71 ^k	0.0019 ^k	0.052 ng ^c	0.054 ng ^c
84662	Diethyl Phthalate	--	--	--	--	17 mg	44 mg
105679	Dimethyl Phenol(2,4)	1,300	530	270	110	380 µg	400 µg ^j
131113	Dimethyl Phthalate	(see Phthalate esters)				270 mg	1.1 g
84742	Di-n-butyl Phthalate	(see Phthalate esters)				2 mg	4.5 mg
N/A	Dinitrotoluenes	330 ^e	230 ^e	590 ^e	370 ^e	(see individual compounds)	
121142	Dinitrotoluene(2,4)	(see Dinitrotoluenes)				0.11 µg ^c	3.4 µg ^c
606202	Dinitrotoluene(2,6)	(see Dinitrotoluenes)				--	--
N/A	Dinitro-o-cresol (2,4)	(see Nitrophenols)				13.4 µg	765 µg
534521	Dinitro-o-cresol (4,6)	(see 2 Methyl-4,6-Dinitrophenol)				(see 2 Methyl-4,6-Dinitrophenol)	
25550587	Dinitrophenols	(see Nitrophenols)				69 µg	5,300 µg
51285	Dinitrophenol(2,4)	(see Nitrophenols)				69 µg	5,300 µg
117840	Di-n-octyl phthalate	(see Phthalate esters)				--	--
1746016	2,3,7,8-TCDD (Dioxin)	--	--	--	--	0.000005 ng ^c	0.0000051 ng ^c
122667	Diphenylhydrazine(1,2)	270	--	--	--	0.036 µg ^c	0.2 µg ^c
117817	Di-2-ethylhexyl phthalate	(see Bis (2-Ethylhexy)Phthalate)				(see Bis (2-Ethylhexy)Phthalate)	
959988	alpha-Endosulfan	0.22 ^{k,r}	0.056 ^{k,r}	0.034 ^{k,r}	0.0087 ^{k,r}	62 µg	89 µg
33213659	beta-Endosulfan	0.22 ^{k,r}	0.056 ^{k,r}	0.034 ^{k,r}	0.0087 ^{k,r}	62 µg	89 µg
1031078	Endosulfan Sulfate	--	--	--	--	62 µg	89 µg
72208	Endrin	0.086	0.036	0.037 ^k	0.0023 ^k	0.059 µg	0.06 µg
7421934	Endrin Aldehyde	--	--	--	--	1 µg	1 µg

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100414	Ethylbenzene	32,000	--	430	--	530 µg	2,100 µg
206440	Fluoranthene	(see Polynuclear Aromatic Hydrocarbons)				130 µg	140 µg
86737	Fluorene	(see Polynuclear Aromatic Hydrocarbons)				1,100 µg	5,300 µg
86500	Guthion	--	0.01	--	0.01	--	--
N/A	Haloethers	360 ^e	122 ^e	--	--	(see individual compounds)	
N/A	Halomethanes	11,000 ^e	--	12,000 ^e	6,400 ^e	(see individual compounds)	
76448	Heptachlor	0.52 ^k	0.0038 ^k	0.053 ^k	0.0036 ^k	0.079 ng ^c	0.079 ng ^c
1024573	Heptachlor Epoxide	0.52 ^k	0.0038 ^k	0.053 ^k	0.0036 ^k	0.039 ng ^c	0.039 ng ^c
67721	Hexachloroethane	980	540	940	--	1.4 µg ^c	3.3 µg ^c
118741	Hexachlorobenzene	(see Chlorinated benzenes)				0.28 ng ^c	0.29 ng ^c
87683	Hexachlorobutadiene	90	9.3	32	--	0.44 µg ^c	18 µg ^c
608731	Hexachlorocyclo-hexane-(Technical)	(see BHC)				0.0123 µg	0.0414 µg
77474	Hexachlorocyclopentadiene	7.0	5.2	7.0	--	1.0 ^j	1.0 ^j
193395	Ideno(1,2,3-cd)Pyrene	(see Polynuclear Aromatic Hydrocarbons)				0.0038 µg ^c	0.018 µg ^c
7439896	Iron	--	1,000	--	--	0.3 mg ^j	--
78591	Isophorone	117,000	--	12,900	--	35 µg ^c	1,800 µg ^c
7439921	Lead ⁱ	10.5 ^{f,d}	0.41 ^{f,d}	210 ^d	8.1 ^d	--	--
121755	Malathion	--	0.1	--	0.1	--	--
7439965	Manganese	--	--	--	--	50 µg ^j	100 µg
7439976	Mercury	1.4 ^{d,i}	0.77 ^{d,i}	1.8 ^{d,i}	0.94 ^{d,i}	0.05 µg	0.051 µg
72435	Methoxychlor	--	0.03	--	0.03	100 µg ⁱ	--
74839	Methyl Bromide	(see Halomethanes)				100 µg	10,000 µg
74873	Methyl Chloride	(see Halomethanes)				--	--
75092	Methylene Chloride	(see Halomethanes)				20 µg ^c	1,000 µg ^c
22967926	Methylmercury	see Mercury				--	0.3 mg/kg ^g
534521	2 Methyl-4,6-Dinitrophenol	(see Nitrophenols)				13 µg	280 µg
1570645	2-Methyl-4-chlorophenol	--	--	--	--	1,800 µg ^j	1,800 µg ^j
59507	3-Methyl-4-chlorophenol	30	--	--	--	3,000 µg ^j	3,000 µg ^j
615747	3-Methyl-6-chlorophenol	--	--	--	--	20 µg ^j	20 µg ^j
2385855	Mirex	--	0.001	--	0.001	--	--
91203	Naphthalene	2,300	620	2,350	--	--	--
7440020	Nickel ⁱ	120.0 ^{f,d}	13.3 ^{f,d}	74 ^d	8.2 ^d	610 µg	4,600 µg
14797558	Nitrates	--	--	--	--	10 mg	--
98953	Nitrobenzene	27,000	--	6,680	--	17 µg	30 µg ^j
25154556	Nitrophenols	230 ^e	150 ^e	4,850 ^e	--	(see individual compounds)	
88755	Nitrophenol 2	(see Nitrophenols)				--	--
100027	Nitrophenol 4	(see Nitrophenols)				--	--
N/A	Nitrosamines	5,850 ^e	--	3,300,000 ^e	--	0.8 ng	1.24 µg
924163	Nitrosodibutylamine N	(see Nitrosamines)				6.3 ng ^c	220 ng ^c
55185	Nitrosodiethylamine N	(see Nitrosamines)				0.8 ng ^c	1,240 ng ^c
62759	Nitrosodimethylamine N	(see Nitrosamines)				0.69 ng ^c	3 µg ^c
621647	Nitrosodi-n-propylamine N	(see Nitrosamines)				0.005 µg ^c	0.51 µg ^c
86306	Nitrosodiphenylamine N	(see Nitrosamines)				3.3 µg ^c	6 µg ^c
930552	Nitrosopyrrolidine N	(see Nitrosamines)				16 ng ^c	34,000 ng ^c
84852153	Nonylphenol	28	6.6	7	1.7	--	--
56382	Parathion	0.065	0.013	--	--	--	--
1336363	PCB	2.0 ^{e,n}	0.014 ^{e,n}	10.0 ^{e,n}	0.03 ^{e,n}	0.064 ng ^{c,n}	0.064 ng ^{c,n}

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CAS Number	Chemical Name	Protection of Aquatic Life Concentration in micrograms per liter (µg/l)				Protection of Human Health Units per Liter	
		Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water & Fish Ingestion	Fish Consumption Only
N/A	PCB-1242	(see PCB)				(see PCB)	(see PCB)
N/A	PCB-1254	(see PCB)				(see PCB)	(see PCB)
N/A	PCB-1221	(see PCB)				(see PCB)	(see PCB)
N/A	PCB-1248	(see PCB)				(see PCB)	(see PCB)
N/A	PCB-1260	(see PCB)				(see PCB)	(see PCB)
N/A	PCB-1016	(see PCB)				(see PCB)	(see PCB)
76017	Pentachloroethane	7,240	1,100	390	281	--	--
608935	Pentachlorobenzene	(see Chlorinated benzenes)				1.4 µg	1.5 µg
87865	Pentachlorophenol	5.28 ^h	4.05 ^h	13	7.9	0.27 µg ^c	3 µg ^c
85018	Phenanthrene	(see Polynuclear Aromatic Hydrocarbons)				--	--
108952	Phenol	10,200	2,560	5,800	--	300 µg ^j	300 µg ^j
N/A	Phthalate Esters	940 ^e	3 ^e	2,944 ^e	3.4 ^e	--	--
1336363	Polychlorinated Biphenyls	(see PCBs)				(see PCB)	(see PCB)
N/A	Polynuclear Aromatic Hydrocarbons	--	--	300 ^e	--	(see individual compounds)	
129000	Pyrene	(see Polynuclear Aromatic Hydrocarbons)				830 µg	4,000 µg
7782492	Selenium	--	5	290 ^{d,i}	71 ^{d,i}	170 µg ^l	4,200 µg
7440224	Silver	0.20 ^{d,f,i}	--	1.9 ^{d,i,k}	--	105 µg ^p	65 mg ^p
7783064	Sulfide-Hydrogen Sulfide	--	2.0	--	2.0	--	--
95943	Tetrachlorobenzene 1,2,4,5	(see Chlorinated benzenes)				0.97 µg	1.1 µg
79345	Tetrachloroethane 1,1,2,2	(see Tetrachloroethanes)	2,400	9,020	--	0.2 µg ^c	4 µg ^c
25322207	Tetrachloroethanes	9,320 ^e	--	--	--	(see individual compounds)	
127184	Tetrachloroethylene	5,280	840	10,200	450	10 µg ^c	29 µg ^c
935955	Tetrachlorophenol 2,3,5,6	--	--	440	--	--	--
58902	Tetrachlorophenol 2,3,4,6	--	--	--	--	1.0 µg ^j	1.0 µg ^j
7440280	Thallium	1,400	40	2,130	--	0.24 µg	0.47 µg
108883	Toluene	17,500	--	6,300	5,000	1.3 mg ^l	15 mg
8001352	Toxaphene	0.73	0.0002	0.21	0.0002	0.70 ng ^c	0.71 ng ^c
N/A	Tributyltin (TBT)	0.46	0.072	0.42	0.0074	--	--
N/A	Trichlorinated Ethanes	18,000 ^e	--	--	--	(see individual compounds)	
120821	Trichlorobenzene 1,2,4	(see Chlorinated benzenes)				35 µg	70 µg
71556	Trichloroethane 1,1,1	--	--	31,200	--	Note 1	--
79005	Trichloroethane 1,1,2	--	9,400	--	--	0.59 µg ^c	16 µg ^c
79016	Trichloroethylene	45,000	21,900	2,000	--	2.5 µg ^c	30 µg ^c
75694	Trichlorofluoromethane	(see Halomethanes)				10 mg	860 mg
95954	Trichlorophenol 2,4,5	--	--	--	--	1.0 µg ^j	1.0 µg ^j
88062	Trichlorophenol 2,4,6	--	970	--	--	1.5 µg ^c	2.0 µg ^{c,j}
75014	Vinyl Chloride	--	--	--	--	0.025 µg ^c	2.4 µg ^c
7440666	Zinc ⁱ	30.0 ^{f,d}	30.0 ^{f,d}	90 ^d	81 ^d	5,000 µg ^j	5,000 µg ^j

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

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Env-Wq 1703.22 Notes For Table 1703-1. The following shall apply to Table 1703-1:

(a) The letter “a” shall indicate that the freshwater and saltwater aquatic life criteria for ammonia are shown in Env-Wq 1703.25 through Env-Wq 1703.32.

(b) The letter “b” shall indicate that the criteria refer to the inorganic form only.

(c) The letter “c” shall indicate that these criteria for the protection of human health are based on carcinogenicity using a risk factor of one in 1,000,000, while the human health criteria without this footnote are based on systemic toxicity. Other risk factors shall be allowed only as specified in Env-Wq 1703.20.

(d) The letter “d” shall indicate that criteria for these metals are expressed as a function of the water effect ratio (WER) as defined in 40 CFR 131.36(c), and that because the values displayed in Table 1703-1 correspond to a WER of 1.0, metals criteria for different WERs shall be determined using the procedures described in the EPA publication “Interim Guidance on Determination and Use of Water-Effect Ratios for Metals”, EPA-823-B-94-001, dated February 1994, available as noted in Appendix B, provided that for copper, either of the following references, both available as noted in Appendix B, may be used:

(1) The “Streamlined Water-Effect Ratio procedure for Discharges of Copper”, EPA-822-R-01-005, dated March 2001; or

(2) The Biotic Ligand Model (freshwater only) as described in “Aquatic Life Ambient Freshwater Quality Criteria - Copper”, EPA-822-R-07-001, dated February 2007.

(e) The letter “e” shall indicate that the following classes of compounds have 2 or more isomers and the appropriate aquatic life criteria apply to the sum of the concentrations of each isomer:

- (1) BHC;
- (2) Chlorinated benzenes;
- (3) Chlorinated naphthalenes;
- (4) Chloroalkyl ethers;
- (5) Dichlorobenzenes;
- (6) Dichloroethylenes;
- (7) Dichloropropanes;
- (8) Dichloropropenes;
- (9) Dinitrotoluenes;
- (10) Haloethers;
- (11) Halomethanes;
- (12) Nitrophenols;
- (13) Nitrosamines;
- (14) PCB;
- (15) Phthalate esters;
- (16) Polynuclear aromatic hydrocarbons;
- (17) Tetrachloroethanes; and
- (18) Trichlorinatedethanes.

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(f) The letter “f” shall indicate that the freshwater aquatic criteria for these metals are expressed as a function of the total hardness, as mg/l CaCO₃ of the surface water, and that because the values displayed in Table 1703-1 correspond to a total hardness of 20 mg/l the aquatic life criteria for other hardness values expressed as calcium carbonate shall be calculated using the equations and tables in Env-Wq 1703.23 and Env-Wq 1703.24.

(g) The letter “g” shall indicate that if the methylmercury concentration in the edible portion of the aquatic species of concern exceeds 0.3 mg/kg, a risk assessment shall be conducted to determine whether a consumption advisory should be issued for the surface water. If a consumption advisory is issued by the department, the surface water shall be considered in non-attainment of the fish and/or shellfish consumption designated uses and in violation of these surface water quality regulations.

(h) The letter “h” shall indicate that the freshwater aquatic life criteria for pentachlorophenol are expressed as a function of pH. Values displayed in Table 1703-1 correspond to a pH value of 6.5. For other pH values, the formulas shown in Env-Wq 1703.32 shall be used.

(i) The letter “i” shall indicate that the values presented for aquatic life protection are dissolved metals and for hardness-dependent metals are based on a hardness of 20 mg/L. To convert dissolved to total recoverable metal, the equations and tables in Env-Wq 1703.23 shall be used. To calculate dissolved or total recoverable fresh water criteria for hardness-dependent metals for hardness values other than 20 mg/l, the equations and tables shown in Env-Wq 1703.23 and Env-Wq 1703.24 shall be used.

(j) The letter “j” shall indicate that these human health criteria prevent taste and odor effects in the surface water and in fish and other aquatic life as prohibited in Env-Wq 1703.03(c)(1)c. and (3).

(k) The letter “k” shall indicate that these criteria are based on EPA’s 304(a) criteria in the 1980 documents listed below and were derived to be used as instantaneous maximum values, or to be applied after division by 2, to obtain a value comparable to an acute criterion derived using the 1985 Guidelines, when assessment is done using an averaging period:

- (1) Aldrin/Dieldrin, document number 440/5-80-019;
- (2) Chlordane, document number 440/5-80-027;
- (3) DDT, document number 440/5-80-038;
- (4) Endosulfan, document number 440/5-80-046;
- (5) Endrin, document number 440/5-80-047;
- (6) Heptachlor, document number 440/5-80-052;
- (7) Hexachlorocyclohexane, document number 440/5-80-054; or
- (8) Silver, document number 440/5-80-071.

(l) The letter “l” shall indicate that there is a more stringent drinking water maximum contaminant level (MCL) specified in Env-Dw 700, so if the surface water is a source for a public water system as defined in RSA 485:1-a, XV or is within 20 miles upstream of any active surface water intake for a public water system, the department shall use the MCL values shown in table 1703-2A, below, for the water and fish ingestion human health criteria:

Table 1703-2A: MCL Values for Water and Fish Ingestion Criteria

CAS Number	Chemical Name	MCL (Units per Liter)
7440417	Beryllium	4 µg
7440439	Cadmium	5 µg
7782505	Chlorine (as Cl ₂)	4 mg
94757	Chlorophenoxy herbicides (2,4-D)	70 µg

Table 1703-2A: MCL Values for Water and Fish Ingestion Criteria

CAS Number	Chemical Name	MCL (Units per Liter)
93721	Chlorophenoxy herbicides (2,4,5-TP)	50 µg
18540299	Chromium+6	see Chromium Total
16065831	Chromium+3	see Chromium Total
7440473	Chromium Total (equal to the sum of Chromium+3 plus Chromium+6)	100 µg
95501	Dichlorobenzene (1,2)	600 µg
106467	Dichlorobenzene(1,4)	75 µg
107062	Dichloroethane (1,2)	5 µg
75354	Dichloroethylene(1,1)	7 µg
156605	Dichloroethylene(1,2-Trans)	100 µg
58899	gamma-BHC (Lindane)	0.2 µg
72435	Methoxychlor	40 µg
7782492	Selenium	50 µg
108883	Toluene	1 mg
71556	Trichloroethane 1,1,1	200 µg

(m) The letter “m” shall indicate that this criteria is expressed as micrograms of free cyanide per liter.

(n) The letter “n” shall indicate that this criteria applies to total PCBs or the sum of all of its congener or isomer or homolog or Arochlor analyses.

(o) The letter “o” shall indicate that the freshwater acute criteria for selenium shall be calculated using the values for the fraction f_1 of selenite and f_2 of selenate measured in the receiving water. To calculate the acute criteria, in µg/l, the number 1 shall be divided by the sum of the fractions f_1 divided by 185.9 and f_2 divided by 12.83, as follows:

$$\text{Acute Criteria} = \frac{1}{(f_1/185.9) + (f_2/12.83)}$$

(p) The letter “p” shall indicate that these human health criteria for silver shall be for the protection of humans from argyria.

(q) The letter “q” shall indicate that this value is expressed as total cyanide.

(r) The letter “r” shall indicate that this data was derived from data for endosulfan and is most appropriately applied to the sum of alpha-endosulfan and beta-endosulfan.

(s) The letter “s” shall indicate that this value is expressed as acid-soluble aluminum.

(t) The letter “t” shall indicate that the total concentration of DDT and its metabolites shall not exceed this value.

(u) The letter “u” shall indicate that the chronic criterion of 20 mg/L shall be the minimum value except where alkalinity is naturally lower, in which case the criterion shall not be lower than 25 percent of the natural level.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.23 Conversion Factors For Metals.

(a) Dissolved metal shall be determined by multiplying total recoverable metal by the conversion factor listed in Table 1703-2 for that metal, shown in equation form as follows:

$$\text{Dissolved Metal} = \text{Total Recoverable Metal} \times \text{Conversion Factor}$$

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(b) Total recoverable metals shall be determined by dividing dissolved metals by the conversion factor listed in table 1703-2, shown in equation form as follows:

$$\text{Total Recoverable Metal} = \text{Dissolved Metal} / \text{Conversion Factor}$$

(c) The conversion factors in Table 1703-2 shall be used as translators to go from the dissolved metals criteria listed in Table 1703-1 to permit limits expressed as total recoverable metals by dividing dissolved metal by the conversion factor.

(d) If the hardness of the receiving water is different than 20 mg/l, then aquatic life criteria for hardness-dependent metals shall be calculated as follows:

- (1) The equations in Env-Wq 1703.24(a) and (b) shall be used in conjunction with the coefficients shown in Table 1703-3 to calculate the total recoverable metal for freshwater;
- (2) The equations shown in (a) and (b), above, shall be used in conjunction with the factors shown in Table 1703-2 to convert total recoverable metal to dissolved metal or dissolved metal to total recoverable metal;
- (3) For hardness less than 20 mg/l, a hardness of 20 mg/l shall be used in the equations; and
- (4) For hardness values greater than 400 mg/l, a hardness of 400 mg/l shall be used in the equations.

(e) Table 1703-2 shall be as follows, provided that the conversion factors for cadmium and lead shall be no greater than 1.0:

Table 1703-2: Factors to Convert Total Recoverable Metals to Dissolved Metals

	FRESHWATER Conversion Factors		MARINE Conversion Factors	
	Acute	Chronic	Acute	Chronic
Arsenic	1.0	1.0	1.0	1.0
Cadmium	$1.136672 - [(\text{Ln Hardness})(0.041838)]$	$1.101672 - [(\text{Ln Hardness})(0.041838)]$	0.994	0.994
Chromium (+3)	0.316	0.860	-	-
Chromium (+6)	0.982	0.962	0.993	0.993
Copper	0.960	0.960	0.83	0.83
Lead	$1.46203 - [(\text{Ln Hardness})(0.145712)]$	$1.46203 - [(\text{Ln Hardness})(0.145712)]$	0.951	0.951
Mercury	0.85	0.85	0.85	0.85
Nickel	0.998	0.997	0.990	0.990
Selenium	-	-	0.998	0.998
Silver	0.85	-	0.85	-
Zinc	0.978	0.986	0.946	0.946

Source. (See Revision Notes at beginning of chapter #12042, eff 12-1-16)

Env-Wq 1703.24 Freshwater Aquatic Life Criteria For Metals. To calculate freshwater aquatic life criteria for total recoverable metals, the equations described in (a) and (b), below, shall be used in conjunction with the coefficients shown in (c), Table 1703-3, below, provided that the values used for hardness in the equations shall be as specified in Env-Wq 1703.23 (d):

(a) To calculate the acute criteria, in µg/l, for the metals shown Table 1703-3, the exponent “e” shall be raised to the power “x” where “x” is equal to the parenthetical expression “m_a” multiplied by the natural logarithm (ln) of the hardness and to which product the value “b_a” shall be added, as follows:

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Acute Criteria = e^x where $x = (m_a [\ln (\text{hardness})] + b_a)$

(b) To calculate the chronic criteria, in $\mu\text{g/l}$, for the metals shown in Table 1703-3, the exponent “e” shall be raised to the power “x” where “x” is equal to the parenthetical expression “ m_c ” multiplied by the natural logarithm of the hardness and to which product the value “ b_c ” shall be added, as follows:

Chronic Criteria = e^x where $x = (m_c [\ln (\text{hardness})] + b_c)$

(c) Table 1703-3 shall be as follows:

Table 1703-3: Coefficients in Equations for Calculating Total Recoverable Aquatic Life Criteria for Metals

	m_a	b_a	m_c	b_c
Cadmium	0.9789	-3.866	0.7977	-3.909
Copper	0.9422	-1.700	0.8545	-1.702
Chromium+3	0.8190	3.7256	0.8190	.6848
Lead	1.273	-1.460	1.273	-4.705
Nickel	0.8460	2.255	0.8460	0.0584
Silver	1.72	-6.59	-----	-----
Zinc	0.8473	0.884	0.8473	0.884

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.25 Freshwater Acute Aquatic Life Criteria For Ammonia.

(a) Subject to (b) through (d), below, to determine freshwater acute aquatic life criteria for ammonia, in milligrams of nitrogen per liter (mg N/l), the applicant shall use:

- (1) Table 1703-4A, where salmonids in the genus Oncorhynchus are or might be present; and
- (2) Table 1703-4B, where salmonids in the genus Oncorhynchus are absent.

(b) The freshwater acute water quality criteria for ammonia in Table 1703-4A where salmonids in the genus Oncorhynchus are or might be present have been calculated by taking the lesser of the value resulting from dividing 0.275 by the sum of one plus 10 raised to the power of 7.204 minus the pH, and adding the resulting value to the value found by dividing 39.0 by the sum of one plus 10 raised to the power of the pH minus 7.204, to the value resulting from dividing 0.0114 by the sum of one plus 10 raised to the power of the pH minus 7.204, and adding the resulting value found by dividing 1.6181 by the sum of one plus 10 raised to the power of the pH minus 7.204 and multiplying this value by 0.7249 multiplied by the value resulting from multiplying 23.12 by 10 raised to the power of 0.036 multiplied by value of 20 minus the temperature, as shown in the following equation:

Freshwater Acute Criteria, Salmonids in the Genus Oncorhynchus Present =

$$\text{MIN} \{ [0.275 / (1+10^{7.204-\text{pH}}) + 39.0 / (1+10^{\text{pH}-7.204})], [0.7249 \times [0.0114 / (1+10^{7.204-\text{pH}}) + 1.6181 / (1+10^{\text{pH}-7.204})] \times (23.12 \times 10^{0.036 \times (20-T)})] \}$$

Where MIN indicates the lesser of the two values separated by a comma.

(c) The freshwater acute water quality criteria for ammonia in table 1703-4B where salmonids in the genus Oncorhynchus are absent have been calculated by dividing 0.0114 by the sum of one plus 10 raised to the power of 7.204 minus the pH, and adding the resulting value to the value found by dividing 1.6181 by the sum of one plus 10 raised to the power of the pH minus 7.204, and multiplying this value by 0.7249 multiplied by the lesser of 51.93 or the value resulting from multiplying 23.12 by 10 raised to the power of 0.036 multiplied by value of 20 minus the temperature as shown in the following equation:

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Freshwater Acute Criteria, Salmonids in the Genus Onchorhynchus Absent =

$$\{0.7249 \times [0.0114 / (1 + 10^{7.204 - \text{pH}}) + 1.6181 / (1 + 10^{\text{pH} - 7.204})]\} \times \text{MIN} [51.93, (23.12 \times 10^{0.036 \times (20 - T)})]$$

Where MIN indicates the lesser of the 2 values separated by a comma.

(d) The equations described in (b) and (c), above, shall be used to calculate freshwater acute water quality criteria for ammonia at unlisted pH and temperature values.

(e) Table 1703-4A and table 1703-4B shall be as follows:

Table 1703-4A: Freshwater Acute Aquatic Life Criteria For Ammonia in mg N/liter Salmonids in the Genus <u>Onchorhynchus</u> Present										
pH	Temperature, Degrees C									
	0-14	15	16	18	20	22	24	26	28	30
6.5	33	33	32	27	23	19	16	14	12	9.9
6.6	31	31	30	26	22	18	16	13	11	9.5
6.7	30	30	29	24	21	18	15	13	11	9.0
6.8	28	28	27	23	20	17	14	12	10	8.5
6.9	26	26	25	21	18	15	13	11	9.4	7.9
7.0	24	24	23	20	17	14	12	10	8.6	7.3
7.1	22	22	21	18	15	13	11	9.3	7.9	6.7
7.2	20	20	19	16	14	12	9.8	8.3	7.1	6.0
7.3	18	18	17	14	12	10	8.7	7.4	6.3	5.3
7.4	15	15	15	13	11	9.0	7.7	6.5	5.5	4.7
7.5	13	13	13	11	9.2	7.8	6.6	5.6	4.8	4.0
7.6	11	11	11	9.3	7.9	6.7	5.7	4.8	4.1	3.5
7.7	9.6	9.6	9.3	7.9	6.7	5.7	4.8	4.1	3.5	3.0
7.8	8.1	8.1	7.9	6.7	5.6	4.8	4.0	3.4	2.9	2.5
7.9	6.8	6.8	6.6	5.6	4.7	4.0	3.4	2.9	2.4	2.1
8.0	5.6	5.6	5.4	4.6	3.9	3.3	2.8	2.4	2.0	1.7
8.1	4.6	4.6	4.5	3.8	3.2	2.7	2.3	2.0	1.7	1.4
8.2	3.8	3.8	3.7	3.1	2.7	2.3	1.9	1.6	1.4	1.2
8.3	3.1	3.1	3.1	2.6	2.2	1.9	1.6	1.3	1.1	0.96
8.4	2.6	2.6	2.5	2.1	1.8	1.5	1.3	1.1	0.93	0.79
8.5	2.1	2.1	2.1	1.8	1.5	1.3	1.1	0.90	0.77	0.65
8.6	1.8	1.8	1.7	1.5	1.2	1.0	0.88	0.75	0.63	0.54
8.7	1.5	1.5	1.4	1.2	1.0	0.87	0.74	0.62	0.53	0.45
8.8	1.2	1.2	1.2	1.0	0.86	0.73	0.62	0.52	0.44	0.37
8.9	1.0	1.0	1.0	0.85	0.72	0.61	0.52	0.44	0.37	0.32
9.0	0.88	0.88	0.86	0.73	0.62	0.52	0.44	0.37	0.32	0.27

Table 1703-4B: Freshwater Acute Aquatic Life Criteria For Ammonia in mg N/liter, Salmonids in the Genus <u>Oncorhynchus</u> Absent											
pH	Temperature, Degrees C										
	0-10	12	14	16	18	20	22	24	26	28	30
6.5	51	44	37	32	27	23	19	16	14	12	9.9
6.6	49	42	36	30	26	22	18	16	13	11	9.5
6.7	46	40	34	29	24	21	18	15	13	11	9.0
6.8	44	38	32	27	23	20	17	14	12	10	8.5
6.9	41	35	30	25	21	18	15	13	11	9.4	7.9
7.0	38	33	28	23	20	17	14	12	10	8.6	7.3
7.1	34	30	25	21	18	15	13	11	9.3	7.9	6.7
7.2	31	27	23	19	16	14	12	9.8	8.3	7.1	6.0

Table 1703-4B: Freshwater Acute Aquatic Life Criteria For Ammonia in mg N/liter, Salmonids in the Genus Oncorhynchus Absent

pH	Temperature, Degrees C										
	0-10	12	14	16	18	20	22	24	26	28	30
7.3	27	24	20	17	14	12	10	8.7	7.4	6.3	5.3
7.4	24	21	18	15	13	11	9.0	7.7	6.5	5.5	4.7
7.5	21	18	15	13	11	9.2	7.8	6.6	5.6	4.8	4.0
7.6	18	15	13	11	9.3	7.9	6.7	5.7	4.8	4.1	3.5
7.7	15	13	11	9.3	7.9	6.7	5.7	4.8	4.1	3.5	2.9
7.8	13	11	9.3	7.9	6.7	5.6	4.8	4.0	3.4	2.9	2.5
7.9	11	9.1	7.7	6.6	5.6	4.7	4.0	3.4	2.9	2.4	2.1
8.0	8.8	7.6	6.4	5.4	4.6	3.9	3.3	2.8	2.4	2.0	1.7
8.1	7.2	6.3	5.3	4.5	3.8	3.2	2.7	2.3	2.0	1.7	1.4
8.2	6.0	5.2	4.4	3.7	3.1	2.7	2.3	1.9	1.6	1.4	1.2
8.3	4.9	4.3	3.6	3.1	2.6	2.2	1.9	1.6	1.3	1.1	0.96
8.4	4.1	3.5	3.0	2.5	2.1	1.8	1.5	1.3	1.1	0.93	0.79
8.5	3.3	2.9	2.4	2.1	1.8	1.5	1.3	1.1	0.90	0.77	0.65
8.6	2.8	2.4	2.0	1.7	1.5	1.2	1.0	0.88	0.75	0.63	0.54
8.7	2.3	2.0	1.7	1.4	1.2	1.0	0.87	0.74	0.62	0.53	0.45
8.8	1.9	1.7	1.4	1.2	1.0	0.86	0.73	0.62	0.52	0.44	0.37
8.9	1.6	1.4	1.2	1.0	0.85	0.72	0.61	0.52	0.44	0.37	0.32
9.0	1.4	1.2	1.0	0.86	0.73	0.62	0.52	0.44	0.37	0.32	0.27

Source. (See Revision Notes at beginning of chapter) #12042, eff 12-1-16

Env-Wq 1703.26 Freshwater Chronic Aquatic Life Criteria For Ammonia.

(a) Subject to (b) through (d), below, Table 1703-4C shall be used to determine freshwater chronic aquatic life criteria for ammonia, in mg N/l.

(b) The freshwater chronic water quality criteria for ammonia in Table 1703-4C have been calculated by adding the value found by dividing 0.0278 by the sum of one plus 10 raised to the power of 7.688 minus the pH to the value found by dividing 1.1994 by one plus 10 raised to the power of pH minus 7.688, and multiplying the resulting value by 0.8876 multiplied by the value resulting from multiplying 2.126 by 10 raised to the power of 0.028 times the value of 20 minus the greater of the temperature or 7, as shown in the following equation:

Freshwater Chronic Criteria for Ammonia:

$$\text{Criteria} = 0.8876 \times [0.0278 / (1 + 10^{7.688 - \text{pH}}) + 1.1994 / (1 + 10^{\text{pH} - 7.688})] \times [2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))}]$$

Where MAX indicates the greater of the two values separated by a comma.

(c) The chronic criteria in Table 1703-4C represent a 30-day rolling average, but the highest 4-day average within any 30-day averaging period shall not exceed 2.5 times the chronic criteria.

(d) The equation described in (b), above, shall be used to calculate criteria at unlisted pH and temperature values.

(e) Table 1703-4C shall be as follows:

Table 1703-4C: Freshwater Chronic Aquatic Life Criteria For Ammonia in mg N/l

pH	Temperature, Degrees C												
	0-7	8	10	12	14	16	18	20	22	24	26	28	30
6.5	4.9	4.6	4.1	3.6	3.1	2.8	2.4	2.1	1.9	1.6	1.5	1.3	1.1
6.6	4.8	4.5	4.0	3.5	3.1	2.7	2.4	2.1	1.8	1.6	1.4	1.3	1.1

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pH	Temperature, Degrees C												
	0-7	8	10	12	14	16	18	20	22	24	26	28	30
6.7	4.8	4.5	3.9	3.5	3.0	2.7	2.3	2.1	1.8	1.6	1.4	1.2	1.1
6.8	4.6	4.4	3.8	3.4	3.0	2.6	2.3	2.0	1.8	1.6	1.4	1.2	1.1
6.9	4.5	4.2	3.7	3.3	2.9	2.5	2.2	2.0	1.7	1.5	1.3	1.2	1.0
7.0	4.4	4.1	3.6	3.2	2.8	2.4	2.2	1.9	1.7	1.5	1.3	1.1	0.99
7.1	4.2	3.9	3.5	3.0	2.7	2.3	2.1	1.8	1.6	1.4	1.2	1.1	0.95
7.2	4.0	3.7	3.3	2.9	2.5	2.2	2.0	1.7	1.5	1.3	1.2	1.0	0.90
7.3	3.8	3.5	3.1	2.7	2.4	2.1	1.8	1.6	1.4	1.3	1.1	0.97	0.85
7.4	3.5	3.3	2.9	2.5	2.2	2.0	1.7	1.5	1.3	1.2	1.0	0.90	0.79
7.5	3.2	3.0	2.7	2.3	2.1	1.8	1.6	1.4	1.2	1.1	0.95	0.83	0.73
7.6	2.9	2.8	2.4	2.1	1.9	1.6	1.4	1.3	1.1	0.98	0.86	0.76	0.67
7.7	2.6	2.4	2.2	1.9	1.7	1.5	1.3	1.1	1.0	0.88	0.78	0.68	0.60
7.8	2.3	2.2	1.9	1.7	1.5	1.3	1.2	1.0	0.89	0.79	0.69	0.61	0.53
7.9	2.1	1.9	1.7	1.5	1.3	1.2	1.0	0.89	0.79	0.69	0.61	0.53	0.47
8.0	1.8	1.7	1.5	1.3	1.1	1.0	0.88	0.78	0.68	0.60	0.53	0.44	0.41
8.1	1.5	1.5	1.3	1.1	0.99	0.87	0.76	0.67	0.59	0.52	0.46	0.40	0.35
8.2	1.3	1.2	1.1	0.96	0.84	0.74	0.65	0.57	0.50	0.44	0.39	0.34	0.30
8.3	1.1	1.1	0.93	0.82	0.72	0.63	0.55	0.49	0.43	0.38	0.33	0.29	0.26
8.4	0.95	0.89	0.79	0.69	0.61	0.53	0.47	0.41	0.36	0.32	0.28	0.25	0.22
8.5	0.80	0.75	0.67	0.58	0.51	0.45	0.40	0.35	0.31	0.27	0.24	0.21	0.18
8.6	0.68	0.64	0.56	0.49	0.43	0.38	0.33	0.29	0.26	0.23	0.20	0.18	0.15
8.7	0.57	0.54	0.47	0.42	0.37	0.32	0.28	0.25	0.22	0.19	0.17	0.15	0.13
8.8	0.49	0.46	0.40	0.35	0.31	0.27	0.24	0.21	0.19	0.16	0.14	0.13	0.11
8.9	0.42	0.39	0.34	0.30	0.27	0.23	0.21	0.18	0.16	0.14	0.12	0.11	0.09
9.0	0.36	0.34	0.30	0.26	0.23	0.20	0.18	0.16	0.14	0.12	0.11	0.09	0.08

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.27 Saltwater Acute Aquatic Life Criteria for Ammonia at a Salinity of 10 g/kg. The values shown in Table 1703-5 shall be used to determine saltwater acute aquatic life criteria for ammonia, in milligrams of NH₃/l, for a salinity of 10 g/kg:

pH	Temperature (°C)							
	0	5	10	15	20	25	30	35
7.0	270	191	131	92	62	44	29	21
7.2	175	121	83	58	40	27	19	13
7.4	110	77	52	35	25	17	12	8.3
7.6	69	48	33	23	16	11	7.7	5.6
7.8	44	31	21	15	10	7.1	5.0	3.5
8.0	27	19	13	9.4	6.4	4.6	3.1	2.3
8.2	18	12	8.5	5.8	4.2	2.9	2.1	1.5
8.4	11	7.9	5.4	3.7	2.7	1.9	1.4	1.0
8.6	7.3	5.0	3.5	2.5	1.8	1.3	0.98	0.75
8.8	4.6	3.3	2.3	1.7	1.2	0.92	0.71	0.56
9.0	2.9	2.1	1.5	1.1	0.85	0.67	0.52	0.44

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

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Env-Wq 1703.28 Saltwater Acute Aquatic Life Criteria for Ammonia at a Salinity of 20 g/kg. The values shown in Table 1703-6 shall be used to determine saltwater acute aquatic life criteria for ammonia, in mg NH₃ /l, for a salinity of 20 g/kg:

Table 1703-6: Saltwater Acute Aquatic Life Criteria for Ammonia in mg NH₃/l; Salinity = 20 g/kg

pH	Temperature (°C)							
	0	5	10	15	20	25	30	35
7.0	291	200	137	96	64	44	31	21
7.2	183	125	87	60	42	29	20	14
7.4	116	79	54	37	27	18	12	8.7
7.6	73	50	35	23	17	11	7.9	5.6
7.8	46	31	23	15	11	7.5	5.2	3.5
8.0	29	20	14	9.8	6.7	4.8	3.3	2.3
8.2	19	13	8.9	6.2	4.4	3.1	2.1	1.6
8.4	12	8.1	5.6	4.0	2.9	2.0	1.5	1.1
8.6	7.5	5.2	3.7	2.7	1.9	1.4	1.0	0.77
8.8	4.8	3.3	2.5	1.7	1.3	0.94	0.73	0.56
9.0	3.1	2.3	1.6	1.2	0.87	0.69	0.54	0.44

Source. (See Revision Notes at beginning of chapter) #12042, eff 12-1-16

Env-Wq 1703.29 Saltwater Acute Aquatic Life Criteria for Ammonia at a Salinity of 30 g/kg. The values shown in Table 1703-7 shall be used to determine saltwater acute aquatic life criteria for ammonia, in mg NH₃ /l, for a salinity of 30 g/kg:

Table 1703-7: Saltwater Acute Aquatic Life Criteria for Ammonia in mg NH₃/l; Salinity = 30 g/kg

pH	Temperature (°C)							
	0	5	10	15	20	25	30	35
7.0	312	208	148	102	71	48	33	23
7.2	196	135	94	64	44	31	21	15
7.4	125	85	58	40	27	19	13	9.4
7.6	79	54	37	25	21	12	8.5	6.0
7.8	50	33	23	16	11	7.9	5.4	3.7
8.0	31	21	15	10	7.3	5.0	3.5	2.5
8.2	20	14	9.6	6.7	4.6	3.3	2.3	1.7
8.4	12.7	8.7	6.0	4.2	2.9	2.1	1.6	1.1
8.6	8.1	5.6	4.0	2.7	2.0	1.4	1.1	0.81
8.8	5.2	3.5	2.5	1.8	1.3	1.0	0.75	0.58
9.0	3.3	2.3	1.7	1.2	0.94	0.71	0.56	0.46

Source. (See Revision Notes at beginning of chapter) #12042, eff 12-1-16

Env-Wq 1703.30 Saltwater Chronic Aquatic Life Criteria for Ammonia at a Salinity of 10 g/kg. The values shown in Table 1703-8 shall be used to determine saltwater chronic aquatic life criteria for ammonia, in mg NH₃ /l, for a salinity of 10 g/kg:

Table 1703-8: Saltwater Chronic Aquatic Life Criteria for Ammonia in mg NH₃/l; Salinity = 10 g/kg

pH	Temperature (°C)							
	0	5	10	15	20	25	30	35
7.0	41	29	20	14	9.4	6.6	4.4	3.1
7.2	26	18	12	8.7	5.9	4.1	2.8	2.0
7.4	17	12	7.8	5.3	3.7	2.6	1.8	1.2
7.6	10	7.2	5.0	3.4	2.4	1.7	1.2	0.84

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Table 1703-8: Saltwater Chronic Aquatic Life Criteria for Ammonia in mg NH₃/l; Salinity = 10 g/kg

pH	Temperature (°C)							
	0	5	10	15	20	25	30	35
7.8	6.6	4.7	3.1	2.2	1.5	1.1	0.75	0.53
8.0	4.1	2.9	2.0	1.40	0.97	0.69	0.47	0.34
8.2	2.7	1.8	1.3	0.87	0.62	0.44	0.31	0.23
8.4	1.7	1.2	0.81	0.56	0.41	0.29	0.21	0.16
8.6	1.1	0.75	0.53	0.37	0.27	0.20	0.15	0.11
8.8	0.69	0.50	0.34	0.25	0.18	0.14	0.11	0.08
9.0	0.44	0.31	0.23	0.17	0.13	0.10	0.08	0.07

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.31 Saltwater Chronic Aquatic Life Criteria for Ammonia at a Salinity of 20 g/kg. The values shown in Table 1703-9 shall be used to determine saltwater chronic aquatic life criteria for ammonia, in mg NH₃ /l, for a salinity of 20 g/kg:

Table 1703-9: Saltwater Chronic Aquatic Life Criteria for Ammonia in mg NH₃/l; Salinity = 20 g/kg

pH	Temperature (°C)							
	0	5	10	15	20	25	30	35
7.0	44	30	21	14	9.7	6.6	4.7	3.1
7.2	27	19	13	9.0	6.2	4.4	3.0	2.1
7.4	18	12	8.1	5.6	4.1	2.7	1.9	1.3
7.6	11	7.5	5.3	3.4	2.5	1.7	1.2	0.84
7.8	6.9	4.7	3.4	2.3	1.6	1.1	0.78	0.53
8.0	4.4	3.0	2.1	1.5	1.0	0.72	0.50	0.34
8.2	2.8	1.9	1.3	.94	.66	.47	.31	.24
8.4	1.8	1.2	.84	.59	.44	.30	.22	.16
8.6	1.1	.78	.56	.41	.28	.20	.15	.12
8.8	.72	.50	.37	.26	.19	.14	.11	.08
9.0	.47	.34	.24	.18	.13	.10	.08	.07

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.32 Saltwater Chronic Aquatic Life Criteria for Ammonia at a Salinity of 30g/kg. The values shown in table 1703-10 shall be used to determine saltwater chronic aquatic life criteria for ammonia, in mg NH₃ /l, for a salinity of 30 g/kg:

Table 1703-10: Saltwater Chronic Aquatic Life Criteria for Ammonia in mg NH₃/l; Salinity = 30 g/kg

pH	Temperature (°C)							
	0	5	10	15	20	25	30	35
7.0	47	31	22	15	11	7.2	5.0	3.4
7.2	29	20	14	9.7	6.6	4.7	3.1	2.2
7.4	19	13	8.7	5.9	4.1	2.9	2.0	1.4
7.6	12	8.1	5.6	3.7	3.1	1.8	1.3	0.90
7.8	7.5	5.0	3.4	2.4	1.7	1.2	0.81	0.56
8.0	4.7	3.1	2.2	1.6	1.1	0.75	0.53	0.37
8.2	3.0	2.1	1.4	1.0	0.69	0.50	0.34	0.25
8.4	1.9	1.3	0.90	0.62	0.44	0.31	0.23	0.17
8.6	1.2	0.84	0.59	0.41	0.30	0.22	0.16	0.12
8.8	0.78	0.53	0.37	0.27	0.20	0.15	0.11	0.09
9.0	0.50	0.34	0.26	0.19	0.14	0.11	0.08	0.07

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Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1703.33 Freshwater Aquatic Life Criteria for Pentachlorophenol.

(a) To calculate the freshwater aquatic life acute criteria, in $\mu\text{g/l}$, for pentachlorophenol, the exponent “e” shall be raised to the power “x” where “x” is equal to the parenthetical expression 1.005 multiplied by the pH and to which product the value of 4.869 shall be subtracted, as follows:

$$\begin{aligned} \text{Acute Criteria} &= e^x \text{ where} \\ x &= [1.005 (\text{pH}) - 4.869] \end{aligned}$$

(b) To calculate the freshwater aquatic life chronic criteria, in $\mu\text{g/l}$, for pentachlorophenol, the exponent “e” shall be raised to the power “x” where “x” is equal to the parenthetical expression 1.005 multiplied by the pH and to which product the value of 5.134 shall be subtracted, as follows:

$$\begin{aligned} \text{Chronic Criteria} &= e^x \text{ where} \\ x &= [1.005 (\text{pH}) - 5.134] \end{aligned}$$

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

PART Env-Wq 1704 ALTERNATIVE SITE SPECIFIC CRITERIA

Env-Wq 1704.01 Purpose. The purpose of this part is to establish a procedure for determining alternative site specific criteria in the following cases:

- (a) For toxic substances not listed in Env-Wq 1703.21 through Env-Wq 1703.33;
- (b) Where site specific information is available and substantiates the use of different criteria; or
- (c) Where new information that was not considered in the development of the criteria becomes available.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1704.02 Procedures. The procedure for determining alternative site specific criteria for the protection of human health shall be as specified in EPA’s “Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health,” EPA 822-B-00-004, dated October 2000, and the following accompanying technical support documents, all of which are available as noted in Appendix B:

- (a) “Volume 1: Risk Assessment”, EPA 822-B-00-005, dated October 2000;
- (b) “Volume 2: Development of National Bioaccumulation Factors”, EPA-822-R-03-030, dated December 2003; and
- (c) “Volume 3: Development of Site-Specific Bioaccumulation Factors”, EPA-822-R-09-008, dated September 2009.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1704.03 Modifications to Surface Water Quality Standards. If the department determines, based on scientifically valid documentation, that alternative site specific criteria will protect the existing and designated uses of the waterbody, the department shall revise these rules to incorporate those criteria.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

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PART Env-Wq 1705 FLOW STANDARDS

Env-Wq 1705.01 Assimilative Capacity.

(a) Subject to (b), below, the department shall hold not less than 10 percent of the assimilative capacity of each surface water in reserve to provide for future needs.

(b) For purposes of combined sewer overflows, the department shall determine compliance based on 99 percent of the assimilative capacity of the receiving surface water.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1705.02 Low Flow Conditions.

(a) The flow used to calculate permit limits shall be as specified in (b) through (d), below.

(b) For tidal waters, the low flow condition shall be equivalent to the conditions that result in a dilution that is exceeded 99% of the time.

(c) For non-tidal rivers and streams, permit limits for all human health criteria for carcinogens shall be developed based on the long-term harmonic mean flow, which is the number of daily flow measurements divided by the sum of the reciprocals of the daily flows.

(d) For non-tidal rivers and streams, permit limits for all aquatic life criteria and human health criteria for non-carcinogens shall be based on the 7Q10 flow.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

PART Env-Wq 1706 SAMPLING AND ANALYSIS

Env-Wq 1706.01 Procedures. Unless alternative procedures are specified in the surface water discharge permit, all procedures used for the purpose of collecting, preserving, and analyzing samples shall be as specified in 40 CFR Part 136 for wastewater and 40 CFR Part 141 for drinking water.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

PART Env-Wq 1707 MIXING ZONES

Env-Wq 1707.01 Designation of Mixing Zones.

(a) Because RSA 485-A:8, I prohibits the discharge of any sewage or other wastes into class A waters, mixing zones shall be prohibited in such waters.

(b) For class B waters, the department shall designate a limited area or volume of the surface water as a mixing zone if the applicant provides sufficient scientifically valid documentation to allow the department to independently determine that all criteria in Env-Wq 1707.02 have been met.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1707.02 Criteria for Approval of Mixing Zones. The department shall not approve a mixing zone unless the proposed mixing zone:

- (a) Meets the criteria in Env-Wq 1703.03(c)(1);
- (b) Does not interfere with biological communities or populations of indigenous species;
- (c) Does not result in the accumulation of pollutants in the sediments or biota;

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- (d) Allows a zone of passage for swimming and drifting organisms;
- (e) Does not interfere with existing and designated uses of the surface water;
- (f) Does not impinge upon spawning grounds or nursery areas, or both, of any indigenous aquatic species;
- (g) Does not result in the mortality of any plants, animals, humans, or aquatic life within the mixing zone;
- (h) Does not exceed the chronic toxicity value of 1.0 TUC at the mixing zone boundary; and
- (i) Does not result in an overlap with another mixing zone.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1707.03 Conditions for Mixing Zones. If the department approves a mixing zone, the department shall include such conditions as are needed to ensure that the criteria on which the approval is based are met.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1707.04 Technical Standards. Mixing zones shall be established in accordance with “Technical Support Document for Water Quality-based Toxics Control”, EPA/505/2-90-001, dated March 1991, available as noted in Appendix B.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

PART Env-Wq 1708 ANTIDegradation

Env-Wq 1708.01 Purpose. The purpose of these antidegradation provisions is to ensure that the following requirements of 40 CFR 131.12 are met:

(a) Existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected;

(b) Where the quality of a surface water exceeds the level necessary to support recreation in and on the water and propagation of fish, shellfish, and wildlife, such quality shall be maintained and protected, subject to the following:

(1) The department shall not approve a proposed discharge or activity that would cause a significant change in water quality as specified in Env-Wq 1708.09 unless the department finds, after full satisfaction of the intergovernmental coordination and public participation requirements and the analysis required by Env-Wq 1708.10, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the surface water is located; and

(2) The department shall not approve any proposed discharge or activity that might cause degradation or lower water quality, without such conditions as are necessary to ensure that:

a. Water quality will be adequate to fully protect existing uses;

b. The highest statutory and regulatory requirements will be achieved for all new and existing point sources; and

c. All cost effective and reasonable best management practices for nonpoint source control will be implemented;

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(c) Where high quality surface waters constitute an outstanding resource waters (ORW), that water quality shall be maintained and protected; and

(d) In those cases where a potential water quality impairment is associated with a thermal discharge, the antidegradation provisions shall ensure that the requirements of Section 316 of the Clean Water Act are met.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1708.02 Applicability. Antidegradation shall apply to:

(a) Any proposed new or increased activity, including point source and nonpoint source discharges of pollutants, that would lower water quality or adversely affect existing or designated uses;

(b) Any proposed increase in loadings to a waterbody when the proposal is associated with existing activities;

(c) Any increase in flow alteration over an existing alteration; and

(d) Any hydrologic modifications, such as dam construction and water withdrawals.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1708.03 Protection of Existing Uses.

(a) A proposed discharge or activity shall not eliminate any existing uses or the water quality needed to maintain and protect those uses.

(b) The department shall determine the existing uses for the waters in question using the information provided pursuant to Env-Wq 1708.07.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1708.04 Protection of Water Quality in ORW.

(a) Surface waters of national forests and surface waters designated as natural under RSA 483:7-a, I, shall be considered outstanding resource waters (ORW).

(b) Subject to (c), below, water quality shall be maintained and protected in surface waters that constitute ORW.

(c) The department shall allow a limited point or nonpoint source discharge to an ORW only if:

(1) The discharge will result in no more than temporary and short-term changes in water quality, wherein “temporary and short term” means that degradation is limited to the shortest possible time;

(2) The discharge will not permanently degrade water quality or result at any time in water quality lower than that necessary to protect the existing and designated uses in the ORW; and

(3) All practical means of minimizing water quality degradation are implemented.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1708.05 Protection of Class A Waters.

(a) As specified in RSA 485-A:8, I, discharges of sewage or waste to class A waters shall be prohibited.

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(b) Proposed new or increased activities that the department determines do not involve the discharge of sewage or waste shall be reviewed in accordance with this part.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1708.06 Protection of Water Quality in High Quality Waters.

(a) Subject to (b) through (d), below, high quality waters shall be maintained and protected.

(b) The department shall evaluate and authorize insignificant changes in water quality as specified in Env-Wq 1708.09.

(c) The department shall allow degradation of significant increments of water quality, as determined in accordance with Env-Wq 1708.09, in high quality waters only if the applicant can demonstrate to the department, in accordance with Env-Wq 1708.10, that allowing the water quality degradation is necessary to accommodate important economic or social development in the area in which the receiving waters are located.

(d) If the waterbody is class A water, the requirements of Env-Wq 1708.05 also shall apply.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1708.07 Submittal of Data. The applicant shall provide all information necessary to:

(a) Identify all existing uses, including:

- (1) Freshwater, estuarine, and marine aquatic life present in the affected surface waters;
- (2) Other wildlife that use or otherwise are dependent on the affected surface waters;
- (3) Presence of water quality and physical habitat that support, or would support, aquatic life or other animal or plant life;
- (4) Presence of indigenous species and communities;
- (5) Presence of a specialized use of the waterbody, such as a spawning area or as a habitat for a federally- or state-listed threatened or endangered species;
- (6) Use of the surface waters for recreation in or on the water, such as fishing, swimming, and boating, or use of the surface waters for commercial activity; and
- (7) Whether or not current conditions or uses of the surface waters conflict with achieving and maintaining goal uses of the CWA at Section 101(a)(2) and the primary CWA objective to restore and maintain the chemical, physical, and biological integrity of the nation's surface waters;

(b) Determine the level of water quality necessary to maintain and protect all uses identified in (a), above;

(c) Evaluate the potential impacts on existing uses due to the proposed discharge or activity by itself, and in combination with other discharges or activities presently occurring;

(d) Ensure that existing uses and the level of water quality necessary to protect those uses will be maintained and protected;

(e) Evaluate the magnitude, duration, and upstream and downstream extent of any lowering of high quality water due to the proposed discharge or activity by itself, and in combination with other discharges or activities presently occurring;

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(f) Evaluate other factors as necessary to determine whether the proposed activity would cause significant or insignificant degradation, in accordance with Env-Wq 1708.09;

(g) If the discharge or activity is determined by the department to be significant, in accordance with Env-Wq 1708.08 and Env-Wq 1708.09, determine if a proposed lowering of water quality is necessary to achieve important economic or social development in accordance with Env-Wq 1708.10; and

(h) Ensure that all water quality criteria applicable to the waterbody in question will not be violated.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1708.08 Assessing Waterbodies.

(a) The applicant shall characterize the existing water quality and determine whether there is remaining assimilative capacity for each parameter in question.

(b) Existing water quality shall be calculated in accordance with Env-Wq 1705.02, based on point sources discharging at their allowed loadings and the highest loadings anticipated from nonpoint sources.

(c) Where flows will or might be altered, existing conditions shall be established based on the existing maximum allowed water withdrawals or impoundment, diversion, or fluctuation of stream flow, as applicable.

(d) Remaining assimilative capacity shall be evaluated by comparing existing water quality, as specified in (b) and (c), above, to the state's water quality criteria.

(e) If the type and frequency of the proposed discharge or activity will or might cause the waterbody to be impacted at flows other than those listed in Env-Wq 1705.02, the applicant shall evaluate the impact of the proposed discharge at those other flows.

(f) Subject to (h), below, if the department determines, based on the information submitted, that there is no remaining assimilative capacity for a specific parameter, no further degradation with regard to that parameter shall be allowed.

(g) Subject to (h), below, if the department determines, based on the information submitted, that there is some remaining assimilative capacity, then the department shall proceed in accord with Env-Wq 1708.09.

(h) Determinations made pursuant to (f) or (g), above, shall account for Env-Wq 1705.01, which requires the department to reserve no less than 10% of a surface water's assimilative capacity.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1708.09 Significant or Insignificant Determination.

(a) Any discharge or activity that is projected to use 20% or more of the remaining assimilative capacity for a water quality parameter, in terms of either concentration or mass of pollutants, or volume or flow rate for water quantity, shall be considered a significant lowering of water quality.

(b) The department shall not approve a discharge or activity that will cause a significant lowering of water quality unless the applicant demonstrates, in accordance with Env-Wq 1708.10, that the proposed lowering of water quality is necessary to achieve important economic or social development in the area where the waterbody is located.

(c) Subject to (e), below, any applicant proposing an activity that will cause an insignificant lowering of water quality shall not be required to demonstrate that the activity is necessary to provide important economic or social development, provided the applicant implements best management practices to minimize degradation.

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- (d) Activities allowed under (c), above shall include, but not be limited to:
- (1) Short term or intermittent discharges such as hydrostatic testing of pipelines, fire pump test water, and uncontaminated stormwater discharges or site clean-up activities;
 - (2) Permanent discharges such as uncontaminated noncontact cooling water, uncontaminated groundwater seepage, or unchlorinated or dechlorinated swimming pool water;
 - (3) Facilities whose nonpoint source runoff is controlled through the use of best management practices; and
 - (4) Any discharge or activity that is projected to use less than 20% of the remaining assimilative capacity for a water quality parameter, in terms of either concentration or mass for pollutants or volume or flow rate for water quantity.

(e) If the department determines based on the following factors that the effect of a discharge results in a greater impact to the water quality than that normally found in insignificant discharges, the department shall determine that the proposed activity or discharge is significant, regardless of the proposed consumption of the remaining assimilative capacity, and require the applicant to demonstrate, in accordance with Env-Wq 1708.10, that a lowering of water quality is necessary to achieve an important economic or social development:

- (1) The magnitude, duration, and spatial extent of the proposed change in water quality;
- (2) The cumulative lowering of water quality over time resulting from the proposed activity in combination with previously approved activities;
- (3) The possible additive or synergistic effects of the activity in combination with existing activities;
- (4) The magnitude of the mass load independent of the total assimilative capacity or change in receiving water pollutant concentration;
- (5) The toxic or bioaccumulative characteristics of the pollutant(s) in question;
- (6) The potential to stress sensitive biological resources such as indigenous species, rare species, and threatened or endangered species and their habitat;
- (7) The potential to stress sensitive recreational uses or water supply uses; or
- (8) The quality and value of the resource.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1708.10 Alternatives Analysis: Determination of Net Economic or Social Benefits.

- (a) For purposes of this section, the following definitions shall apply:
- (1) “Activity” means any of the activities listed in Env-Wq 1708.02 as being subject to this part, including all associated construction;
 - (2) “Area in which the water body is located” means the directly affected municipality(ies) and, if necessary to quantify the net social and economic benefits of the activity, one or more of the municipalities that abut the directly affected municipality(ies), as determined by the applicant in consultation with the department;
 - (3) “Directly affected municipality(ies)” means the municipality or municipalities in which the water body that will be impacted by the activity is located; and

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(4) “High value resource” means a natural or developed resource that is of particular value to the nation, region, state, or area in which the water body is located, including but not limited to state- or federally-listed threatened or endangered species, state or federal parks, public freshwater or saltwater beaches, and lands that are subject to conservation easements.

(b) For any activity that is determined to result in a significant impact to the existing water quality pursuant to Env-Wq 1708.09, the applicant shall provide documentation in accordance with (c) through (f), below, to demonstrate that:

- (1) Lowering the water quality is necessary to accommodate the activity;
- (2) The activity will provide net economic or social benefits in the area in which the water body is located; and
- (3) The net social and economic benefits of constructing and operating or otherwise engaging in the activity outweigh the environmental impact that could be caused by the lower water quality.

(c) To determine whether the criteria specified in (b)(1)-(3), above, have been met, the applicant shall complete an alternatives analysis as described in (d), below, and submit the analysis and a request for approval of the preferred alternative to the department together with technically and scientifically valid supporting information.

(d) The alternatives analysis required by (c), above, shall describe the net social and economic benefits, as described in (e), below, and the water quality impacts, as described in (f), below, of constructing and operating or otherwise engaging in the activity and all practicable alternatives, including but not limited to the following:

- (1) Alternative methods of production or operation;
- (2) Improved process controls;
- (3) Water conservation practices;
- (4) Wastewater minimization technologies;
- (5) Non-discharging alternatives;
- (6) Improved wastewater treatment facility operation;
- (7) Alternative methods of treatment, including advanced treatment beyond applicable technology requirements of the Clean Water Act;
- (8) Alternative sites, and associated water quality impacts at those sites; and
- (9) For activities that involve alteration of terrain, alternative site design that incorporates low impact development elements, including but not limited to creating less impermeable area or infiltrating or reusing stormwater.

(e) To determine whether the activity will provide net social and economic benefits in the area in which the water body is located, the applicant shall submit information on, and the department shall evaluate, each of the following:

- (1) Whether the activity is consistent with municipal and regional master plans and economic development strategies; and
- (2) An explanation of the effect that constructing and operating or otherwise engaging in the activity will have, or an explanation of why there will be no effect, on the following factors:
 - a. Public and social services;
 - b. Public health and safety;

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- c. Employment;
- d. Tourism and recreation; and
- e. Other social or economic factors that are specific to the area in which the water body is located.

(f) To determine the environmental impacts of lower water quality, the applicant shall submit information on, and the department shall evaluate, each of the following:

- (1) Relative to designated uses, the sensitivity of existing and designated uses to the effects of constructing and operating or otherwise engaging in of the activity;
- (2) Relative to pollutants, whether any pollutants are expected to be discharged as a result of constructing and operating or otherwise engaging in the activity and, if so, the nature of the pollutants and the anticipated fate and transport of the pollutants in the water body;
- (3) Relative to water quality, whether water quality is expected to change as a result of constructing and operating or otherwise engaging in activity, and if so, the estimated degree of change in water quality;
- (4) Relative to high value resources, whether any high value resources are present that would be affected by constructing and operating or otherwise engaging in the activity, and if so, the degree to which such resources are expected to be affected;
- (5) Relative to flow characteristics or hydrologic modifications, whether any alterations to existing flows or other hydrologic modifications are expected as a result of constructing and operating or otherwise engaging in the proposed activity, and if so, the impacts of such alterations or modifications;
- (6) Relative to water treatment technology, whether the activity incorporates any such technology other than passive stormwater treatment best management practices and, if so, the reliability of the treatment technology proposed, and the risk management plan for non-standard situations such as accidents, upsets, or failures; and
- (7) Relative to any other factors that are specific to the affected water body or the area in which the water body is located, a description of the factor and an explanation of the effect of constructing and operating or otherwise engaging in the proposed activity on that factor.

(g) After reviewing the information submitted pursuant to (c) through (f), above, the department shall make a preliminary determination to:

- (1) Approve the request, if it determines that the criteria specified in (b)(1)-(3), above, have been met; or
- (2) Deny the request, if it determines that the criteria specified in (b)(1)-(3), above, have not been met.

(h) If the department's preliminary determination is to approve the applicant's request, the department shall provide the opportunity for public comment on its preliminary decision in accordance with Env-Wq 1708.11.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1708.11 Public Participation and Intergovernmental Coordination.

(a) The department shall provide the opportunity for public comment and an opportunity to request a public hearing on preliminary decisions to allow any significant lowering of water quality determined in accordance with Env-Wq 1708.09(b) or (e).

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(b) The department shall issue a written notice to the public, the municipality in which the activity is located or proposed to be located, and all potentially affected municipalities of a preliminary decision to allow a significant lowering of water quality.

(c) The notice provided pursuant to (b), above, shall:

- (1) Invite written comments to be submitted to the department;
- (2) Be posted by the department on its website and in at least one public place in the municipality in which the proposed activity will occur;
- (3) Contain the information specified in (d), below; and
- (4) For activities related to state surface water discharge permits, be a part of the normal public participation procedures associated with the issuance of the permit.

(d) The notice provided pursuant to (b), above, shall include the following information:

- (1) A description of the proposed activity;
- (2) A description of each surface water that would be affected and its use classification;
- (3) A summary of the antidegradation provisions in these rules;
- (4) A determination that existing uses and the water quality necessary thereto will be maintained and protected;
- (5) A summary of the expected impacts on high quality waters, if any;
- (6) A determination that where a lowering of water quality is allowed, all applicable water quality criteria will be met, designated uses will be protected, and any higher water quality achievable by the most stringent applicable technology-based requirements will be maintained;
- (7) A summary of any other information that is relevant to how the activity complies or does not comply with the requirements of these rules;
- (8) The summary of the important economic or social development that will be achieved by allowing the proposed activity, if applicable;
- (9) A summary of the alternatives analysis and a finding that the lowering of water quality is necessary to provide a net economic and social benefit;
- (10) The deadlines for submitting a request for public hearing and submitting written comments; and
- (11) The name, address, and telephone number of the department employee to whom all written comments or requests for public hearing can be sent.

(e) To fulfill intergovernmental coordination, the department shall send a copy of the public notice to the following agencies and request comments:

- (1) NH department of resources and economic development;
- (2) NH department of health and human services;
- (3) NH fish and game department;
- (4) NH office of energy and planning;
- (5) Local river advisory committees, if applicable;

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- (6) US EPA Region I;
 - (7) US Army Corps of Engineers;
 - (8) US Fish and Wildlife Service;
 - (9) National Marine Fisheries Service;
 - (10) National Park Service; and
 - (11) Natural Resources Conservation Service.
- (f) The department shall:
- (1) Prepare a summary of all comments received as a result of public participation and intergovernmental coordination and provide responses; and
 - (2) Post the summary of comments and responses on its website.
- (g) If the department receives a request to hold a public hearing, the department shall issue public notice and conduct a public hearing in accordance with the provisions of Env-C 200 that apply to non-adjudicative proceedings.
- (h) Following this public participation process, the department shall consider all comments and other information submitted during the process and make a final decision to allow or deny the proposed impact on water quality.
- (i) The department shall notify the applicant in writing of its decision. If the application is denied and the applicant wishes to pursue the project, the applicant shall:
- (1) Revise the submittal to decrease or eliminate the projected impact to high quality waters and resubmit the application for consideration under the full review process; or
 - (2) Appeal the decision as a permitting decision pursuant to RSA 21-O:14.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1708.12 Transfer of Water.

- (a) In this section, “transfer” means the intentional conveyance of water from one surface water to another surface water for the purpose of increasing the volume of water available for withdrawal from the receiving surface water. The term does not include the transfer of stormwater, for the purpose of managing stormwater during construction, between basins created or otherwise lawfully used for stormwater detention or treatment, or both, and does not include the discharge of stormwater from a detention or treatment basin to a surface water.
- (b) A transfer shall be subject to (c) and (d), below, if one or more of the following apply:
- (1) The transfer was not in active operation, as determined pursuant to (f) through (i), below, prior to the effective date of the 2011 readoption of this section, August 23, 2011;
 - (2) The transfer is causing or contributing to a violation of surface water quality standards in the source water or receiving water; or
 - (3) A change that could impact any designated use of the source water or receiving water is made to the transfer on or after August 23, 2011 such that a water quality certification is required under RSA 485-A:12, III or IV.

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(c) The transfer of water from one surface water to another shall be allowed only if all of the following conditions are met:

- (1) The transferred water does not contain exotic aquatic species or other species of aquatic life that could result in a violation of Env-Wq 1703.19, relative to the integrity of the biological and aquatic community, in the receiving water;
- (2) Existing and designated uses will be maintained and supported in the source water and in the receiving water;
- (3) The withdrawal from the source water and transfer to the receiving water either:
 - a. Will not result in any degradation of water quality; or
 - b. Have both been reviewed under the process specified in Env-Wq 1708.10 and determined by the department to meet the criteria specified for approval in Env-Wq 1708.10(b)(1)-(3); and
- (4) A water conservation plan that meets the water conservation requirements set forth in Env-Wq 2101 has been approved by the department and is being complied with.

(d) Transferred water may be treated to comply with the requirements of this section.

(e) The transfer of water shall not constitute a discharge under RSA 485-A:8, I, or RSA 485-A:13, I(a) if:

- (1) The transfer is not subject to (c) and (d), above, pursuant to (b), above; or
- (2) All of the conditions specified in (c), above, are met.

(f) A transfer shall be deemed to have been in active operation prior to August 23, 2011 if all of the following are true:

- (1) The infrastructure necessary for the transfer is in place and in usable condition;
- (2) Water has been transferred for at least one day in each of at least 3 years from 2000 through 2011; and
- (3) At the time of its original initiation, the transfer complied with applicable legal requirements.

(g) If a transfer does not meet the conditions specified in (f), above, the person responsible for the transfer may request the department to make a determination that the transfer was in active operation by submitting the following information in writing:

- (1) The reason(s) why the infrastructure necessary for the transfer is not in place or is not in usable condition, if applicable;
- (2) The total time span, in years, over which the transfer has occurred from the first known transfer to the present;
- (3) The most recent year during which the transfer occurred; and
- (4) Why, based on the information provided in (1)-(3), above, it would be a fair and just result for the department to determine that the transfer qualifies as a transfer that was in active operation prior to August 23, 2011.

(h) If the department determines, based on information provided pursuant to (g), above, that it would be fair and just to determine that the transfer qualifies as a transfer that was in active operation prior to August 23, 2011, then the department shall make that determination.

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(i) The department shall notify the person who requested a determination pursuant to (g), above, in writing of its decision.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

PART Env-Wq 1709 CHANGE IN DESIGNATED USES

Env-Wq 1709.01 Definition. For purposes of this part, “change in designated use” means the removal of a designated use that is not an existing use, or the establishment of subcategories of a designated use.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1709.02 Use Attainability Analysis Required. Before determining whether to propose a change in designated use, the department shall conduct a use attainability analysis in accordance with 40 CFR § 131.10.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

Env-Wq 1709.03 Process to Propose Change in Designated Use.

(a) Based on the information obtained as a result of the use attainability analysis performed pursuant to Env-Wq 1709.02, the department shall determine whether a change in a designated use should be proposed as specified in (b), below.

(b) The department shall make the determination required by (a), above, when attaining a designated use is not feasible based on 40 CFR 131.10(g), as reprinted in Appendix F.

(c) If the department determines that a change in designated use should be proposed, the department shall conduct a non-adjudicative public hearing in accordance with the provisions of Env-C 200 applicable to non-adjudicative hearings to receive public comment on the determination.

(d) If the department continues to believe after the public comment period that a change in designated use should be proposed, the department shall propose that the change in designated use be made.

Source. (See Revision Notes at beginning of chapter)
#12042, eff 12-1-16

APPENDIX A: STATE OR FEDERAL STATUTES OR REGULATIONS IMPLEMENTED

Rule Section(s)	State Statute or Federal Statute or Regulation Implemented
Env-Wq 1701 (also see specific section listed below)	RSA 485-A:4, V; RSA 485-A:8, VI; 33 U.S.C. 1251 <i>et seq.</i>
Env-Wq 1701.03	RSA 485-A:13, I(a); 33 USC 1251 <i>et seq.</i> ; 40 CFR § 122.47
Env-Wq 1702	RSA 485-A:4, V; RSA 485-A:8, VI; 33 U.S.C. 1251 <i>et seq.</i>
Env-Wq 1703	RSA 485-A:4, V; RSA 485-A:8, I, II, & III; RSA 485-A:8, VI; 33 U.S.C. 1251 <i>et seq.</i>
Env-Wq 1704	RSA 485-A:4, V; RSA 485-A:8, VI; 33 U.S.C. 1251 <i>et seq.</i>
Env-Wq 1705	RSA 485-A:4, V; RSA 485-A:6, VII; RSA 485-A:8, VI; RSA 485-A:13, I(a); 33 U.S.C. 1251 <i>et seq.</i>
Env-Wq 1706	RSA 485-A:4, V; RSA 485-A:8, VI; 33 U.S.C. 1251 <i>et seq.</i>
Env-Wq 1707	RSA 485-A:4, V; RSA 485-A:8, VI; 33 U.S.C. 1251 <i>et seq.</i>
Env-Wq 1708	RSA 485-A:4, V; RSA 485-A:8, VI; 33 U.S.C. 1251 <i>et seq.</i>
Env-Wq 1709	RSA 485-A:4, V; RSA 485-A:8, VI; 33 U.S.C. 1251 <i>et seq.</i>

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APPENDIX B: INCORPORATED REFERENCES

Rule (Env-Wq)	Reference	Obtain At:
1703.05(c)	“EPA Combined Sewer Overflow (CSO) Control Policy”, EPA 830-B-94-001, dated April, 1994	Available at no charge from EPA National Service Center for Environmental Publications at https://www.epa.gov/nscep or directly at https://nepis.epa.gov/Exe/ZyNET.exe/2000407X.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1991+Thru+1994&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C91thru94%5CTxt%5C00000011%5C2000407X.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL
1703.22(d) intro	“Interim Guidance on Determination and Use of Water-Effect Ratios for Metals”, EPA-823-B-94-001, dated February 1994	Available at no charge from EPA National Service Center for Environmental Publications at https://www.epa.gov/nscep or directly at: http://nepis.epa.gov/Exe/ZyNET.exe/20003QI5.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1991+Thru+1994&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\zyfiles\Index%20Data\91thru94\Txt\00000011\20003QI5.txt&User=ANONYMOUS&Password=anonymous&SortMethod=hl-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=plf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL
1703.22(d) (1)	“Streamlined Water-Effect Ratio procedure for Discharges of Copper”, EPA-822-R-01-005, dated March 2001	Available at no charge from EPA National Service Center for Environmental Publications at https://www.epa.gov/nscep or directly at: https://nepis.epa.gov/Exe/ZyNET.exe/901Q0I00.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2000+Thru+2005&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C00thru05%5CTxt%5C00000012%5C901Q0I00.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL

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Rule (Env-Wq)	Reference	Obtain At:
1703.22(d) (2)	“Aquatic Life Ambient Freshwater Quality Criteria - Copper”, EPA-822-R-07-001, dated February 2007	Available at no charge from EPA National Service Center for Environmental Publications at https://www.epa.gov/nscep or directly at: http://nepis.epa.gov/Exe/ZyNET.exe/P1000PXC.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2006+Thru+2010&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\zyfiles\Index%20Data\06thru10\Txt\0000002\P1000PXC.txt&User=ANONYMOUS&Password=anonymous&SortMethod=hl-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=plf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL
1704.02 intro	“Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health,” EPA 822-B-00-004, dated October 2000	Available at no charge from EPA National Service Center for Environmental Publications at https://www.epa.gov/nscep or directly at: http://nepis.epa.gov/Exe/ZyNET.exe/20003D2R.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2000+Thru+2005&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\zyfiles\Index%20Data\00thru05\Txt\00000001\20003D2R.txt&User=ANONYMOUS&Password=anonymous&SortMethod=hl-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=plf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL
1704.02(a)	“Volume 1: Risk Assessment”, EPA 822-B-00-005, dated October 2000	Available at no charge from EPA National Service Center for Environmental Publications at https://www.epa.gov/nscep or directly at: http://nepis.epa.gov/Exe/ZyNET.exe/20003D81.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2000+Thru+2005&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\zyfiles\Index%20Data\00thru05\Txt\00000001\20003D81.txt&User=ANONYMOUS&Password=anonymous&SortMethod=hl-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=plf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL

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Rule (Env-Wq)	Reference	Obtain At:
1704.02(b)	“Volume 2: Development of National Bioaccumulation Factors”, EPA-822-R-03-030, dated December 2003	Available at no charge from EPA National Service Center for Environmental Publications at https://www.epa.gov/nscep or directly at: http://nepis.epa.gov/Exe/ZyNET.exe/P1005EZQ.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2000+Thru+2005&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\zyfiles\Index%20Data\00thru05\Txt\00000022\P1005EZQ.txt&User=ANONYMOUS&Password=anonymous&SortMethod=hl-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=plf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL
1704.02(c)	“Volume 3: Development of Site-Specific Bioaccumulation Factors”, EPA-822-R-09-008, dated September 2009	Available at no charge from EPA National Service Center for Environmental Publications at https://www.epa.gov/nscep or directly at: http://nepis.epa.gov/Exe/ZyNET.exe/P1005CAF.txt?ZyActionD=ZyDocument&Client=EPA&Index=2006%20Thru%202010&Docs=&Query=Methodology%20Deriving%20Ambient%20Water%20Quality%20Criteria%20Protection%20Human%20Health%20&Time=&EndTime=&SearchMethod=2&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\ZYFILES\INDEX%20DATA\06THRU10\TXT\00000011\P1005CAF.txt&User=ANONYMOUS&Password=anonymous&SortMethod=f%3ATitle&MaximumDocuments=15&FuzzyDegree=-1&ImageQuality=r85g16/r85g16/x150y150g16/i500&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionE&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x
1707.04	“Technical Support Document for Water Quality-based Toxics Control”, EPA/505/2-90-001, dated March 1991	Available at no charge from: https://www3.epa.gov/npdes/pubs/owm0264.pdf

APPENDIX C: STATUTORY DEFINITIONS

RSA 485-A:2:

VI. “Industrial waste” means any liquid, gaseous or solid waste substance resulting from any process of industry, manufacturing trade or business or from development of any natural resources.

VIII. “Other wastes” means garbage, municipal refuse, decayed wood, sawdust, shavings, bark, lime, ashes, offal, oil, tar, chemicals and other substances other than sewage or industrial wastes, and any other substance harmful to human, animal, fish or aquatic life.

X. “Sewage” means the water-carried waste products from buildings, public or private, together with such groundwater infiltration and surface water as may be present.

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XIV. “Surface waters of the state” means perennial and seasonal streams, lakes, ponds, and tidal waters within the jurisdiction of the state, including all streams, lakes, or ponds bordering on the state, marshes, water courses, and other bodies of water, natural or artificial.

XVI. “Waste” means industrial waste and other wastes.

RSA 482-A:2:

X. “Wetlands” means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

APPENDIX D: FEDERAL DEFINITIONS

40 CFR 122.2:

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

- (a) Sewage from vessels; or
- (b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well [that is] used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

NOTE: Radioactive materials covered by the Atomic Energy Act are those encompassed in its definition of source, byproduct, or special nuclear materials. Examples of materials not covered include radium and accelerator-produced isotopes. See *Train v. Colorado Public Interest Research Group, Inc.*, 426 U.S. 1 (1976).

APPENDIX E: SUMMARY OF BACTERIA STANDARDS FROM RSA 485-A:8

Type of Waters	Standard
Class A other than designated beach areas	Not more than: (1) A geometric mean based on at least 3 samples obtained over a 60-day period of 47 <i>Escherichia coli</i> (<i>E. coli</i>) per 100 milliliters, unless naturally occurring; or (2) 153 <i>E. coli</i> per 100 milliliters in any one sample, unless naturally occurring.
Class B other than designated beach areas	Not more than: (1) A geometric mean based on at least 3 samples obtained over a 60-day period of 126 <i>E. coli</i> per 100 milliliters, unless naturally occurring; or (2) 406 <i>E. coli</i> per 100 milliliters in any one sample, unless naturally occurring.
Class A or Class B at designated beach areas	Not more than: (1) A geometric mean based on at least 3 samples obtained over a 60-day period of 47 <i>E. coli</i> per 100 milliliters, unless naturally occurring; or (2) 88 <i>E. coli</i> per 100 milliliters in any one sample, unless naturally occurring.

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Type of Waters	Standard
Tidal waters used for swimming	Not more than: (1) A geometric mean based on at least 3 samples obtained over a 60-day period of 35 <u>enterococci</u> per 100 milliliters, unless naturally occurring; or (2) 104 <u>enterococci</u> per 100 milliliters in any one sample, unless naturally occurring.
Tidal waters used for growing or taking of shellfish for human consumption	Same as for tidal waters used for swimming, <u>PLUS</u> must meet criteria recommended under the National Shellfish Program Manual of Operation, US DHHS, Food and Drug Administration.

APPENDIX F: CRITERIA FOR DETERMINATION OF CHANGE IN DESIGNATED USE

40 CFR §131.10 Designation of uses.

(g) States may remove a designated use which is not an existing use, as defined in § 131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because:

- (1) Naturally occurring pollutant concentrations prevent the attainment of the use; or
- (2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or
- (3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
- (4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
- (5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or
- (6) Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.