STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Water Resources

WATER QUALITY REGULATIONS

July 2006

AUTHORITY: These regulations are adopted in accordance with Chapter 42-35 pursuant to Chapters 46-12 and 42-17.1 of the Rhode Island General Laws of 1956, as amended

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WATER QUALITY REGULATIONS

Rule 1. PURPOSE

It is the purpose of these regulations to establish water quality standards for the state's surface waters. These standards are intended to restore, preserve and enhance the physical, chemical and biological integrity of the waters of the State, to maintain existing water uses and to serve the purposes of the Clean Water Act and Rhode Island General Laws Chapter 46-12. These standards provide for the protection of the surface waters from pollutants so that the waters shall, where attainable, be fishable and swimmable, be available for all designated uses, taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and also taking into consideration their use and value for navigation, and thus assure protection of the public health, safety, welfare, a healthy economy and the environment.

Rule 2. LEGAL AUTHORITY

The authority for these regulations is vested in the Director by Chapter 46-12, Water Pollution, Chapter 42-17.1, Environmental Management and Chapter 42-17.6, Administrative Penalties For Environmental Violations of the General Laws of Rhode Island, as amended. These rules and regulations are further promulgated pursuant to the requirements and provisions of all chapters of the General Laws of Rhode Island relating to the duties and responsibilities of the Director for the waters of the state, and in accordance with the requirements of Chapter 42-35, Administrative Procedures Act.

Rule 3. - SUPERSEDED RULES

Upon adoption, these rules and regulations will supersede "Water Quality Regulations for Water Pollution Control" dated August 6, 1997 and re-filed with the Secretary of State on December 31, 2001.

Rule 4. - LIBERAL APPLICATION

The terms and provisions of these rules and regulations shall be liberally construed to allow the Department to effectuate the purposes of state law.

Rule 5. - SEVERABILITY

If any provision of these rules and regulations or the application thereof to any person or circumstance is held invalid by a court of competent jurisdiction, the remainder of the rules and regulations shall not be affected thereby. The invalidity of any rule or rules or parts of any rule or rules shall not affect the validity of the remainder of these rules and regulations.

Rule 6. - APPLICATION OF THESE REGULATIONS

A. Nothing in these rules and regulations shall be deemed to interfere with the Director's power and duty to issue an immediate order pursuant to section 46-12-10 of the General Laws of Rhode Island.

B. These regulations apply to all waters of the State, all systems or means of wastewater treatment, including sewers, all discharges into surface waters, all activities which will likely impact water quality and/or activities that will likely cause or contribute to flow alterations. These regulations shall also apply to those activities regulated by the federal government, other state agencies, programs within the Department and/or local governmental entities. All departmental regulations should be construed to be consistent and/or complementary and any perceived conflicts are unintentional. Should a perceived conflict arise between or among these regulations and the requirements imposed by the other departmental regulations or other governmental entities, the most stringent requirement shall govern.

Rule 7. - DEFINITIONS

For the purposes of these regulations, the following terms shall have the following meanings:

"Acute toxicity" means lethal or sublethal severe adverse effect(s) to an organism when exposed to a toxic pollutant(s) for a relatively short period of time. In aquatic toxicity tests, an effect observed in 96 hours or less is typically considered acute.

"Administrator" means the administrator of the United States Environmental Protection Agency or any subordinate or subordinates to whom the Administrator delegates the powers and duties vested in that office.

"Applicable standards and limitations" means all state, interstate and federal standards and limitations to which a discharge or activity is subject under the Clean Water Act or any State Acts including but not limited to effluent limitations, water quality standards, standards of performance, toxic effluent standards or prohibitions, best management practices, and pretreatment standards under Sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of the Clean Water Act.

"Applicant" means a person who applies for any approvals for any discharge, activities, projects, or facilities in accordance with the requirements of these regulations.

"Application" means all forms, documents, and other information required by the Department to apply for a permit, order, certificate, or other approval from the Department in accordance with the requirements of these regulations.

"Approval" means an authorization, Order of Approval, permit, certification, license or equivalent determination issued pursuant to regulations promulgated by the Department.

"Aquaculture facility" means a defined managed water area or facility for the maintenance or production of harvestable freshwater, estuarine or marine plants and/or animals. Defined managed water area as used in this definition, means the portions of the waters of the state within which the permittee or permit applicant confines and/or plans to confine the cultivated species, using a method or plan of operation (including but not limited to, physical confinement) which, on the basis of reliable scientific evidence, is expected to ensure that specific individual organisms comprising an aquaculture crop will enjoy increased growth and be harvestable within a defined geographical area.

"Aquatic Research Related Activities" means an activity in which research is conducted to evaluate the effect of various factors on the health, growth, or reproduction of aquatic organisms.

"Best Management Practices (BMPs)" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of and impacts upon waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

"Best Professional Judgment (BPJ)" means a determination, based on best engineering and/or scientific practices and best management practices, involving any pollutant, combination of pollutants or practice(s), on a case by case basis, which is determined by the Director to be necessary to carry out the provisions of the Clean Water Act and any applicable chapters of the General Laws of Rhode Island. BPJ can be used to set Best Available Technology Economically Achievable, Best Conventional Pollutant Control Technology, Best Practicable Control Currently Available or Best Management Practices limitations pursuant to the Clean Water Act either in the absence of an applicable promulgated effluent guideline or where promulgated effluent limitation guidelines only apply to certain aspects of the discharge's operation or to certain pollutants.

"Bioassay" means a toxicity testing procedure using aquatic organisms to determine the concentration or amount of a toxic pollutant(s) causing a specified response in the test organisms under stated test conditions.

"Brackish water" means those waters of the state in which the natural level of salinity is greater than 1 (one) part per thousand but less than 10 (ten) parts per thousand, 95 percent or more of the time.

"CFR" means the Code of Federal Regulations.

"Chronic toxicity" means lethal or sublethal adverse effect(s) to an organism or its progeny, based on various physiological measurements including but not limited to growth, survival, or reproductive success when exposed to a toxic pollutant(s) for a relatively long period of time. The methods commonly used to estimate chronic effects involve exposures of typically seven (7) days or less.

"Clean Water Act (CWA)" refers to the Federal Water Pollution Control Act (33 U.S.C. § 1251) et seq. and all amendments thereto.

"Combined Sewer" means a sewer which serves as a sanitary sewer and a storm sewer.

"Combined Sewer Overflow (CSO)" means flow from a combined sewer that is discharged into a receiving water without going to a treatment works. A CSO is distinguished from bypasses which are diversions of waste streams from any portion of a treatment works.

"Contiguous zone" means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

"Controlled relay" means the transplant of shellfish from certain Class SB, SB1 and/or SC waters to Class SA waters suitable for shellfish harvesting under the coordination and authority of the RIDEM for the purpose of natural purification and controlled harvest.

"Cultural eutrophication" means the human-induced acceleration of primary productivity in a surface waterbody resulting in nuisance conditions of algal blooms and/or dense macrophytes.

"Department" or "Departmental" or "DEM" or "RIDEM" or "Director" means the Rhode Island Department of Environmental Management or the director of the Department of Environmental Management or any designee to whom the Director delegates the powers and duties vested in that office.

"Depuration" means the artificial holding of shellfish for purification purposes.

"Designated Bathing Beach" means bathing beaches licensed by the Rhode Island Department of Health.

"Designated uses" are those uses specified in water quality standards for each waterbody or segment whether or not they are being attained. In no case shall assimilation or transport of pollutants be considered a designated use.

"Discharge" means to cause or allow the addition or release of any pollutants to the waters of the State or placement of any pollutant where it is likely to enter the waters of the State and includes but is not limited to surface water runoff, spilling, depositing, placing, leaking, pumping, pouring, emitting, emptying, or dumping. This definition includes additions of pollutants into waters of the State from both point and nonpoint sources. This term does not include an addition of pollutants by an indirect discharge.

"Discharger" means any person who causes, or allows, any discharge.

"Dredging" means the excavation of sediments from beneath surface waters by mechanical or hydraulic means.

"Effluent limitations" means any restriction imposed by the Director on quantities, discharge rates and concentrations of pollutants which are discharged from point sources into surface waters of the state or the contiguous zone.

"Effluent limitation guidelines" means a regulation published by the Administrator under Section 304(b) of the Clean Water Act to adopt or revise effluent limitations.

"Effluent limited waters" means any segment of a surface waterbody where the water quality currently meets or is expected to meet applicable water quality standards after the application of the technology-based effluent limitations required by Sections 301(b) and 306 of the Act.

"EPA" means the United States Environmental Protection Agency.

"Existing use" means those designated uses and any other uses that do not impair the designated uses and that are actually attained in a waterbody on or after November 28, 1975; except that in no case shall assimilation or transport of pollutants be considered an existing use.

"Facility" means any building, structure and operation, including land or appurtenances thereto, on one contiguous site.

"Filling" means to place dirt, soil, stones, gravel, sand, sediment, tree stumps, brush, leaves, solid waste, debris, garbage, trash, pollutants, or any other material, substance, or structure, either foreign or related, on or in any waters of the state or in such a way as to alter the natural character, function or value of any waters of the state.

"Fish and Wildlife" means birds, fish, shellfish, mammals and all other classes of wild aquatic and land organisms and all types of vegetation upon which they are dependent, including all indigenous species.

"Flow Alteration" means the withdrawal of water from a surface water, either directly or indirectly, or the alteration of the normal flow patterns of a surface water due to a project which diverts or holds the surface water.

"Freshwater" means those waters of the State in which the natural level of salinity is equal to or less than one (1) part per thousand, 95 percent or more of the time.

"Groundwater" means water found underground which completely fills the open spaces between particles of soil and within rock formations.

"Habitat" means the area which provides direct support for a given species, population or community. It includes all environmental features that comprise an area such as air, water, vegetation, soil, substrate and hydrologic characteristics.

"Hazardous substance" means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act.

"Hazardous waste" means any waste as defined in accordance with Section 23-19.1-4 of the General Laws of Rhode Island of 1956, as amended, and regulations adopted pursuant thereto.

"High quality waters" include all Class A and SA surface waters as well as other surface waters whose quality exceeds the minimum water quality criteria for any State aquatic life and/or human health criteria or water quality standards assigned to them; or whose quality and characteristics make them critical to the propagation or survival of important living natural resources; or those waters constituting a Special Resource Protection Water or an Outstanding National Resource Water.

"Indirect discharge" means any discharge into a treatment works.

"Kettlehole" means a pond or freshwater wetland in a depression in the earth's surface formed by the melting of a wholly or partially buried block of glacial ice.

"Lake, pond or reservoir" means any body of water, whether naturally occurring or created in whole or in part, excluding sedimentation control or stormwater retention/detention basins, unless constructed in waters of the State.

"Load allocation" means the portion of a receiving water's loading capacity that is attributed either to one of its nonpoint sources of pollution or to natural background sources.

"Loading Capacity" means the maximum amount of loading that a surface water can receive without violating water quality standards.

"Low quality waters" or "degraded" means any water whose quality falls below any of the criteria of rule 8.D. in accordance with Applicable Conditions of rule 8.E. and corresponding to its classification as designated in rule 8.C., as determined by the Director, shall be considered degraded for that particular criterion and in violation of its water quality standards and, therefore, unsatisfactory for any designated uses which the Director determines are affected by the particular criterion which is violated. Waters in their natural hydraulic condition may fail to meet their assigned water quality criteria from time to time due to natural causes, without necessitating the modification of assigned water quality standard. Such waters will not be considered to be violating their water quality standards if violations of criteria are due solely to naturally occurring conditions unrelated to human activities.

"Marina" means:

a) a dock, pier, mooring, wharf, float or combination of such facilities that may accommodate five (5) or more recreational vessels as a commercial operation or in association with a club; or

b) any dock, pier, mooring, wharf, float or combination of such facilities used as a commercial operation, aside from a) above, at which any vessel is serviced or maintained.

"Marine Sanitation Device (MSD)-Type I" means a marine toilet which, under prescribed test conditions, will produce an effluent that will not exceed a fecal coliform bacteria count of one thousand (1,000) parts per hundred (100) milliliters, and have no visible solids.

"Marine Sanitation Device (MSD)-Type II" means a marine toilet which, under prescribed test conditions, will produce an effluent that will not exceed a fecal coliform bacteria count of two hundred (200) parts per hundred (100) milliliters, and have suspended solids not greater than one hundred and fifty (150) milligrams per liter.

"Marine Sanitation Device (MSD)-Type III" means a marine toilet which is designed to prevent the discharge from the vessel of any treated or untreated sewage, or any waste derived from sewage.

"Marine toilet" means any toilet or receptacle for the containment of human wastes located on or within any vessel, as defined herein, not including a portable potty.

"Mixing Zone" means a limited area or volume in the immediate vicinity of a discharge where mixing occurs and the receiving surface water quality is not required to meet applicable standards or criteria, provided the minimum conditions described in rule 8.D.1.e and 8.D.1.f. of these regulations are attained.

"Municipality" means a quasi-governmental corporation, association or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes; a city, town, county, district, or a designated and approved management agency under Section 208 of the Clean Water Act.

"Natural background conditions" means all prevailing dynamic environmental conditions in a waterbody or segment thereof, other than those human-made or human-induced.

"New discharge" means any discharge which commenced subsequent to November 28, 1975, unless appropriate approvals had been granted.

"No Discharge Area/Zone" means an area of the surface waters of the state which has been requested by the Director of the Department of Environmental Management and declared by the United States Environmental Protection Agency, pursuant to Section 312 of the Clean Water Act, to be an area in which any discharge of sewage from vessels is prohibited.

"Non-contact cooling water" means water which is used to reduce temperature and does not come into direct contact with any raw material, intermediate product (other than heat), or finished product.

"Nonpoint Source" or "NPS" means any discharge of pollutants that does not meet the definition of Point Source in section 502.(14). of the Clean Water Act and these regulations. Such sources are diffuse, and often associated with land-use practices, and carry pollutants to the waters of the State, including but not limited to, non-channelized land runoff, drainage, or snowmelt; atmospheric deposition; precipitation; and seepage.

"Nutrient" means a chemical element or compound such as but not limited to nitrogen or phosphorous which is essential to and promotes the growth and development of marine or freshwater plant species.

"Outstanding National Resource Waters (ONRW)" means waters of National and State Parks, Wildlife Refuges, and other such waters designated as having special recreational or ecological value.

"Person" shall include an individual, trust, firm, joint stock company, corporation (including a quasi-governmental corporation), partnership, association, syndicate, municipality, municipal or state agency, fire district, club, non-profit agency or any subdivision, commission, department, bureau, agency or department of state or federal government (including any quasi-governmental corporation) or of any interstate body.

"Point source" means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

"Pollutant" means any dredged material, solid waste, incinerator residue, sewage, garbage, sewage sludge, sediment, filter backwash, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, industrial or municipal or agricultural waste or effluent, petroleum or petroleum products, including but not limited to oil; or any material which will likely alter the physical, chemical, biological or radiological characteristics and/or integrity of water.

"Pollution" means the human-made or human-induced alteration of the physical, chemical, biological or radiological characteristics and/or integrity of water.

"Pretreatment requirements" means any limitation or prohibition on quantities, quality, rates, and/or concentrations of pollutants directly or indirectly discharged into or otherwise introduced into a treatment works that are imposed by federal or state regulation or by the treatment works.

"Primary Contact Recreational Activities" means any recreational activities in which there is prolonged and intimate contact by the human body with the water, involving considerable risk of ingesting water, such as swimming, diving, water skiing and surfing.

"Priority pollutant" means those pollutants listed pursuant to Section 307(a)(1) of the Clean Water Act (see Appendix B).

"Public Drinking Water Supplier" means any city, town, district, or other municipal, public, private corporation or company, or non-profit entity authorized to engage in the collection and treatment of surface water for the purposes of distribution of drinking water in Rhode Island and whose source of drinking water is a surface water in Rhode Island.

"Public Drinking Water Supply" means the source of surface water for a public drinking water supplier.

"Pycnocline" means a steep density gradient in an estuary caused by differences in temperature or salinity between the bottom and surface layers of water that limits mixing of the two layers.

"Rhode Island Pollutant Discharge Elimination System (RIPDES)" means the Rhode Island system for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing point source discharge permits and imposing and enforcing pretreatment requirements pursuant to Title 46, Chapter 12 of the General Laws of Rhode and the federal Clean Water Act.

"RIPDES Regulations" means the Rhode Island Pollutant Discharge Elimination System Regulations promulgated by the Department and any amendments thereto.

"Runoff" means water that drains from an area as surface flow.

"Sanitary sewer" shall mean a sewer which conveys sewage.

"Seawater (Saltwater)" means those waters of the State in which the natural level of salinity is equal to or greater than ten (10) parts per thousand, 95 percent or more of the time.

"Secondary Contact Recreational Activities" means any recreational activities in which there is minimal contact by the human body with the water, and the probability of ingestion of the water is minimal, such as boating and fishing.

"Sewage or wastewater" means human waste, or wastes from toilets and other receptacles intended to receive or retain body waste, and any wastes, including wastes from households, commercial establishments, and industries.

"Sewage from vessels" means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes that are discharged from vessels, and regulated under Section 312 of the Clean Water Act or under Rhode Island law.

"Sewage sludge or sludge" means residue, partially solid, or solid, treated or untreated, resulting from the treatment of sewage, including such residues from the cleaning of sewers, by processes such as settling, flotation, filtration and centrifugation, and does not meet the criteria for a hazardous waste.

"Sewer" means a pipe or conduit that conveys wastewater or stormwater.

"Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

"Special Resource Protection Waters (SRPW)" means surface waters identified by the Director as having significant recreational or ecological uses, and may include but are not limited to: wildlife refuge or management areas; public drinking water supplies; State and Federal parks; State and Federal designated Estuarine Sanctuary Areas; waterbodies containing critical habitats, including but not limited to waterbodies identified by the RIDEM Natural Heritage Program as critical habitat for rare or endangered species; wetland types or specific wetlands listed as rare, threatened, endangered, of special interest or of special concern by the Rhode Island Natural Heritage Program; waterbodies identified by the U. S. Department of the Interior on the Final List of Rivers for potential inclusion in the National Wild and Scenic Rivers System.

"State Guide Plan" shall mean goals, policies, or plan elements for the physical, economic, and social development of the state, adopted by the State Planning Council in accordance with §42-11-10 of the General Laws of Rhode Island, 1956, as amended.

"Storm sewer" means a sewer which conveys stormwater.

"Stormwater" means precipitation induced runoff.

"Surface water" means any waters of the state that are not groundwaters.

"Total Maximum Daily Load" or "TMDL" means the amount of a pollutant that may be discharged into a waterbody and still maintain water quality standards. The TMDL is the sum of the individual wasteload allocations for point sources and the load allocations for nonpoint sources and natural background taking into account a margin of safety.

"Toxicity" means the chemical, biological or biochemical adverse effect(s) of a pollutant or combination of pollutants on organisms.

"Toxic Pollutant" means any pollutant that has the potential to cause toxicity.

"Treatment works" means any devices and systems for the storage, treatment, recycling, and reclamation of wastewater; any devices and systems for the storage, treatment, recycling and reclamation of sewage from vessels used to implement section 201 of the Act; or any devices and systems necessary to recycle or reuse water at the most economical cost over the design life of the works. These include intercepting sewers, outfall sewers, sewage collection systems, pumping, power, and other equipment, and their appurtenances, extensions, improvements, remodeling, additions, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any works, including acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment (including land for composting sludge, temporary storage of such compost and land used for the storage of treated wastewater in land treatment systems prior to land application); or any other method or system for preventing, abating, reducing, storing, treating, separating, or disposing of wastewater, including wastewater in combined sewers.

"Undesirable or Nuisance Species" means any plant or animal aquatic species which becomes so numerous due to pollutants or physical or hydrological modifications that it interferes with, or indicates an impairment of, the designated use(s) of a waterbody.

"Use Attainability Analyses" means a structured scientific assessment of the factors affecting the attainment of a use which may include physical, chemical, biological, and economic factors. The physical, chemical and biological factors affecting the attainment of a use shall be evaluated through a waterbody survey and assessment. Waterbody surveys and assessments shall be sufficiently detailed to evaluate at a minimum:

a. current aquatic uses achieved in the waterbody;

b. causes of any impairment of the aquatic uses and why the impairment cannot be rectified; and

c. aquatic uses(s) that can be attained based on the physical, chemical, and biological characteristics of the water body.

"Vessel" means any boat or other watercraft whether moved by oars, paddles, sails or other power mechanism, inboard or outboard, or any other boat or structure floating upon the water whether or not capable of self-locomotion, including house boats, floating businesses, barges and similar floating objects.

"Wasteload allocation" means the portion of a receiving water's loading capacity that is allocated to one of its point sources of pollution.

"Wastewater" refer to definition of sewage.

"Waterbody segment" means a defined section or described area which is part of a larger surface waterbody of the state.

"Water quality criteria" means elements of the State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use.

"Water quality limited waters" means any segment of a surface waterbody where the water quality does not meet applicable water quality standards, and is not expected to meet applicable water quality standards, even after the application of the technology-based effluent limitations required by Sections 301(b) and 306 of the Act.

"Water quality standard" means provisions of State or Federal law which consist of a designated use(s) and water quality criteria for the waters of the State. Water Quality Standards also consist of an antidegradation policy.

"Waters of the State" or "The Waters" means all surface water and groundwater of the State of Rhode Island, including all tidewaters, territorial seas, wetlands, and land masses partially or wholly submerged in water; and both inter- and intra-state bodies of water which are, have been or will be used in commerce, by industry, for the harvesting of fish and shellfish or for recreational purposes.

"Wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Freshwater wetlands are determined by the Department in accordance with the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act, as amended. Coastal wetlands are determined by rules and regulations under the jurisdiction of the Coastal Resources Management Council.

Rule 8. - SURFACE WATER QUALITY STANDARDS

A. Purpose. A water quality standard defines the water quality goals of a surface waterbody, or portion thereof, by designating the use or uses of the water and by setting criteria necessary to protect the uses. Water quality standards are intended to protect public health, safety and welfare, enhance the quality of water and serve the purposes of the Clean Water Act and Chapter 46-12 of the General Laws of Rhode Island. "Serve the purposes of the Act" (as defined in Section 101(a)(2) and 303(c) of the Clean Water) means that water quality standards should, whenever attainable, provide water quality, including quantity, for the protection and propagation of fish and wildlife and for recreation in and on the water and take into consideration their use and value as public water supplies, propagation of fish and wildlife, recreation in and on the water, agricultural, industrial, and other purposes including navigation.

Such standards serve the dual purposes of establishing the water quality goals for a specific surface water body or waterbody segment and serve as the regulatory basis for the establishment of water-quality-based-treatment controls and strategies beyond the technology-based levels of treatment required by Sections 301(b) and 306 of the Clean Water Act.

B. Water Use Classification - The surface waters of the state shall be assigned to one of the classes listed below. Each class is defined by the designated uses, which are the most sensitive and therefore governing water uses which it is intended to protect. Surface waters may be suitable for other beneficial uses, but shall be regulated to protect and enhance the designated uses. In no case shall waste assimilation or waste transport be considered a designated use.

(1). Freshwater:

(a). Class AA[@] - These waters are designated as a source of public drinking water supply (PDWS) or as tributary waters within a public drinking water supply watershed (the terminal reservoir of the PDWS are identified in Appendix A), for primary and secondary contact recreational activities and for fish and wildlife habitat. These waters shall have excellent aesthetic value.

(b). Class A - These waters are designated for primary and secondary contact recreational activities and for fish and wildlife habitat. They shall be suitable for compatible industrial processes and cooling, hydropower, aquacultural uses, navigation, and irrigation and other agricultural uses. These waters shall have excellent aesthetic value.

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

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

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

[@] Class AA waters used for public drinking water supply may be subject to restricted recreational use by State and local authorities.

[*] Certain Class B and B1 waterbody segments may have partial use designations assigned to them as noted in rule 8.B.(3) below.

(2). Seawater:

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

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

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

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

* Certain Class SA, SB and SB1 waterbody segments may have partial use designations assigned to them as noted in rules 8.B(3) below.

@ Some Class SA waters contain Closed Safety Zones which are waters in the vicinity of an approved sanitary discharge which may be impacted in the event of complete failure of treatment and are therefore, currently prohibited to shellfishing. Although shellfishing use is restricted, all SA criteria must be met.

(3). Partial Uses - In accordance with rule 19 of these regulations, the Department may designate a partial use for the above listed water use classifications. Partial use denotes specific restrictions of use assigned to a waterbody or waterbody segment that may affect the application of criteria. For example, a partial use designation may be appropriate where waters are impacted by activities such as combined sewer overflows and concentrations of vessels. Additional partial uses may be so designated by the Director if provided in accordance with rule 19.

(a). CSO - These waters will likely be impacted by combined sewer overflows in accordance with approved CSO Facilities Plans and in compliance with rule 19.E.1 of these regulations and the Rhode Island CSO Policy. Therefore, primary contact recreational activities; shellfishing uses; and fish and wildlife habitat will likely be restricted.

(b). Concentration of Vessels - These waters are in the vicinity of marinas and/or mooring fields and therefore seasonal shellfishing closures will likely be required as listed in the most recent (revised annually) RIDEM document entitled Shellfish Closure Areas~~.~~ , however, all Class SA criteria must be attained.

Please note that partial use designations are represented by the lower case letters, "a" or "b", which appear in brackets {} next to the classification as found in Appendix A.

C. Water Quality Classifications - All surface waters of the State have been categorized according to the water use classification of rules 8.B.(1), (2), and (3) based on considerations of public health, safety and welfare, recreation, propagation and protection of fish and wildlife, and economic and social benefit. The surface waters of the State are classified according to the list of water segments in Appendix A. For waterbodies not listed in Appendix A, the following apply:

(1). All streams tributary to Class A waters shall be Class A.

(2) All waters tributary to Class AA waters shall be Class AA.

(3). All freshwaters hydrologically connected by surface waters and upstream of Class B, B1, SB, SB1, C or SC waters shall be Class B unless otherwise identified in Appendix A of these regulations.

(4). All other fresh waters, including, but not limited to, ponds, kettleholes and wetlands not listed in Appendix A shall be considered to be Class A.

(5). All seawaters not listed in Appendix A shall be considered to be Class SA. All saltwater and brackish wetlands contiguous to seawaters not listed in Appendix A shall be considered to be Class SA.

(6). All saltwater and brackish wetlands contiguous to seawaters listed in Appendix A shall be considered the same class as their associated seawaters.

D. Water Quality Criteria - The following physical, chemical and biological criteria are parameters of minimum water quality necessary to support the surface water use classifications of rule 8.B. and shall be applicable to all waters of the State.

(1). General Criteria - The following minimum criteria are applicable to all waters of the State, unless criteria specified for individual classes are more stringent:

(a). At a minimum, all waters shall be free of pollutants in concentrations or combinations or from anthropogenic activities subject to these regulations that:

i. Adversely affect the composition of fish and wildlife;

ii. Adversely affect the physical, chemical, or biological integrity of the habitat;

iii. Interfere with the propagation of fish and wildlife;

iv. Adversely alter the life cycle functions, uses, processes and activities of fish and wildlife; or

v. Adversely affect human health.

(b). Aesthetics - all waters shall be free from pollutants in concentrations or combinations that:

i. Settle to form deposits that are unsightly, putrescent, or odorous to such a degree as to create a nuisance, or interfere with the existing or designated uses;

ii. Float as debris, oil, grease, scum or other floating material attributable to wastes in amounts to such a degree as to create a nuisance or interfere with the existing or designated uses;

iii. Produce odor or taste or change the color or physical, chemical or biological conditions to such a degree as to create a nuisance or interfere with the existing or designated uses; or,

iv. Result in the dominance of species of fish and wildlife to such a degree as to create a nuisance or interfere with the existing or designated uses.

(c). Radioactive substances - The level of radioactive materials in all waters shall not be in concentrations or combinations which will likely be harmful to humans, fish and wildlife, or result in concentrations in organisms producing undesirable conditions.

(d). Nutrients - Nutrients shall not exceed the limitations specified in rule 8.D.(2) and 8.D.(3) and/or more stringent site-specific limits necessary to prevent or minimize accelerated or cultural eutrophication.

(e). Thermal Mixing Zones - In the case of thermal discharges into tidal rivers, fresh water streams or estuaries, where thermal mixing zones are allowed by the Director, the mixing zone will be limited to no more than one quarter (1/4) of the cross sectional area and/or volume of river flow, stream or estuary, leaving at least three quarters (3/4) free as a zone of passage. In wide estuaries and oceans, the limits of mixing zones will be established by the Director.

(f). Non-thermal Mixing Zones - In the case of non-thermal discharges, in applying these standards the Director may recognize, where appropriate, a limited acute and/or chronic mixing zone(s) on a case-by-case basis. The locations, size and shape of these zones shall provide for the maximum protection of fish and wildlife.

(g). At a minimum, all mixing zones must:

i. Meet the criteria for aesthetics, in accordance with rule 8.D.(1).b;

ii. Be limited to an area or volume that will prevent interference with the existing and designated uses in the associated waterbody segment and beyond;

iii. Allow an appropriate zone of passage for migrating fish and other organisms, prohibit lethality to organisms passing through the mixing zone, and protect for spawning and nursery habitat; and

iv. Not allow substances to accumulate in sediments, fish and wildlife or food chains such that known or predicted safe exposure levels for the health of humans or fish and wildlife will be exceeded.

(h). For activities that will likely cause or contribute to flow alterations, streamflow conditions must be adequate to support existing and designated uses.

(2). Class-specific Criteria for Freshwaters - see Table 1

(3). Class-specific Criteria for Seawaters - see Tables 2 and 3

E. Applicable Conditions - The water quality standards apply under the most adverse conditions, as determined by the Director according to sound engineering and scientific practices on a case-by-case basis unless defined below.

(1). The ambient water quality criteria are applicable at or in excess of the following flow conditions:

(a). Aquatic Life Criteria - The acute and chronic aquatic life criteria for freshwaters shall not be exceeded at or above the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years (7Q10). The acute and chronic aquatic life criteria for seawater shall not be exceeded beyond the boundary of the mixing zone(s), as defined and determined by rules 8.D.(1).e, f and g of these regulations, and thence throughout the waterbody. If a mixing zone has not been established, these criteria shall not be exceeded in any portion of the receiving water.

(b). Human Health Criteria - The freshwater human health criteria for non-carcinogens and carcinogens are applicable at or in excess of the harmonic mean flow, which is a long-term mean flow value calculated by dividing the number of daily flows analyzed by the sum of the reciprocals of those daily flows. For seawaters, the ambient human health water quality criteria for carcinogens and non-carcinogens are applicable when the most adverse hydrographic and pollution conditions occur at the particular point of evaluation.

F. Federal Approval and Periodic Review - These water quality standards are subject to approval by the administrator pursuant to section 303(c) of the Clean Water Act. In accordance with paragraph 303(c)(1) of the Act, the Water Quality Standards shall be reviewed periodically but at least once every three years, and amended as necessary.

G. Symbolic Representative of Water Quality Standards - The Director shall issue maps from time to time which indicate assigned water use classification.

TABLE 1. 8.D.(2). Class-Specific Criteria - **Fresh Waters**

CRITERION	CLASS AA[1]	CLASS A	CLASS B, B1, B{a}, B1{a}	CLASS C
1. Dissolved Oxygen	Cold Water Fish Habitat - Dissolved oxygen content of not less than 75% saturation, based on a daily average, and an instantaneous minimum dissolved oxygen concentration of at least 5 mg/l, except as naturally occurs. For the period from October 1st to May 14th, where in areas identified by the RI Division of Fish and Wildlife as cold water fish spawning areas the following criteria apply: For species whose early life stages are not directly exposed to the water column (ie, early life stages are intergravel), the 7 day mean water column dissolved oxygen concentration shall not be less than 9.5 mg/l and the instantaneous minimum dissolved oxygen concentration shall not be less than 8 mg/l. For species that have early life stages exposed directly to the water column, the 7 day mean water column dissolved oxygen concentration shall not be less than 6.5 mg/l and the instantaneous minimum dissolved oxygen concentration shall not be less than 5.0 mg/l. Warm Water Fish Habitat - Dissolved oxygen content of not less than 60% saturation, based on a daily average, and an instantaneous minimum dissolved oxygen concentration of at least 5.0 mg/l, except as naturally occurs. The 7 day mean water column dissolved oxygen concentration shall not be less than 6 mg/l.			
2. Sludge deposits, solid refuse, floating solids, oil, grease, scum	None allowable.			None in such amounts that would impair any usages specifically assigned to this class.
3. Color and turbidity.	None in such concentrations that would impair any usages specifically assigned to this class. Turbidity not to exceed 5 NTU over background.		None in such concentrations that would impair any usages specifically assigned to this class. Turbidity not to exceed 10 NTU over natural background.	
4. Fecal Coliform Bacteria (MPN/100ml)	**Drinking Water Supply Criteria:** - applied at the terminal reservoir of the system - Not to exceed a geometric mean value of 20 MPN/100 ml and not more than 10% of the samples shall exceed a value of 200.			None in such concentrations that would impair any usages specifically assigned to this class.
	Primary Contact Recreational/Swimming Criteria- Not to exceed a geometric mean value of 200 MPN/100 ml and not more than 10% of the total samples taken shall exceed 400 MPN/100 ml, applied only when adequate enterococci data are not available.			
5. Enterococci	**Primary Contact Recreational/Swimming Criteria** Non-Designated Bathing Beach Waters Geometric Mean Density: 54 colonies/100 ml Designated Bathing Beach Waters Geometric Mean Density: 33 colonies/100 ml Single Sample Maximum*: 61 colonies/100 ml * Criteria for determining beach swimming advisories at designated beaches as evaluated by Health.			None in such concentrations that would impair any usages specifically assigned to this class.
6. Taste and odor	None other than of natural origin and none associated with nuisance algal species.		None in such concentrations that would impair any usages specifically assigned to this class nor cause taste or odor in edible portions of fish.	
7. pH (Standard Units)	6.5 - 9.0 or as naturally occurs.			

TABLE 1. 8.D.(2). Class-Specific Criteria - **Fresh Waters**, cont.

CRITERION	CLASS AA*	CLASS A	CLASS B, B1, B{a}, B1{a}	CLASS C
8. Temperature/ Temperature increase	No activity shall raise the temperature of the receiving waters above the recommended limit on the most sensitive receiving water use nor cause the growth of undesirable or nuisance species of biota. In no cases shall an activity cause the temperature to exceed 83 degrees F. Heated discharges into designated coldwater habitats shall not raise the temperature above 68 degrees F outside an established thermal mixing zone. In no case shall the temperature of the receiving water be raised more than 4 degrees F.			
9. Chemical constituents	a. None in concentrations or combinations that could be harmful to humans or fish and wildlife for the most sensitive and governing water class use, or unfavorably alter the biota, or which would make the waters unsafe or unsuitable for fish and wildlife or their propagation, impair the palatability of same, or impair waters for any other existing or designated use. None in such concentrations that would exceed the Water Quality Criteria and Guidelines as found in Appendix B. b. The ambient concentration of a pollutant in a water body shall not exceed the Ambient Water Quality Criteria and Guidelines, (Appendix B) for the protection of aquatic organisms from acute or chronic effects, unless the criteria or guidelines are modified by the Director based on results of bioassay tests conducted in accordance with the terms and conditions provided in the RIDEM Site Specific Aquatic Life Water Quality Criteria Development Policy.			
10. Nutrients	a. Average Total Phosphorus shall not exceed 0.025 mg/l in any lake, pond, kettlehole or reservoir, and average Total P in tributaries at the point where they enter such bodies of water shall not cause exceedance of this phosphorus criteria, except as naturally occurs, unless the Director determines, on a site-specific basis, that a different value for phosphorus is necessary to prevent cultural eutrophication. b. None in such concentration that would impair any usages specifically assigned to said Class, or cause undesirable or nuisance aquatic species associated with cultural eutrophication, nor cause exceedance of the criterion of 10(a) above in a downstream lake, pond, or reservoir. New discharges of wastes containing phosphates will not be permitted into or immediately upstream of lakes or ponds. Phosphates shall be removed from existing discharges to the extent that such removal is or may become technically and reasonably feasible.			

[1] Class AA waters used for public drinking water supply may be subject to restricted recreational use by State and local authorities.

TABLE 2. 8.D.(3). Class-Specific Criteria - **Sea Waters**

CRITERION	CLASS SA, SA{b}	CLASS SB, SB1, SB{a}, SB1{a}	CLASS SC
1. Dissolved Oxygen	See Table 3		
2. Sludge deposits, solid refuse, floating solids, oil, grease, scum	None allowable.		None in such amounts that would impair any usages specifically assigned to this class.
3. Color and turbidity	None in such concentrations that would impair any usages specifically assigned to this class. Turbidity not to exceed 5 NTU over background.	None in such concentrations that would impair any usages specifically assigned to this class. Turbidity not to exceed 10 NTU over background.	
4. Fecal Coliform Bacteria (MPN/100ml)	**Shellfishing Criteria: -** Not to exceed a geometric mean MPN value of 14 and not more than 10% of the samples shall exceed an MPN value of 49 for a three-tube decimal dilution.		None in such concentrations that would impair any usages specifically assigned to this class.
	Primary Contact Recreational/Swimming Criteria - Not to exceed a geometric mean value of 50 MPN/100 ml and not more than 10% of the total samples taken shall exceed 400 MPN/100 ml, applied only when adequate enterococci data are not available.		
5. Enterococci	**Primary Contact Recreational/Swimming Criteria** Geometric Mean Density: 35 colonies/100 ml Single Sample Maximum*****: 104/100 ml ***** Criteria for determining beach swimming advisories at designated beaches as evaluated by HEALTH.		None in such concentrations that would impair any usages specifically assigned to this class.
6. Taste and odor	None allowable except as naturally occurs.	None in such concentrations that would impair any usages specifically assigned to this class nor cause taste or odor in edible portions of fish or shellfish.	
7. pH (Standard Units)	6.5 - 8.5 but not more than 0.2 units outside of the normally occurring range.		
8. Temperature/ Temperature Increase	Activities shall not increase the temperature except where the increase will not exceed the recommended limit on the most sensitive receiving water use and in no case shall an activity cause the temperature to exceed 83 degrees F nor raise the normal temperature more than 1.6 degrees F, 16 June through September and not more than 4 degrees F from October through 16 June. All measurements shall be made at the boundary of such mixing zones as is found to be reasonable by the Director.		
9. Chemical constituents	a. None in concentrations or combinations that could be harmful to humans or fish and wildlife for the most sensitive and governing water class use, or unfavorably alter the biota, or which would make the waters unsafe or unsuitable for fish and wildlife or their propagation, impair the palatability of same, or impair the waters for any other existing or designated use. None in such concentrations that would exceed the Water Quality Criteria and Guidelines as found in Appendix B. b. The ambient concentration of a pollutant in a water body shall not exceed the RI DEM Ambient Water Quality Criteria & Guidelines (Appendix B) for the protection of aquatic organisms from acute or chronic effects, unless the criteria or guideline is modified by the Director based on results of bioassay tests conducted in accordance with the terms and conditions provided in the RIDEM Site Specific Aquatic Life Water Quality Criteria Development Policy.		
10. Nutrients	None in such concentration that would impair any usages specifically assigned to said Class, or cause undesirable or nuisance aquatic species associated with cultural eutrophication. Shall not exceed site-specific limits if deemed necessary by the Director to prevent or minimize accelerated or cultural eutrophication. Total phosphorus, nitrates and ammonia may be assigned site-specific permit limits based on reasonable Best Available Technologies. Where waters have low tidal flushing rates, applicable treatment to prevent or minimize accelerated or cultural eutrophication may be required for regulated nonpoint source activities.		

Table 3
Saltwater Dissolved Oxygen Criteria

I. For **surface waters above a seasonal pycnocline**, not less than an instantaneous value of 4.8 mg/l more than once every three years, except as naturally occurs.

II. For waters **below the seasonal pycnocline**, Aquatic Life Uses are considered to be protected if conditions do not fail to meet protective thresholds, as described below, more than once every three years. DO criteria presented here shall be protective of the most sensitive life stage – survival effects on larvae which affects larval recruitment – for both persistent and cyclic conditions. This criteria evaluates effects of exposure to low DO over time on larval recruitment. Because larval recruitment occurs over the whole season, the low DO exposure effects are cumulative. Exposures are evaluated on a daily basis to determine the total seasonal exposure. The criteria to protect larval survival is established to limit the number of exposure days over the range of low DO conditions such that the cumulative percentage of larvae affected shall not exceed a 5% reduction in larval recruitment over the season. If the Director determines that a smaller percent impairment on larval recruitment is necessary on a site specific basis, a criteria modification will be processed in accordance with Rule 19.F. Protection of larval survival will also afford adequate protection of juvenile and adult life stages. The critical recruitment season for evaluation of DO exposure is defined as May 1 through October 31. While recruitment may occur at other periods of the year, this timeframe reflects periods when hypoxia are most prevalent.

Waters with a DO concentration above an instantaneous value of 4.8 mg/l shall be considered protective of Aquatic Life Uses. When instantaneous DO values fall below 4.8 mg/l, the waters shall not be:

1. Less than 2.9 mg/l for more than 24 consecutive hours during the recruitment season; nor
2. Less than 1.4 mg/l for more than 1 hour more than twice during the recruitment season; nor
3. Shall they exceed the cumulative DO exposure presented in Table 3.A.

The method for calculating cumulative low DO exposure throughout the recruitment season is as follows:

A. For **persistent low DO conditions** (low DO conditions that vary little within a day, e.g., <0.5 mg/l), the limit represents allowable DO conditions below 4.8 mg/l provided the exposure duration (number of days observed) does not exceed the corresponding allowable number of days (as presented in Table 3.A.) that ensure adequate larval recruitment over the course of the season. The cumulative seasonal low DO effects are evaluated by totaling the fractions of the observed (or projected) exposure duration (in days) divided by the allowable number of days for each DO concentration. The sum of the decimal fractions shall not exceed 1.0. The minimum daily DO measurement is used to represent the daily DO value. The criteria for 24 hour DO concentration and allowable number of days as presented in Table 3.A. are calculated using the following equation:

$$\Sigma\ t_i(\text{actual})/t_i(\text{allowed}) < 1.0$$

$$DO_i = 13.0/(2.80 + 1.84e^{(-0.10t_i)}$$

Where DO_i = allowable concentration (mg/l)
t_i = exposure interval duration (days)
i = exposure interval

B. For **cyclic low DO conditions** (DO conditions that fluctuate broadly within a day, e.g.>0.5 mg/l) the limit represents the allowable number of days at a given daily larval percent mortality that protects against greater than 5% cumulative impairment of larval recruitment over a recruitment season. The maximum daily percent larval mortality is a function of DO minimum for any exposure interval/range (mg/l) and the duration of the interval (hours) and

is determined using the Time-to-death (TTD) curves presented in Figure 3.A. (from EPA-822-R-00-012, November 2000) The maximum daily percent larval mortality from cyclic exposures is determined from the observed data point falling closest to a TTD curve of greatest effect (ie., highest percent mortality). The calculated maximum daily percent larval mortality shall not exceed the allowable number of days as presented in Table 3.A and Figure 3.B. Cumulative cyclic low DO effects observed over the course of the season are evaluated by tallying the number of days at each percent mortality observed for the season. The observed number of days at each percent mortality are divided by the allowable number of days for each percent mortality. The sum of the decimal fraction shall not exceed 1.0.

Table 3.A.
Saltwater DO Criteria For Waters Below the Seasonal Pycnocline

24 Hour (Daily) DO Exposure Concentration (mg/L)	Daily Percent Larval Mortality (%)	Allowable Number of Days Without Exceeding a 5% Reduction in Seasonal Larval Recruitment
4.6	4.96	42
4.5	6.05	30
4.4	7.36	24
4.3	8.93	20
4.2	10.79	18
4.1	12.98	16
4	15.55	14
3.9	18.51	12
3.8	21.88	10
3.7	25.69	9
3.6	29.89	8
3.5	34.47	7
3.4	39.36	6
3.3	44.46	5
3.2	49.69	4
3.1	54.92	3
3	60.05	2
2.9	64.97	1

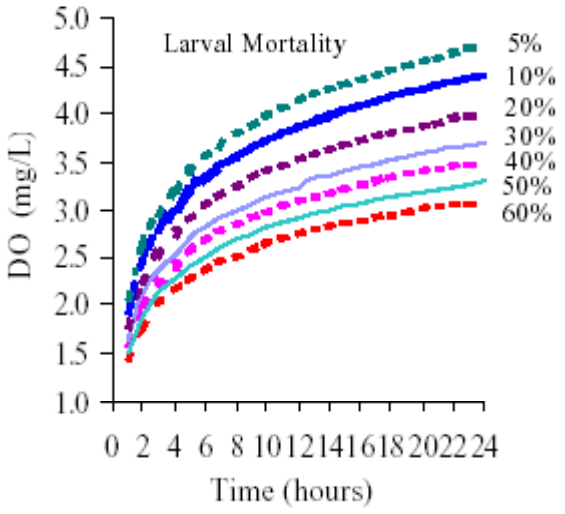

Figure 3.A. Time To Death (TTD) Curves for 5-60% Mortality

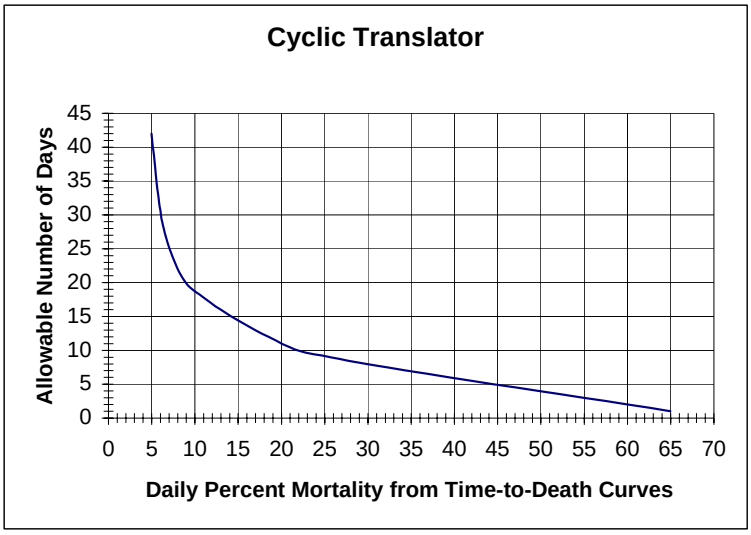

Figure 3.B. Cyclic Translator for Waters Below the Seasonal Pycnocline

For seasons with both cyclic and persistent cycles of low DO, all the data will be treated as cyclic exposure patterns with the persistent data set at the 24 hour/1-day exposure duration. Daily percent mortalities will be determined from Figure 3.A., and Table 3.A. will be used to determine the acceptable number of days the low DO pattern can occur over the course of the season.

III. For **waters without a seasonal pycnocline**, DO concentrations above 4.8 mg/l shall be considered protective of Aquatic Life Uses. When instantaneous DO values fall below 4.8 mg/l, the waters shall not be:

1. Less than 3.0 mg/l for more than 24 consecutive hours during the recruitment season; nor
2. Less than 1.4 mg/l for more than 1 hour more than twice during the recruitment season; nor
3. Shall they exceed the cumulative DO exposure presented in Table 3.A.

Cumulative low DO exposures in the 2.95 - 4.8 mg/l range shall be evaluated as described above in Section II but shall not exceed the information presented in Table 3.B.

For persistent low DO conditions in waters without a seasonal pycnocline, the criteria for 24 hour DO concentration and allowable number of days as presented in Table 3.B are calculated using the following equation:

$$DO_i = 17.523/3.3+2.01e^{(-0.091\ t_i)}$$

Where DO_i = allowable concentration (mg/l)
t_i = exposure interval duration (days)
i = exposure interval

For cyclic low DO conditions in waters without a seasonal pycnocline, the daily percent mortalities for observed data are determined from Figure 3.A. and shall not exceed the allowable number of days presented in Table 3.B and Figure 3.C.

Table 3.B.
Saltwater DO Criteria For Waters without a Seasonal Pycnocline

24 Hour (Daily) DO Exposure Concentration (mg/L)	Daily Percent Larval Mortality (%)	Allowable Number of Days Without Exceeding a 5% Reduction in Seasonal Larval Recruitment
4.6	4.96	16
4.5	6.05	14
4.4	7.36	12
4.3	8.93	11
4.2	10.79	10
4.1	12.98	8
4.0	15.55	7
3.9	18.51	6
3.8	21.88	5
3.7	25.69	4
3.6	29.89	3
3.5	34.47	2
3.4	39.36	1

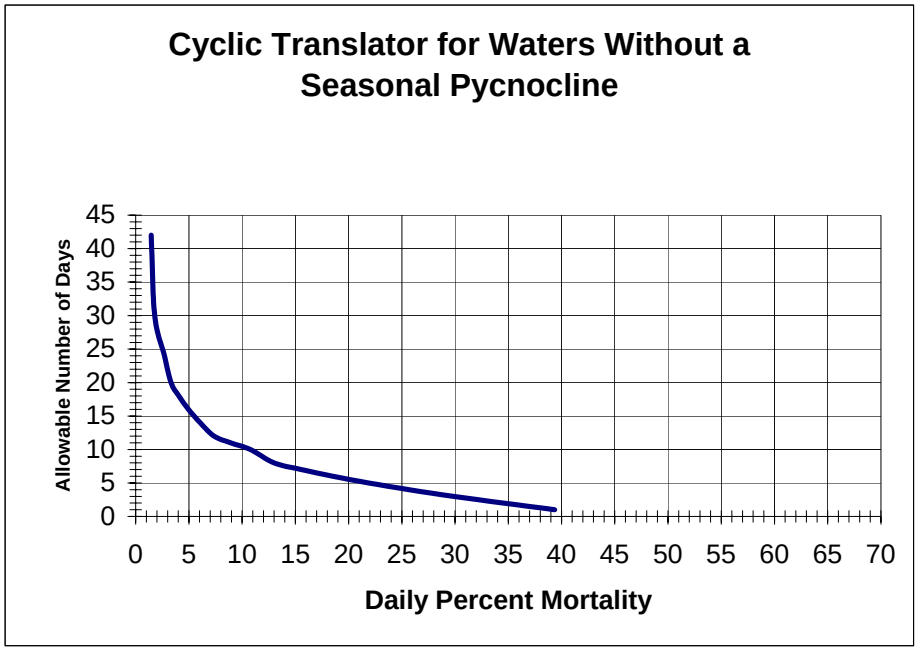

Figure 3.C. Cyclic Translator for Waters Without a Seasonal Pycnocline

For seasons with both cyclic and persistent cycles of low DO, all the data will be treated as cyclic exposure patterns with the persistent data set at the 24 hour/1-day exposure duration. Daily percent mortalities will be determined from Figure 3.A., and Table 3.B. will be used to determine the acceptable number of days the low DO pattern can occur over the course of the season.

Rule 9. - EFFECT OF ACTIVITIES ON WATER QUALITY STANDARDS

A. Activities Shall Not Violate Water Quality Standards - No person shall discharge pollutants into any waters of the State or perform any activities alone or in combination which the Director determines will likely result in the violation of any State water quality criterion or interfere with one or more of the existing or designated uses assigned to the receiving waters or to downstream waters in accordance with rules 8.B., 8.C., 8.D., and 18 of these regulations. In addition, Best Management Practices, as determined by the Director, shall be used to control erosion, sedimentation and runoff in accordance with rule 15.

B. Activities Shall Not Further Degrade Low Quality Waters - No person shall discharge pollutants into any waters of the State, or perform any activities alone or in combination which the Director determines will likely result in the additional degradation of water quality of the receiving waters or downstream waters which are already below the water quality standard assigned to such waters.

C. Activities Shall Not Violate Antidegradation - No person shall discharge pollutants into any waters of the State, or perform any activities alone or in combination which the Director determines will likely result in a violation of the Antidegradation provisions of these regulations (rule 18).

D. Mixing zone - Due to discharges to surface waters, the Director may recognize, where appropriate, a limited mixing zone on a case-by-case basis. In no case may a mixing zone cause a loss of, or impair, any existing or designated use.

E. Restrictions to New Discharges - New discharges into Class AA, A or SA waters (refer to Appendix A) or into waters designated Class B, C, SB or SC which have attained the Class A or SA standard shall be allowed, provided the discharge will not impair existing uses nor attainment of designated uses and all other provisions of these regulations are complied with including all required approvals, and it complies with the following restrictions:

(1). New discharges into the terminal reservoir of a, public drinking water supply shall be prohibited with the exception of discharges of stormwater drainage. New discharges into all other waters of the public drinking water supply shall be prohibited with the exception of the types listed in rule 9.E.(2).(a) through (f). Notification will be made to the affected public drinking water supplier and the Department of Health of a proposed new discharge to a public drinking water supply which is under review by this Department in accordance with these regulations.

(2). New discharges into waters that are not public drinking water supplies may include:

(a). discharges of stormwater drainage;

(b). discharges from industrial non-contact cooling water;

(c). discharges from construction site dewatering provided that the applicant has demonstrated to the satisfaction of the Director that no reasonable alternatives exist;

(d). discharges from groundwater remediation projects provided that the applicant has demonstrated to the satisfaction of the Director that no reasonable alternatives exist;

(e). discharges from aquaculture facilities as appropriately authorized by all required state agencies;

(f). discharges from water main maintenance such as main flushing and cleaning operations;

(g). discharges of dredged material;

(h). discharges from farming activities into surface waters which are hydrographically disconnected from all other surface waters;

(i). placement of suitable solid materials in appropriate amounts for the purpose of the formation of an artificial reef as approved by the Director;

(j). discharges from aquatic research related activities provided that the applicant has demonstrated to the satisfaction of the Director that no reasonable alternatives exist;

(k) discharges from desalination facilities into seawaters; and

(l). other new discharges provided the applicant demonstrates to the satisfaction of the Director that:

i. the discharge serves a compelling public purpose which provides benefits to the public as a whole as opposed to individual or private interests;

ii. there is no reasonable alternative means of, or location for, serving the compelling public purpose cited; and

iii. the discharge will not impair existing uses nor attainment of designated uses.

Rule 10. - PROCEDURES FOR DETERMINING ADDITIONAL REQUIREMENTS FOR EFFLUENT LIMITATIONS, TREATMENT AND PRETREATMENT

A. Effluent Limited and Water Quality Limited Waters - No person shall discharge pollutants into any surface waters of the State or discharge to a treatment works unless the discharge complies with any additional effluent limitations and receives any additional treatment/pretreatment which the Director determines is necessary to comply with rule 9 of these regulations, or to prevent overloading or damaging effect upon a treatment works. In order to determine which waters require additional effluent limitations, treatment or pretreatment to comply with rule 9 of these regulations, or to prevent overloading or damaging effects upon a treatment works, the Director will categorize the surface waters of the State into effluent limited and water quality limited waters. Such classifications will be recorded in the 305(b) biennial state of the State's waters reports, and will be revised as necessary.

B. Total Maximum Daily Loads in Water Quality Limited Waters - For water quality limited waters, the Director shall identify those pollutants within discharges to the water quality limited waters which do or have the reasonable potential to cause or contribute to a violation of rule 9 of these regulations. The Director shall develop a total maximum daily load (TMDL) for each of these pollutants. The TMDL shall determine the maximum amount of the pollutant that can be discharged into the water quality limited waters and be in compliance with rule 9 of these

regulations. The TMDL shall be based on best available scientific information and allocation of the TMDL may be based on, but not limited to, technical feasibility of pollutant removal, the relative costs of treatment to the contributing discharges, and the relative contribution from each source. The Director shall not be required to allocate the full amount of the pollutant specified in rule 9, but may designate a portion of the allocation as a reserve or margin of safety as deemed necessary.

Rule 11. - PROHIBITED DISCHARGES

A. General - The prohibitions enumerated in this rule apply to all pollutants, regardless of the effect on water quality standards or the treatment which the pollutants receive.

B. Pollutants - No person shall discharge pollutants into the waters of the State except as in compliance with the provisions of Chapter 46-12, or other applicable chapters, of the Rhode Island General Laws or these regulations, and pursuant to the terms and conditions of an approval issued by DEM thereunder.

C. Urban Runoff - No person shall discharge storm water, gutter runoff, sump discharges, or street runoff to a treatment works designed to receive only wastewater.

D. Hazardous Waste and Hazardous Substances - No person shall discharge hazardous waste or hazardous substances into any waters of the State or discharge hazardous waste or hazardous substances into a wastewater treatment works, except as in compliance with the provisions of Chapter 46-12, or other applicable chapters of the Rhode Island General Laws or these regulations, and in accordance with the terms and conditions of an approval issued by the Director or municipality as may be required under the Rhode Island Pretreatment Regulations.

E. Oil, Petroleum Products, Solvents - No person shall discharge oil, petroleum products or industrial solvents into treatment works designed to treat or control only wastewater or stormwater unless it conforms with Federal, State and local pretreatment requirements. No person shall discharge oil or petroleum products into the waters of the State except as in compliance with the provisions of Rhode Island General Laws Chapter 46-12, or other applicable chapters of the Rhode Island General Laws or these regulations, and in accordance with the terms and conditions of an approval issued by DEM thereunder.

F. Discharges of Sewage from Vessels

(1). No person shall discharge any sewage from a vessel into the waters of the State.

(2). No person shall operate or moor in the waters of the State a vessel equipped with a marine toilet that is: (a) not a type approved pursuant to the CWA; (b) an approved type that is not in proper working condition. or (c) that does not have the vessel's marine toilets properly sealed to prevent overboard discharges by one of the following means: the through-hull fitting is plugged; or the Y-valve is secured to the holding tank position by means of a padlock, wire tie, or by removing the seacock handle. All sewage must be discharged to an approved marina pump-out facility.

Rule 12. - STRATEGIC PLAN CONSISTENCY

In addition to the other requirements of these regulations, no person shall discharge any pollutants into any waters of the State so as to violate any legally applicable requirements of a plan approved by the Governor of Rhode Island and the administrator pursuant to sections 208(6), 319 and 320 of the Clean Water Act.

Rule 13. - APPROVALS

A. No person shall: discharge any pollutant into, or conduct any activity which will likely cause or contribute pollution to, the waters of the State; or construct, install, or modify any treatment works including the extension of sewers to an existing sewer system, without having obtained all required approvals from the Director. The types of approval for the purposes of these regulations may include the following:

(1). Rhode Island Pollutant Discharge Elimination System (RIPDES) permit by DEM, Water Resources in accordance with the RIPDES Regulations.

(2). Order of Approval from DEM, Water Resources for any treatment works in accordance with Rules 14 through 17 below.

(3). Water Quality Certificate (WQC) - the activity(ies) listed below require approval in the form of a certification by DEM, Water Resources that the proposed activity(ies) does not violate these regulations. A WQC shall have the full force and effect of a permit issued by the Director.

(a). In accordance with Section 401 of the CWA, applicants for any project which may result in a discharge to waters of the State and which requires a federal permit must directly apply for and receive a Water Quality Certification from DEM, Water Resources, except as described in footnotes * and *** below.

(b). Those projects involving one or more of the activities listed below which are within the jurisdiction of the Rhode Island Coastal Resources Management Council in accordance with R.I.G.L. Section 46-23, and which do not require an approval in accordance with the Rhode Island Freshwater Wetlands Act (R.I.G.L. Section 2-1-18 et. seq.) or any rules and regulations promulgated thereto, must directly apply for and receive Water Quality Certification from DEM, Water Resources except as described in the footnotes below.

i. Dredging and Dredged Material Disposal*
ii. Filling of Waters of the State
iii. Residential development of six (6) or more units
iv. Any commercial, industrial, state or municipal land development that results in the creation of 40,000 square feet or more of additional impervious area
v. Five (5) or more acres of land disturbance***
vi. Marinas - construction of new facilities or expansion of existing facilities
vii. Flow Alterations**
viii. Harbor Management Plans for those elements which will likely affect water quality
ix. A Point Source Discharge of Pollutants***

* With regard to marine dredging, discharge of dredge material and placement of dredge material in tidal waters, the application process and decision for the water quality review will be conducted in accordance with the Rules and Regulations for Dredging and the Management of Dredged Material.

** Flow Alterations for agricultural irrigation will be managed through coordination with DEM/Agriculture.

*** The permit required under the Rhode Island Pollutant Discharge Elimination System Regulations may act as the Water Quality Certification for the discharge.

(c). Where a project or activity listed in Rule 13(A)(3) also requires a permit by any one of the following DEM permit programs, the WQC decision may be incorporated into the decision issued under said program:

Wetlands permit or determination in accordance with the Rules and Regulation Governing the Administration and Enforcement of the Freshwater Wetlands Act

ISDS permit or determination in accordance with regulations Establishing Minimum Standards Relating to the Location, Design, Construction and Maintenance of Individual Sewage Disposal Systems

RIPDES permit in accordance with the Regulations for the Rhode Island Pollutant Discharge Elimination System

Marine dredging and dredged material disposal permit in accordance with the Rules and Regulations for Dredging and the Management of Dredged Material

UIC permit in accordance with the Underground Injection Control Program Rules and Regulations.

Where the Director determines that a WQC decision will be incorporated with one of the above permit decisions, the corresponding public notice requirements and appeal procedures contained in the regulations of the associated permit program will apply in lieu of those contained in Rule 15 and Rule 21 herein, respectively. However, when the activity is subject to Rule 13.A.(3).(a), and the listed permit decision does not require public notification, the requirements of Rule 15 will be applied. All other provisions contained in these regulations shall apply.

Rule 14. - APPLICATION FOR APPROVALS

A. Application - More than one of the approvals noted in Rule 13 may be required. Applications for RIPDES permits shall be submitted and processed in accordance with the RIPDES Regulations. Applications for Orders of Approval and Water Quality Certifications will be on forms provided by or in the manner prescribed by, DEM, to be submitted to the Director and shall contain such documentation and/or information as the Director may require, including but not limited to:

(1). When applicable, documentation that the proposed project is consistent with the currently approved wastewater facility plan or information necessary to modify an approved wastewater facility plan, including but not limited to the project needs, conformance with State Guide Plan policies, goals, and objectives, the basis of design, including design assumptions, data, and calculations;

(2). Comprehensive engineering report and detailed engineering plans and specifications for the proposed project;

(3). Timetable for and duration of the proposed construction or other activity;

(4). Any additional information as may be deemed necessary by the Director to fully assess the impact of the proposed activity upon the waters of the State or to support any changes in the scope of the project, actual or anticipated;

(5). Any additional information including proprietary data, where, in the opinion of the Director, such information is necessary to fully disclose all relevant facts concerning the application for an approval. The applicant may assert a claim of confidentiality for proprietary data as defined in R.I. Gen. Law 38-2-2 provided said information is clearly marked and segregated within the total information requested by the Department; and

(6). A preponderance of clear and scientifically valid evidence having a probative value demonstrating, to the satisfaction of the Director, that the activity will not violate the surface water quality standards established by these Water Quality Regulations, and amendments thereto.

B. Professional Certification for Plans and Specifications - All engineering plans and specifications required under rule 14.A. shall be certified by a professional engineer registered in the State pursuant to Chapter 5-8 of the General Laws of Rhode Island of 1956, as amended.

C. Failure of the applicant to submit information deemed necessary by the Department in order to fully assess the impact of the proposed project on waters of the State or to support any changes in the scope of the proposed project, actual or anticipated, shall constitute valid cause for denial of the application.

Rule 15. - PROCEDURES FOR REVIEW OF APPLICATIONS FOR ORDERS OF APPROVAL AND WATER QUALITY CERTIFICATIONS

A. In consideration of the application, the Department may use, but is not limited to, the following documents: Guides for the Design of Wastewater Treatment Works (TR-16), published by the New England Interstate Water Pollution Control Commission; Design of Municipal Wastewater Treatment Plants (WEF Manual of Practice #8 & ASCE Manual and Report on Engineering Practice #76), jointly published by the Water Environment Federation and the American Society of Civil Engineers; the most recent version of the Rhode Island Soil Erosion and Sediment Control Handbook, developed jointly by R.I. DEM and U.S. Department of Agriculture Natural Resources Conservation Service; State of Rhode Island Stormwater Design and Installation Standards Manual (1993), developed jointly by R.I. DEM and Coastal Resources Management Council; Storm Water Management for Construction Activities (EPA 832-R-92-005), by U.S Environmental Protection Agency; the Technical Support Document for Water Quality-based Toxics Control, March 1991, EPA/505/2-90-001; Evaluation of Dredged Material Proposed for Ocean Disposal Testing Manual, February 1991, EPA-503/8-91/001; Interim Regional Policy for New England Stream Flow Recommendations, U. S. Department of Interior, Fish and Wildlife Service; Water Quality Standards Handbook, 2nd. Ed., August 1994, EPA-823-B-94-005a; and standards or policies accepted by the Department.

B. Application Completeness

(1). Upon receipt of an application, the Department will review the application for completeness and shall notify the applicant in writing whether the application is complete. Where the Department has deemed an application to be deficient, the processing of the application will be suspended and the applicant shall correct said deficiencies to the satisfaction of the Department.

C. At any time during review, the Director may:

(1). Require that the applicant provide such information as the Director deems necessary for the review of the application;

(2). Issue an approval requiring such terms, conditions, management practices and operation and maintenance requirements as deemed necessary to comply with the requirements of applicable state or federal laws; or

(3). Deny the application for failure to satisfy the requirements of applicable State or Federal Laws and advise the applicant of the right to appeal under rule 21 of these regulations. A denial may be based on, but is not limited to any or all of the following:

(a). A treatment works which is overloaded or inadequate to accept and treat any additional load of pollutants in which case the Director, shall, where appropriate, also deny applications for new sewer connection or additional discharges to the system;

(b). An activity or a treatment works or any part thereof, which is likely to substantially contribute to an increase in non-point source pollution which will likely result in a violation of state or federal laws or these regulations or any other regulations of the Department;

(c). A treatment works or any part thereof, or a project which is not consistent with the approved Wastewater Facilities Plan;

(d). Failure to submit any information required by the Department; or

(e). Failure to provide a preponderance of clear and scientifically valid evidence having a probative value demonstrating, to the satisfaction of the Director, that the activity will not violate the surface water quality standards established by these Water Quality Regulations, and amendments thereto.

D. Public Notice and Consideration of Public Comment for Applications for Water Quality Certification

(1). Certification Public Notice - Upon determination that an application for water quality certification is complete, the Director shall provide or have the applicant provide in a form approved in writing by the Department, written notice of the proposed project to all abutters of any property upon which the activity will occur, and to any other such persons, agencies or organizations deemed appropriate by the Director. At a minimum the chief elected officer of the city or town within which the activity will be conducted, shall be notified.

(a). For projects that the Director determines have the potential to result in impacts beyond the abutting property(ies) or that notification of abutters is

impracticable, the notice shall be published in a daily or weekly newspaper with circulation in the involved area. The Department may also require the applicant to publish notice, in a form approved in writing by the Department, in an additional daily or weekly newspaper with circulation that includes the community nearest the proposed location, or statewide.

(2). Comment Period - The notice will provide for a thirty-day comment period during which time any person may provide written comments which may include a request for a hearing on the project or activity proposed by the application.

(3). Public Hearing - The Director shall provide an opportunity for oral comments if a hearing is requested by twenty-five (25) persons, or by a governmental subdivision or agency, or by an association having not less than twenty-five (25) members. The applicant, all persons receiving notice under Rule 15.D.(1), and all persons submitting comments or requesting a hearing under Rule 15.D.(2) shall be notified consistent with the requirements of Rule 15.D.(1), at least fourteen (14) days in advance, of the time and place of the hearing.

(4). Consideration of Comments - The Director shall consider all written and oral comments and may approve modifications to the application package made in response to comments received, without requiring another notice and comment period, provided the modifications are minor in nature and will have little or no adverse environmental impact..

(5). Notice of Decision - All persons who submit comments, either orally at the hearing or in writing, shall receive written notice of the final agency decision on the application.

(6). Modifications - The Director may approve modifications to an approved project or activity without further notice, provided that the project had been noticed in accordance with Rule 15.D., and such modifications are minor in nature and will have little or no adverse environmental impact.

Rule 16. - EFFECT OF APPROVAL

A. The issuance of an approval mandates compliance with all terms, conditions, management practices and operation and maintenance requirements set forth in the approval. Any violation of these may result in the finding of a prohibited discharge as set forth in rule 11 of these regulations.

B. The issuance of an approval does not relieve any person of the continuing responsibility to comply with any applicable rule of these regulations or applicable sections of the Clean Water Act.

C. The issuance of an approval by the Department does not relieve any person of the responsibility for obtaining any other necessary permits or approvals from any federal, state, regional, or local agency.

D. The issuance of an approval does not authorize any injury to persons or property or invasion of other private rights, or any infringement of Federal, State or local law or regulations.

Rule 17. - MODIFICATION, SUSPENSION OR REVOCATION OF APPROVAL

A. The Director may modify, suspend, or revoke, in whole or in part, an approval for cause, including, but not limited to:

(1). Information indicating that the project will likely result in probable harm to the environment or pose a threat to the health, safety and/or welfare of the public;

(2). The existence of a factor or factors which, if properly and timely brought to the attention of the Director, would have justified the application of more or less stringent conditions than required by these regulations, but only if such factor(s) arose after the approval was issued;

(3). Changes in effluent limitations in accordance with rule 10 of these regulations, or changes in the definition(s) of such limitations in the Clean Water Act or applicable Environmental Protection Agency regulations;

(4). Where circumstances on which the approval was based have materially and substantially changed since the approval was issued, including, but not limited to, a change in category of waters from effluent limited to water quality limited, or amendment of these regulations;

(5). The information or data submitted by the applicant or permittee either on the form(s) required or in any other material in support of the application is found to be false, misleading or erroneous; or

(6). The project is not undertaken in strict compliance with the conditions or provisions of any approval issued by the Department.

B. A Notice of Revocation/Suspension of an approval will be in the form of a letter notifying the permittee or subsequent transferee of the revocation or suspension and the reasons why the approval is being revoked or suspended.

C. The party served with a Notice of Revocation/Suspension of an approval may request an adjudicatory hearing to contest the revocation as set forth in the provisions of rule 21. A Notice of Revocation/Suspension of an approval automatically becomes a final order of the Director enforceable in Superior Court upon failure to request said adjudicatory hearing.

D. Request for modification of approval shall be in accordance with rules 14 and 15.

Rule 18. - ANTIDEGRADATION OF WATER QUALITY STANDARDS

A. Purpose - The State Antidegradation Regulations are based on the federal Antidegradation Policy requirements (40 CFR 131.12) and have as their objective the maintenance and protection of various levels of surface water quality and uses. Antidegradation applies to all projects or activities subject to these regulations which will likely lower water quality or affect existing or designated water uses, including but not limited to all Water Quality Certification reviews and any new or modified RIPDES permits. For the disposal of dredged or fill material into the waters of the state, 40 CFR Part 230 Section 404(b)(1) guidelines shall be followed in the evaluation of 40 CFR 131.12(a)(1) and the Antidegradation Policy. The Antidegradation regulations consist of four (4) tiers of water quality protection.

B. Tier 1 - Protection of Existing Uses - Any existing in-stream water uses and level of surface water quality necessary to protect the existing uses, shall be maintained and protected.

C. Tier 2 - Protection of Water Quality in High Quality Waters - With the exception of Outstanding National Resource Waters, in surface waters where the existing water quality exceeds levels necessary to support propagation of fish and wildlife and recreation in and on the water, that quality shall be maintained and protected, except for insignificant changes in water quality as determined by the Director and in accordance with the Antidegradation Implementation Policy, as amended. An exception to this level of protection may only be allowed if it can be proven to the Director by a preponderance of clear and scientifically valid evidence having a probative value, and the Director finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the RI Continuing Planning Process, that allowing significant water quality degradation is necessary to accommodate important economic and social benefit in the area in which the receiving waters are located. In allowing such significant degradation or lower water quality, the Director shall assure water quality adequate to fully protect existing and designated uses. In allowing a change in water quality, significant or insignificant, all reasonable measures to minimize the change shall be implemented. Adequate scientifically valid documentation shall be provided to the Director demonstrating that designated and existing uses, water quality to protect those uses, and all applicable water quality standards, will be fully protected. Further, the highest statutory and regulating requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control shall apply.

D. Tier 2½ -Protection of Water Quality for SRPWs - Where high quality waters constitute a SRPW, there shall be no measurable degradation of the existing water quality necessary to protect the characteristic(s) which cause the waterbody to be designated as an SRPW. Notwithstanding that all public drinking water supplies are SRPWs, public drinking water suppliers may undertake temporary and short term activities within the boundary perimeter of a public drinking water supply impoundment for essential maintenance or to address emergency conditions in order to prevent adverse effects on public health or safety, provided that these activities comply with the requirements set forth in rule 18.B. (Tier 1 Protection of Existing Uses) and rule 18.C. (Tier 2 Protection of Water Quality in High Quality Waters).

E. Tier 3 -Protection of Water Quality for ONRWs - Where high quality waters constitute an Outstanding National Resource, as defined in rule 7, that water quality shall be maintained and protected. The State may allow some limited activities that result in temporary and short-term changes in the water quality of an ONRW. Such activities must not permanently degrade water quality or result in water quality lower than that necessary to protect the existing uses in the ONRW.

F. Implementation - The Antidegradation provisions shall be implemented in accordance with the Antidegradation Implementation Policy (Appendix C), as amended.

Rule 19. - MODIFICATION OF WATER QUALITY STANDARDS

A. Authority - The Director has the power and duty in accordance with rule 2 of these regulations and section 46-12-3 (g) of the General Laws of Rhode Island of 1956, as amended, to promulgate water quality standards.

B. Request for Modification - Any person may request that the Director modify a water quality standard. The request must include a preponderance of clear and scientifically valid evidence having a probative value to demonstrate that such modification is consistent with these regulations. In addition, a Use Attainability Analyses (UAA) must be conducted:

(1). for a request to remove a designated use specified in Section 101(a)(2) of the Act; or

(2) to propose a subcategory of uses specified in Section 101(a)(2) of the Clean Water Act which require less stringent criteria.

C. Promulgation of Modifications - If the Director determines that modification is appropriate the Director shall initiate promulgation of such modification in accordance with Chapter 42-35 of the R.I. Gen. Laws.

D. General Standards for Conducting the Review - Water quality standards shall protect the public health, safety and welfare, enhance the quality of water and serve the purpose of the Clean Water Act. The Director will take into consideration the conservation, protection, use and value of the waters for public water supplies, propagation of fish and wildlife, recreational purposes, agricultural, industrial, and other purposes, and for navigation.

The Director shall attempt to establish water quality standards which will result in the achievement of the national water quality goal specified in paragraph 101(a)(2) of the Clean Water Act, wherever attainable. In determining whether such standards are attainable for any particular segment, the Director shall take into consideration environmental, technological, social and economic factors. Designation of uses which do not support the protection and propagation of fish and wildlife, and recreation in and on the water (Section 101(a)(2) of the Act), may be granted if supported by a Use Attainability Analyses to the satisfaction of the Director.

The Director shall take into consideration the water quality standards of downstream waters and shall assure that water quality standards provide for the attainment of the water quality standards of downstream waters.

The Director shall adhere to the antidegradation principles of the Antidegradation Policy.

E. Modifications of Designated Uses - Modifying a designated use may result in modifying the applicable criteria of the affected/identified water segment, to criteria necessary to protect the new designated use of that affected/identified water segment. In no case may a criteria be modified if it would adversely affect existing uses or other designated uses.

(1). Downgrading Designated Uses

(a). In waters in which the designated use(s) is not the existing use(s), any person may request that the Director, or the Director may propose, that the designated use be downgraded, or may designate a partial use (rule 8.B.(3)), only where it is demonstrated through the UAA process (except as noted in (b) below) by a preponderance of clear and scientifically valid evidence having a probative value to the satisfaction of the Director that attaining the designated use is not feasible because:

i. Naturally occurring background pollutant concentrations or natural background conditions prevent the attainment of the use;

ii. Naturally occurring ephemeral, intermittent or low flow conditions or water levels not human-made or human-induced 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;

iii. Human-made or human-induced conditions prevent the attainment of the use and cannot be remedied per item (vi), or would cause more environmental damage to correct than to leave in place;

iv. Existing dams, diversions or other types of permitted hydrologic modifications which meet all applicable permit and/or water quality certificate requirements 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;

v. Physical conditions related to the naturally occurring 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 and not human-made or human-induced, preclude attainment of aquatic life protection uses; or

vi. Controls more stringent than those required by sections 301(b)(1)(A) and (B) and 306 of the Clean Water Act for point source dischargers, and reasonable best management practices for nonpoint source dischargers, would result in substantial and widespread economic and social impact.

It must also be demonstrated to the Director's satisfaction that downgrading or altering the water quality use will not affect the quality of waters beyond the area in which i, ii, iii, iv, v or vi applies nor violate rule 18 (Antidegradation of Water Quality Standards) of these regulations. The Director shall hold a public hearing on such downgrading requests that are determined to have merit.

(b). For the following waters, a partial use designation of SA{b} may be proposed and will not be considered a downgrade and will not require a use attainability analysis, unless the Director determines it is necessary to comply with Rule 18 (Antidegradation of Water Quality Standards):

i. SA waters along the western shore of Aquidneck Island located between a straight line extending northerly from the boundary of Lots 8 and 9, Portsmouth Town Map 17 to the end of Coddington Cove Breakwater in Middletown, that extend 500 feet seaward from the mean high water mark.

ii. SA waters along the western shore of Warwick Neck from the southern most point of the Harbor Light Marina parking lot to the northern side of the end of Randall Street, that extend 500 feet seaward from the mean high water mark.

iii. SA waters along the eastern shore of Horse Neck from the eastern most extension of Burr Avenue, to the eastern most groin at Oakland Beach, that extend 500 feet seaward from the mean high water mark.

iv. SA waters from the northernmost point along the east bulkhead wall in the small embayment on the south side on the Allens Harbor entrance channel to the extension of a line from nun buoy 10 through FG Buoy 11 to the shore at Quonset Point, that extend 500 feet seaward from the mean high water mark.

(c). A designated use may not be downgraded if such uses will be attained by implementing effluent limits required under sections 301(b) and 306 of the Clean Water Act for point sources and by implementing cost-effective and reasonable best management practices for nonpoint source control.

(2). Upgrading Designated Uses - Any person may request that the Director or the Director may propose to upgrade the classification of a water quality segment, including a request to designate a waterbody or waterbody segment as a Special Resource Protection Water (SRPW) or an Outstanding National Resource Water (ONRW). Where current water use classifications specify water uses less sensitive than those which are presently being achieved, the Director shall propose to upgrade the classification of the waters in question to reflect the uses actually being attained. The Director shall hold a public hearing on such requests that are determined to have merit. At the hearing, the applicant must prove by a preponderance of clear and scientifically valid evidence having probative value to the satisfaction of the Director that such a reclassification satisfies the standards of rule 19.D. or that rule 18 applies.

F. Modification of Criteria - Any person may request that the Director, or the Director may propose to modify an aquatic life water quality criteria. The request and development of site specific criteria shall be in accordance with the most recent RIDEM Site Specific Aquatic Life Water Quality Criteria Development Policy. If the Director determines the criteria modification is appropriate, the Director shall promulgate such modification in accordance with Chapter 42-35 of the R.I. Gen. Laws.

Modification of criteria of a water segment shall not result in a modification of the designated use of the water segment. Newly developed criteria must still protect the existing and designated uses of the water segment.

Rule 20 - VARIANCES FROM WATER QUALITY STANDARDS

A. Conditions for Granting Variances - A variance from the water quality standards may be granted by the Director when the Director has a reasonable belief that the standard can ultimately be attained. A variance from meeting the standard is granted to the discharger for the particular constituent that is causing non-attainment of the standard. All other applicable criteria and standards must be met by the discharger. The criteria protective of the standard must be maintained for all other dischargers on the waterbody. A variance can be granted only under the following conditions:

(1). Non-attainment of the standard is attributed to one of the following:

(a). Naturally occurring background pollutant concentrations or natural background conditions prevent the attainment of the use;

(b). Naturally occurring ephemeral, intermittent or low flow conditions or water levels not human-made or human-induced 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;

(c). Human-made or human-induced conditions prevent the attainment of the use and cannot be remedied per item (f), or would cause more environmental damage to correct than to leave in place;

(d). Existing dams, diversions or other types of permitted hydrologic modifications which meet all applicable permit and/or water quality certificate requirements 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;

(e). Physical conditions related to the naturally occurring features of the waterbody, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality and not human-made or human-induced, preclude attainment of aquatic life protection uses; or

(f). Controls more stringent than those required by sections 301(b)(1)(A) and (B) and 306 of the Clean Water Act for point source dischargers, and reasonable best management practices for nonpoint source dischargers, would result in substantial and widespread economic and social impact.

(2). Treatment more advanced than that required by section 301(b)(1)(A) and (B) has been carefully considered, and that alternative effluent control strategies have been evaluated.

B. Time Limit for Variances - Variances from the water quality standards shall be for a specific period of time not to exceed three (3) years. A variance may be reinstated only upon demonstration that the conditions for granting the variance still apply and reasonable progress toward meeting the standard has been made.

C. Public Notice - The Director may grant a variance, in accordance with this rule, only after public notice, opportunity for comment and a public hearing, in accordance with Rhode Island General Laws Chapter 42-35.

D. Variances for RIPDES Permitted Discharges - Those persons holding a RIPDES permit, or applying for a RIPDES permit, must request a variance in accordance with rules 56-59 of the RIPDES Regulations.

E. Compliance With Other Water Quality Regulations - Issuance of a variance pursuant to this rule does not relieve the holder of the variance from complying with requirements of these regulations which have not been the subject of a variance.

Rule 21. - APPEALS

A. General - The procedures for appeal of Departmental decisions pursuant to the provisions of Section 42-35 of the R.I. General Laws are contained in the "Administrative Rules of Practice and Procedure for the Department of Environmental Management Administrative Adjudication Division for Environmental Matters".

B. Appeal Procedures for Applications for Orders of Approval and Water Quality Certifications - The applicant may appeal to the Director for review of the decision on an application for approval

by filing an appeal with DEM/Administrative Adjudication.

(1). Filing of Appeal - All appeals shall be in writing and shall be filed with and received by DEM/Administrative Adjudication within thirty (30) days after the effective date of the denial of the subject application.

(2). Contents of Appeal - Every appeal shall comply in all respects with the "Administrative Rules of Practice and Procedure for the Department of Environmental Management Administrative Adjudication Division for Environmental Matters" and at a minimum contain the following:

(a). A detailed basis upon which the appeal is taken;

(b). A plat plan of the area of the subject application; and

(c). A list of the names and addresses of the applicant, the municipality in which the property is located and all abutters.

(3). Notice of Administrative Hearing - Upon the filing of an appeal with DEM/ Administrative Adjudication, and once the hearing schedule allows, DEM/Administrative Adjudication shall notify the following, by first class mail, of the date, time and place of the adjudicatory hearing, in conformance with R.I. General Laws Section 42-35-9, as amended: the applicant, the municipality in which the property is located, all abutters and all other persons who received notice pursuant to Rule 15.D.(1) herein.

C. Appeal Procedure for Notice of Violations, Suspensions or Revocations - Any person who has received a Notice of Violation (NOV) alleging violation of these regulations, or whose approval has been suspended or revoked, may appeal to the Director for review of the decision on which the NOV, suspension or revocation is based by filing an appeal with DEM/Administrative Adjudication.

(1). Filing of Appeal - All appeals shall be in writing and shall be filed with and received by DEM/Administrative Adjudication within twenty (20) days after the date of the receipt of the subject NOV, revocation or suspension.

(2). Contents of Appeal - Every appeal shall contain a detailed basis upon which the appeal is taken.

Rule 22. - SAMPLING

A. Water Quality Testing - Surface water samples shall be collected, preserved, and analyzed in accordance with 40 CFR, Part 136, Guidelines establishing Test Procedures for the Analysis of Pollutants. Other methods recommended by the EPA may be used, if legally acceptable.

B. Bioassays - Bioassays shall be performed in accordance with the latest editions of EPA documents entitled *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms,* and *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates* or other methods if approved by the Director and legally acceptable. A more detailed explanation of state requirements pertaining to bioassays is given in the most recent RIDEM bioassay protocol.

Rule 23. - EFFECTIVE DATE

The foregoing Water Quality Regulations, after due notice and hearing, are hereby adopted and filed with the Secretary of State this _____day of _____, 2006 to become effective twenty (20) days thereafter, in accordance with the provisions of Chapters 46-12, 42-17.1 42-17.6 and 42-35 of the General Laws of Rhode Island, 1956, as amended.

_____
W. Michael Sullivan, PhD, Director
Department of Environmental Management

Notice Given on: ___November 19, 2004_____

Public Hearing held: ____January 12, 2005_____

Filing Date: _____

Effective Date: _____

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WATER RESOURCES

APPENDIX A

WATER QUALITY

CLASSIFICATION DESCRIPTIONS

July 2006

The chart used to delineate the seawater conditions and designated use classification segments is the National Oceanic and Atmospheric Administration - U.S. Department of Commerce, United States, East Coast, Rhode Island - Massachusetts, Narragansett Bay. National Chart Catalog No. 1, Panel G, 48th Ed., May 30, 1992, 13221. True bearings are used in the narrative description of the water bodies.

The reference for the freshwaters for designated use classification segments described here is the United States Geographic Survey 7.5 Minute Series Topographic Quadrangle Maps at a scale of 1:24,000.

General

This waterbody classification listing is consistent with the geographical/numerical waterbody listing in the *State of the State's Waters Report*, also known as the 305(b) Report. To find the Classification for a specific waterbody, determine the associated Basin ID number (eg., RI0001) in which the waterbody is located, from Figure 1 (knowledge of the approximate location of the waterbody in the state is needed.). Using Table 1 identify the Subbasin in which the waterbody lies. The waterbody descriptions and classifications are listed in numerical order of the Basin waterbody ID numbers.

All major rivers and most secondary and tertiary streams and tributaries, as well as most medium to large ponds (generally 20 acres and larger) and estuarine waters are included in this listing. To determine the classification for waterbodies which are not listed in this Appendix, follow the General Water Quality Classification Rules listed below and in rule 8.C. of the Water Quality Regulations.

Water Use Classification

All surface waters of the state have been categorized according to the water use classifications of rule 8.B of these regulations based on considerations of public health, recreation, propagation and protection of fish and wildlife, and economic and social benefit. Each class is identified by the most sensitive, and therefore governing, water uses to be protected. Surface waters may be suitable for other beneficial uses, but are regulated to protect and enhance the designated uses.

These water quality classifications (i.e. AA, A, B, B1, SA, SB, or SB1) denote the water quality **goals** for the waterbody as listed below and in rule 8.B of the regulations, not the present conditions. Assessments of present water quality condition are made on a case-by-case basis through information from the most recent State of the State's Waters 305(b) Report and/or any other applicable data as approved by the Director. The 305(b) Report is developed biennially (in even-numbered years) by the RIDEM, Water Resources and distributed to all major Rhode Island public libraries. Copies are also available for review on the DEM website at http://www.dem.ri.gov/pubs/305b/index.htm.

The water use classifications are as follows:

Freshwaters

Class AA[@] - These waters are designated as a source of public drinking water supply (PDWS) or as tributary waters within a public drinking water supply watershed (the terminal reservoir of the PDWS are identified in Appendix A), for primary and secondary contact recreational activities and for fish and wildlife habitat. These waters shall have excellent aesthetic value.

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

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

Class B1[*] - These waters are designated for primary and secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for compatible industrial processes and cooling, hydropower,

aquacultural uses, navigation, and irrigation and other agricultural uses. These waters shall have good aesthetic value. Primary contact recreational activities may be impacted due to pathogens from approved wastewater discharges. However all Class B criteria must be met.

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

[@] Class AA waters used for public drinking water supply may be subject to restricted recreational use by State and local authorities.

[*] Certain Class B and B1 waterbody segments may have partial use designations assigned to them as noted in rule 8.B.(3) and described below.

Seawaters

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

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

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

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

[@] Some Class SA waters contain Closed Safety Zones which are waters in the vicinity of an approved sanitary discharge which may be impacted in the event of complete failure of treatment and are therefore, currently prohibited to shellfishing. Although shellfishing use is restricted, all SA criteria must be met.

[*] Certain Class SA, SB and SB1 waterbody segments may have partial use designations assigned to them as noted in rule 8.B.(3) and described below.

Partial Uses

In accordance with rule 8.B.(3). of these regulations, the Department may assign a partial use subcategory to a waterbody segment where waters are affected by combined sewer overflows or mooring fields. A partial use designation may affect the application of criteria.

a. CSO - These waters will likely be impacted by combined sewer overflows in accordance with approved CSO Facilities Plans and in compliance with rule 19.E.1 of these regulations and the Rhode Island CSO Policy. Therefore, primary contact recreational activities; shellfishing uses; and fish and wildlife habitat will likely be restricted.

b. Concentration of Vessels - these waters are in the vicinity of marinas and/or mooring fields and therefore seasonal shellfishing closures will likely be required as listed in the most recent (revised annually) RIDEM document entitled Shellfish Closure Areas. , however, all Class SA criteria must be attained.

The following is a list of symbols used in the water quality classification listing:

- Located next to the Waterbody ID number, the # indicates a segment where the Water Effect Ratios (WERs) and Site Specific Criteria (See Appendix B) apply.

@ - Located next to the Waterbody ID number identifies the terminal reservoir of the public drinking water supply.

* - Located next to the Waterbody ID number identifies a closed safety zone.

{a} - Located next to the classification, {a} indicates a partial use designation due to impacts from CSOs.

{b} - Located next to the classification, {b} indicates a partial use designation due to impacts from a concentration of vessels.

General Water Quality Classification Rules

In accordance with rule 8.C. of these regulations:

1. All streams tributary to Class A waters shall be Class A.

2. All waters tributary to Class AA waters shall be Class AA.

3. All freshwaters hydrologically connected by surface waters and upstream of Class B, SB, C or SC waters shall be Class B unless otherwise identified in Appendix A of these regulations.

4. All other fresh waters, including, but not limited to, ponds, kettleholes and wetlands not listed in Appendix A shall be considered to be Class A.

5. All seawaters not listed in Appendix A shall be considered to be Class SA. All saltwater and brackish wetlands contiguous to seawaters not listed in Appendix A shall be considered to be Class SA.

6. All saltwater and brackish wetlands contiguous to seawaters listed in Appendix A shall be considered the same class as their associated seawaters.

FIGURE 1. **River Basin Locations**

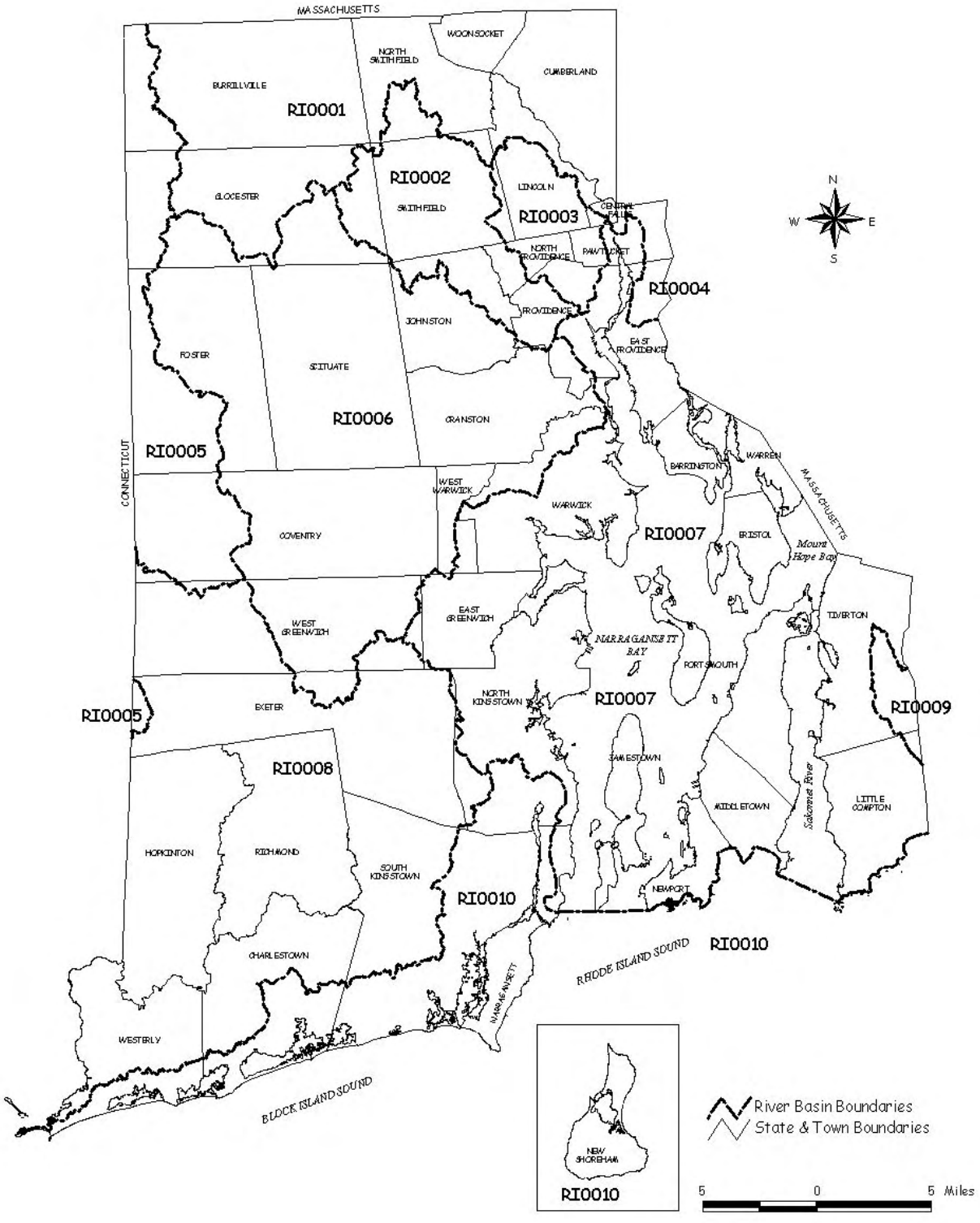

TABLE 1 **Waterbody ID Numbers and Basin Locations**

TABLE 1 **Waterbody ID Numbers and Basin Locations (continued)**

Waterbody Segment Classifications

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE
Blackstone River Basin RI0001		
Wallum Lake & Tributaries Subbasin RI0001001		
RI0001001L-01@	Wallum Lake. Burrillville	AA
Branch River & Tributaries Subbasin RI0001002		
RI0001002R-26	Hemlock Brook. Burrillville, RI/ Douglas, MA	A
RI0001002R-05A	Clear River from Wallum Lake to approximately 3/4 miles downstream. Burrillville	A
RI0001002R-05B	Clear River from a point approximately 3/4 mile downstream of Wallum Lake to a point 1/2 mile upstream of Wilson Reservoir. Burrillville	B1
RI0001002L-15	Round Pond. Burrillville	B
RI0001002R-06	Dry Arm Brook. Burrillville	B
RI0001002R-16	Iron Mine Brook. Burrillville	B
RI0001002R-05C	Clear River from 1/2 mile upstream of Wilson Reservoir to 1 mile upstream of confluence with the Chepachet River (upstream of the Burrillville WWTF discharge point). Glocester, Burrillville	B
RI0001002L-01	Wilson Reservoir. Burrillville	B
RI0001002R-17	Leland Brook. Burrillville	B
RI0001002L-10	Burlingame Reservoir. Glocester	B
RI0001002R-02	Brandy Brook. Glocester	B
RI0001002L-03	Echo Lake (Pascoag Reservoir). Burrillville, Glocester	B
RI0001002R-09	Pascoag River. Burrillville	B
RI0001002R-18	Mowry Brook. Burrillville	B
RI0001002R-11	Round Top Brook. Burrillville	A
RI0001002L-12	Round Top State Pond. Burrillville	A
RI0001002R-04	Chocalog River. Burrillville	A
RI0001002R-08	Nipmuc River. Burrillville	A
RI0001002L-04	Spring Lake (Herring Pond). Burrillville	B
RI0001002R-15	Herring Brook. Burrillville	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Blackstone River Basin RI0001 (continued)

Branch River & Tributaries Subbasin RI0001002 (continued)

RI0001002R-25	Bettey Brook. Burrillville	B
RI0001002R-05D	Clear River from the Burrillville WWTF discharge point to the confluence with the Chepachet River. Glocester, Burrillville	B1
RI0001002L-14	Cherry Valley Pond. Glocester	B
RI0001002R-19	Peckham Brook. Glocester	B
RI0001002R-12	Saunders Brook. Glocester	B
RI0001002L-11	Keech Pond. Glocester	B
RI0001002L-07	Smith & Sayles Reservoir. Glocester	B
RI0001002L-16	Shingle Mill Pond. Glocester	B
RI0001002R-20	Stingo Brook. Glocester	B
RI0001002L-06	Spring Grove Pond. Glocester	B
RI0001002L-05	Sucker Pond. Burrillville	B
RI0001002R-22	Sucker Brook. Burrillville, Glocester	B
RI0001002R-03	Chepachet River. Glocester, Burrillville	B
RI0001002R-01A	Branch River from the confluence of the Clear River and Chepachet River at Oakland to the inlet of Slatersville Reservoir. Burrillville	B
RI0001002R-21	Tucker Brook. Burrillville	B
RI0001002L-09	Slatersville Reservoir. Burrillville, North Smithfield	B
RI0001002R-07	Mowry Paine Brook. Glocester	B
RI0001002R-13A	Headwaters of Tarkiln Brook to Route 7 crossing, excluding the ponds. Burrillville, North Smithfield	B
RI0001002L-13	Nichols Pond. Burrillville	B
RI0001002L-08	Tarkiln Pond. North Smithfield	B
RI0001002R-13B	Tarkiln Brook from Route 7 crossing to Slatersville Reservoir. Burrillville, North Smithfield	B
RI0001002L-18	Lake Bel Air. North Smithfield	B
RI0001002R-24	Rankin Brook. North Smithfield	B
RI0001002R-14	Trout Brook. North Smithfield	B
RI0001002L-17	Trout Brook Pond. North Smithfield	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE
Blackstone River Basin RI0001 (continued)		
Branch River & Tributaries Subbasin RI0001002 (continued)		
RI0001002R-01B	Branch River from the outlet of the Slatersville Reservoir to the confluence with the Blackstone River. North Smithfield	B
RI0001002R-23	Dawley Brook. North Smithfield	B
Blackstone River & Tributaries Subbasin RI0001003		
RI0001003R-01A	Blackstone River from the MA-RI border to the CSO outfall located at River and Samoset Streets in Central Falls. Woonsocket, North Smithfield, Cumberland, Lincoln and Central Falls.	B1
RI0001003R-02	Cherry Brook. North Smithfield, Woonsocket	B
RI0001003L-03	Todd's Pond. North Smithfield	A
RI0001003L-05	Social Pond. Woonsocket	B
RI0001003R-03	Mill River. Woonsocket	B
RI0001003R-04	Peters River. Woonsocket	B
RI0001003L-04	Handy Pond (Upper Rochambeau Pond). Lincoln	B
RI0001003R-06	West Sneech Brook. Cumberland	B
RI0001003R-05	Scott Brook. Cumberland	A
RI0001003R-07	Monastery Brook. Cumberland	B
RI0001003R-01B	Blackstone River from the CSO outfall located at River and Samoset streets in Central Falls to the Slater Mill Dam. Central Falls, Pawtucket.	B1{a}
RI0001003L-01	Scott Pond. Lincoln	B
RI0001003L-02	Valley Falls Pond. Cumberland	B1
Woonsocket Reservoir #3 & all Tributaries Subbasin RI0001004		
RI0001004L-01@	Woonsocket Reservoir #3. North Smithfield, Smithfield	AA
RI0001004L-02@	Woonsocket Reservoir #1. North Smithfield	AA
RI0001004L-03	Woonsocket Reservoir #2. North Smithfield	AA
RI0001004L-04	Laporte's Pond. Lincoln	A
RI0001004R-01	Crookfall Brook. North Smithfield	AA
RI0001004R-02	Spring Brook. North Smithfield	AA

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Blackstone River Basin RI0001 (continued)

Sneech Pond & Tributaries Subbasin RI0001005

RI0001005L-01@	Sneech Pond. Cumberland	AA

Abbott Run Brook & Tributaries Subbasin RI0001006

RI0001006L-08	Carl's Pond. Cumberland	A
RI0001006R-05	Indian Brook. Cumberland	AA
RI0001006R-06	Burnt Swamp Brook. Cumberland	AA
RI0001006L-01	Diamond Hill Reservoir. Cumberland	AA
RI0001006L-05	Miscoe Lake. Cumberland	AA
RI0001006R-07	Catamint Brook. Cumberland	AA
RI0001006R-09	Sylvyns Brook. Cumberland	AA
RI0001006R-04	Ash Swamp Brook. Cumberland	AA
RI0001006R-03	East Sneech Brook. Cumberland	AA
RI0001006L-09	Little Pond. Cumberland	AA
RI0001006R-02	Long Brook. Cumberland	AA
RI0001006L-02	Arnold Mills Reservoir (Pawtucket Reservoir). Cumberland	AA
RI0001006R-01A	Abbott Run Brook North. Cumberland	AA
RI0001006L-06	Rawson Pond. Cumberland	AA
RI0001006L-07	Howard Pond. Cumberland	AA
RI0001006R-01B	Abbott Run Brook South. Cumberland	AA
RI0001006R-08	Millers River. Cumberland	AA
RI0001006L-04	Robin Hollow Pond. Cumberland	AA
RI0001006L-03@	Happy Hollow Pond. Cumberland	AA

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Woonasquatucket River Basin
RI0002

Woonasquatucket River & Tributaries Subbasin
RI0002007

RI0002007L-11	Primrose Pond. North Smithfield	B
RI0002007R-10A	Woonasquatucket River headwaters to Georgiaville Pond, excluding reservoirs and ponds. North Smithfield, Smithfield	B
RI0002007R-05	Latham Brook. Smithfield	B
RI0002007L-08	Woonasquatucket Reservoir (Stump Pond/Stillwater Reservoir). Smithfield	B
RI0002007R-07	Shincott Brook. Glocester, Smithfield	B
RI0002007R-11	Nine Foot Brook. Smithfield, Glocester	B
RI0002007R-02	Cutler Brook. Glocester	B
RI0002007L-04	Waterman Reservoir. Glocester, Smithfield	B
RI0002007R-09	Stillwater River. Smithfield	B
RI0002007L-05	Upper Sprague Reservoir. Smithfield	B
RI0002007L-06	Lower Sprague Reservoir. Smithfield	B
RI0002007L-03	Slack Reservoir. Smithfield, Johnston	B
RI0002007L-01	Hawkins Pond. Smithfield, Johnston	B
RI0002007R-06	Reaper Brook. Smithfield	B
RI0002007L-10	Mountaindale Reservoir. Smithfield	B
RI0002007L-07	Stillwater Pond. Smithfield	B
RI0002007L-02	Georgiaville Pond. Smithfield	B
RI0002007L-09	Harris Pond. Smithfield	B
RI0002007R-03	Harris Brook. Smithfield	B
RI0002007R-17	Airport Creek. Smithfield	B
RI0002007R-10B	Woonasquatucket River from the Georgiaville Pond outlet to the Smithfield WWTF discharge point at Esmond Mill Drive. Smithfield	B
RI0002007R-04	Hawkins Brook. Smithfield	B
RI0002007R-01	Assapumpset Brook. Johnston	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Woonasquatucket River Basin RI0002 (continued)

Woonasquatucket River & Tributaries Subbasin RI0002007 (continued)

RI0002007R-10C	Woonasquatucket River from the Smithfield WWTF discharge point at Esmond Mill Drive to the CSO outfall at Glenbridge Avenue in Providence. Smithfield, North Providence, Providence, Johnston	B1
RI0002007R-10D	Woonasquatucket River from the CSO outfall at Glenbridge Avenue to the confluence with the Moshassuck River. Providence	B1{a}

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Moshassuck River Basin
RI0003

Moshassuck River & Tributaries Subbasin
RI0003008

RI0003008R-01A	Moshassuck River headwaters to inlet of Barney Pond. Lincoln	B
RI0003008R-01B	Moshassuck River from Barney Pond outlet to the first CSO discharge point at Weeden Street Bridge. Lincoln, Central Falls	B
RI0003008L-02	Barney Pond. Lincoln	B
RI0003008L-01	Olney Pond. Lincoln	B
RI0003008R-02	Threadmill Brook. Lincoln	B
RI0003008R-01C	Moshassuck River from the first CSO discharge point at Weeden Street Bridge to the confluence with the Woonasquatucket River. Central Falls, Pawtucket, Providence	B{a}
RI0003008R-03A	West River headwaters to the inlet of Wenscott Reservoir. Providence, North Providence	B
RI0003008L-05	Wenscott Reservoir (Twin Rivers). North Providence, Smithfield, Lincoln	B
RI0003008R-03B	West River from the outlet of Wenscott Reservoir, including Geneva and Whipple ponds, to the first CSO discharge point located south of the Branch Avenue crossing, off of Vandewater street. North Providence, Providence.	B
RI0003008L-04	Canada Pond. North Providence, Providence	B
RI0003008R-03C	West River from the first CSO discharge point located south of the Branch Avenue crossing, off of Vandewater. Street to the confluence with the Moshassuck River. Providence	B{a}

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Ten Mile River Basin
RI0004

Ten Mile River & Tributaries Subbasin
RI0004009

RI0004009L-01A	Turner Reservoir North of Newman Avenue Dam. East Providence	B1
RI0004009L-01B	Turner Reservoir South of Newman Avenue Dam. East Providence	B
RI0004009L-02	Slater Park Pond. Pawtucket	B1
RI0004009L-03	Omega Pond. East Providence	B
RI0004009R-01A	Ten Mile River from the MA-RI border to the inlet to Turner Reservoir North, excluding Slater Park Pond. Pawtucket	B1
RI0004009R-01B	Ten Mile River downstream of Turner Reservoir South to the Omega Pond inlet. East Providence	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Thames River Basin
RI0005

Tributaries to the Five Mile River Subbasin
RI0005047

RI0005047R-06	Leeson Brook. Burrillville	B
RI0005047R-05	Cold Spring Brook. Burrillville	B
RI0005047R-04	Croff Farm Brook. Burrillville	B
RI0005047L-05	Cedar Swamp Pond. Burrillville	B
RI0005047L-01	Wakefield Pond. Burrillville	B
RI0005047R-02	Keach Brook. Burrillville	B
RI0005047L-02	Peck Pond. Burrillville	B
RI0005047L-04	Lake Washington. Glocester	B
RI0005047L-10	Wilbur Pond. Burrillville	B
RI0005047L-03	Bowdish Reservoir. Glocester	B
RI0005047L-08	Clarksville Pond. Glocester	B
RI0005047R-01	Brown Brook. Glocester	B
RI0005047L-09	Hawkins Pond. Glocester	B
RI0005047R-03	Mowry Meadow Brook (Shady Oak Brook). Glocester	B
RI0005047R-08	Cady Brook. Glocester	B
RI0005047L-07	Killingly Pond. Glocester	B

Moosup River & Tributaries Subbasin
RI0005011

RI0005011R-07	Salisbury Brook. Foster	A
RI0005011R-06	Quanduck Brook. Foster	A
RI0005011L-06	Clark Pond. Foster	A
RI0005011R-03	Moosup River. Foster, Coventry	A
RI0005011R-05	West Meadow Brook. Foster	A
RI0005011L-07	Briggs Pond. Coventry	A
RI0005011L-02	Waterman Pond (Sisson Pond). Coventry	A
RI0005011R-02	Warwick Brook. Coventry	A
RI00050011L-08	Koszela Pond. Coventry	A

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Thames River Basin RI0005 (continued)

Moosup River & Tributaries Subbasin RI0005011 (continued)

RI0005011R-09	Sawmill Brook and tributaries. Coventry	A
RI0005011R-01	Bucks Horn Brook. Coventry	A
RI0005011L-01	Carbuncle Pond. Coventry	A
RI0005011L-05	Great Grass Pond. Coventry, West Greenwich	A
RI0005011L-04	Whitford Pond. Coventry	A
RI0005011L-09	Little Grass Pond. Coventry	A
RI0005011L-03	Arnold Pond. Coventry	A
RI0005011R-04	Roaring Brook. Coventry	A

Beach Pond & Tributaries Subbasin RI0005010

RI0005010L-01	Beach Pond. Exeter	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Pawtuxet River Basin
RI0006

Big River & Tributaries Subbasin
RI0006012

RI0006012L-03	Milbrook Pond. Exeter	A
RI0006012R-04	Congdon River. Exeter, West Greenwich	A
RI0006012R-05	Nooseneck River. West Greenwich	A
RI0006012R-06	Raccoon Brook. West Greenwich	A
RI0006012R-02	Big River. West Greenwich	A
RI0006012L-01	Carr Pond. West Greenwich	A
RI0006012L-02	Tarbox Pond. West Greenwich	A
RI0006012R-03	Carr River. West Greenwich	A
RI0006012R-07	Mud Bottom Brook. West Greenwich	A
RI0006012L-04	Capwell Mill Pond. West Greenwich	A
RI0006012L-05	Reynolds Pond to the Harkney Hill Road highway bridge. West Greenwich, Coventry	A
RI0006012R-01	Bear Brook. West Greenwich	A

Flat River Reservoir & Tributaries Subbasin
RI0006013

RI0006013R-10	Turkey Meadow Brook. Scituate, Coventry	B
RI0006013R-04	Negro Sawmill Brook. Coventry	B
RI0006013R-06	Pine Swamp Brook. Foster, Coventry	B
RI0006013R-02	Flat River. Coventry	B
RI0006013R-03	McCuster Brook. Coventry	B
RI0006013R-09	Whaley Brook. Foster/Coventry	B
RI0006013L-01	Flat River Reservoir (Johnson Pond). Coventry	B
RI0006013R-05	Pierce Brook. Scituate, Coventry	B
RI0006013R-01	Boyd Brook. Scituate, Coventry	B
RI0006013L-13	Carr Pond. Coventry	B
RI0006013L-04	Quidneck Reservoir. Coventry	B
RI0006013R-08	Quidneck Brook. Coventry	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Pawtuxet River Basin RI0006 (continued)

Flat River Reservoir & Tributaries Subbasin RI0006013 (continued)

RI0006013L-03	Coventry Reservoir (Stump Pond). Coventry	B
RI0006013R-07	Poor Farm Brook. Coventry	B
RI0006013L-14	Hall Pond. Coventry	B
RI0006013L-12	Maple Root Pond. Coventry	B

Pawtuxet River South Branch & Tributaries Subbasin RI0006014

RI0006014R-04A	Pawtuxet River South Branch from the Flat River Reservoir dam to the Quidnick Dye Mill dam. Coventry	B
RI0006014R-03	Old Hickory Brook. West Greenwich, Coventry	B
RI0006014L-01	Mishnock Lake. West Greenwich	B
RI0006014R-02	Mishnock River. West Greenwich, Coventry	B
RI0006014L-07	Huron Pond. Coventry	B
RI0006014L-02	Tiogue Lake. Coventry	B
RI0006014L-08	Phelps Pond. West Greenwich	B
RI0006014L-04	Upper Dam Pond. Coventry	B
RI0006014L-06	Middle Dam Pond. Coventry	B
RI0006014R-04B#	Pawtuxet River South Branch from the Quidnick Dye Mill dam to its confluence with the North Branch of the Pawtuxet River. Coventry, West Warwick, Warwick	B1
RI0006014R-01	Hawkinson Brook. West Warwick	B
RI0006014L-05	Matteson Pond. West Warwick	B

Scituate Reservoir Tributaries Subbasin RI0006015

RI0006015L-02	Ponagansett Reservoir. Glocester	AA
RI0006015R-20	Ponagansett River. Glocester, Foster	AA
RI0006015R-23	Shippee Brook. Foster	AA
RI0006015L-05	Shippee Saw Mill Pond. Foster	AA
RI0006015R-09	Hannah Brook. Glocester	AA
RI0006015R-01	Allen Richard Brook. Glocester	AA
RI0006015R-13	Killy Brook. Glocester, Foster	AA

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Pawtuxet River Basin RI0006 (continued)

Scituate Reservoir Tributaries Subbasin RI0006015 (continued)

RI0006015R-30	Windsor Brook. Glocester, Foster	AA
RI0006015L-09	Brush Meadow Pond. Foster, Scituate	AA
RI0006015R-08	Dolly Cole Brook. Glocester, Foster, Scituate	AA
RI0006015L-06	Barden Reservoir. Foster, Scituate	AA
RI0006015R-17	Paine Brook. Foster	AA
RI0006015R-10	Hemlock Brook. Foster	AA
RI0006015R-26	Swamp Brook. Scituate	AA
RI0006015R-27	Westconnaug Brook. Foster	AA
RI0006015L-03	Westconnaug Reservoir. Foster, Scituate	AA
RI0006015R-28	Westconnaug Stream. Foster, Scituate	AA
RI0006015R-02	Bear Tree Brook. Foster, Scituate	AA
RI0006015L-10	King Pond. Scituate	AA
RI0006015R-14	King Brook. Scituate	AA
RI0006015R-06	Cork Brook. Scituate	AA
RI0006015R-32	Potterville Brook. Foster, Scituate	AA
RI0006015R-29	Wilbur Hollow Brook. Scituate	AA
RI0006015L-07@	Scituate Reservoir. Scituate	AA
RI0006015R-25	Spruce Brook. Scituate	AA
RI0006015R-31	Hunt Brook. Glocester	AA
RI0006015R-19	Peeptoad Brook. Glocester, Scituate	AA
RI0006015L-08	Coomer's Lake. Glocester	AA
RI0006015R-18	Mosquitohawk Brook. Glocester, Scituate	AA
RI0006015L-13	Lake Aldersgate. Glocester	AA
RI0006015R-11	Huntinghouse Brook. Glocester, Scituate	AA
RI0006015R-22	Rush Brook. Scituate	AA
RI0006015R-24	Soak Hide Brook. Scituate	AA
RI0006015L-01	Regulating Reservoir. Scituate	AA
RI0006015R-03	Blanchard Brook. Scituate	AA

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Pawtuxet River Basin RI0006 (continued)

Scituate Reservoir Tributaries Subbasin RI0006015 (continued)

RI0006015L-14	Kimball Reservoir. Johnston	AA
RI0006015R-16	Moswansicut Stream. Scituate	AA
RI0006015L-04	Moswansicut Pond. Scituate, Johnston	AA
RI0006015R-05	Bullhead Brook. Scituate	AA
RI0006015R-04	Brandy Brook. Scituate	AA
RI0006015L-11	Pine Swamp Pond. Scituate	AA
RI0006015R-21	Quonopaug River. Scituate	AA
RI0006015L-12	Betty Pond. Scituate	AA
RI0006015R-12	Kent Brook. Scituate	AA
RI0006015R-07	Coventry Brook. Scituate	AA

Pawtuxet River North Branch & Tributaries Subbasin RI0006016

RI0006016R-06A	Pawtuxet River North Branch from Gainer Memorial Dam to 0.5 mile downstream. Scituate	A
RI0006016R-03	Colvin Brook. Scituate	B
RI0006016R-06B	Pawtuxet River North Branch from 0.5 mile downstream of the Gainer Memorial Dam to the confluence of the North and South Branches of the Pawtuxet River at Riverpoint. Scituate, Coventry, and West Warwick	B
RI0006016R-07	Burlingame Brook. Coventry, Scituate	B
RI0006016R-04	Cranberry Brook. Scituate	B
RI0006016L-02	J.L. Curran Reservoir (Fiskeville Reservoir). Cranston	B
RI0006016R-02	Clarke Brook. Cranston	B
RI0006016L-01	Black Rock Reservoir. Coventry	B
RI0006016R-01	Black Rock Brook. Coventry	B
RI0006016L-03	Fones Pond. Coventry	B
RI0006016R-05	Lippet Brook. Cranston, West Warwick	B

Pawtuxet River Main Stem & Tributaries Subbasin RI0006017

RI0006017R-03#	Pawtuxet River from the confluence of the North and South Branches at Riverpoint to the Pawtuxet Cove Dam at Pawtuxet. West Warwick, Warwick, Cranston	B1

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Pawtuxet River Basin RI0006 (continued)

Pawtuxet River Main Stem & Tributaries Subbasin RI0006017 (continued)

RI0006017R-01	Furnace Hill Brook. Johnston, Cranston	B
RI0006017L-01	Meshanticut Pond. Cranston	B
RI0006017R-02	Meshanticut Brook. Cranston, Warwick	B
RI0006017L-02	Three Ponds. Warwick	B
RI0006017R-04	Three Pond Brook. Warwick	B
RI0006017L-10	Tongue Pond. Cranston	B
RI0006017L-07	Spectacle Pond. Cranston	B
RI0006017L-06	Mashapaug Pond. Providence	B
RI0006017L-05	Roger Williams Park Ponds. Providence	B
RI0006017L-08	Fenner Pond. Cranston	B
RI0006017L-09	Sand Pond (N. of Airport). Warwick	B
RI0006017R-05	Lakewood Brook. Warwick.	B

Pocasset River & Tributaries Subbasin RI0006018

RI0006018R-03A	Pocasset River from the headwaters to the inlet of Printworks Pond. Johnston, Cranston	B
RI0006018L-01	Oak Swamp Reservoir. Johnston	B
RI0006018R-02A	Dry Brook from the outlet of Oak Swamp Reservoir to a point 0.3 miles below Almy Reservoir at the discharge point of Medical Homes of R.I., excluding Almy Reservoir. Johnston	B
RI0006018L-02	Almy Reservoir. Johnston	B
RI0006018R-02B	Dry Brook from a point 0.3 miles below Almy Reservoir to its confluence with the Pocasset River. Johnston	B1
RI0006018R-01	Cedar Swamp Brook. Johnston	B
RI0006018L-03	Simmons Reservoir. Johnston	B
RI0006018R-04	Simmons Brook. Johnston	B
RI0006018L-08	Stone Pond. Cranston	B
RI0006018L-04	Randall Pond. Cranston	B
RI0006018L-07	Dyer Pond. Cranston	B
RI0006018L-05	Print Works Pond. Cranston	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Pawtuxet River Basin RI0006 (continued)

Pocasset River & Tributaries Subbasin RI0006018 (continued)

RI0006018R-03B	Pocasset River from the outlet of Printworks Pond to the confluence with the Pawtuxet River. Cranston	B
RI0006018L-06	Blackamore Pond. Cranston	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Narragansett Basin
RI0007

Seekonk River Subbasin
RI0007019

RI0007019E-01	Seekonk River from the Slater Mill Dam at Main Street in Pawtucket to India Point in Providence. Pawtucket, Providence	SB1{a}

Providence River Subbasin
RI0007020

RI0007020E-01B	Providence River from its confluence with the Moshassuck and Woonasquatucket Rivers in Providence south and south of a line from India Point to Bold Point (across the mouth of the Seekonk River), to a line extending from a point on shore due east of Naushon Avenue in Warwick to the western terminus of beach Road in East Providence, including Watchemoket Cove. East Providence, Providence, Cranston and Warwick.	SB1{a}
RI0007020E-01A	Providence River south of a line from a point on shore due east of Naushon Avenue in Warwick to the western terminus of Beach Road in East Providence and north of a line from Conimicut Point in Warwick to Old Tower at Nayatt Point in Barrington. East Providence, Warwick, Barrington	SB{a}
RI0007020R-05	Mosskettuash Brook. East Providence	B
RI0007020R-02	Annawomscott Brook. East Providence, Barrington	B
RI0007020L-04	Posnegansett Pond. Warwick	A
RI0007020L-06	Prince's Pond (Tiffany Pond). Barrington	A
RI0007020L-02	Brickyard Pond. Barrington	B
RI0007020R-01	Mussuchuck Creek. Barrington	B
RI0007020L-07	Echo Lake. Barrington	B

Upper Narragansett Bay Subbasin
RI0007024

RI0007024E-01	Upper Narragansett Bay from Conimicut Point-Nayatt Point boundary south, including waters south of a line from Adams Point, Barrington to Jacobs Point, Warren, to a line from Warwick Point in Warwick through Providence Point on Prudence Island, to Popasquash Point in Bristol. Warwick, Barrington, Bristol, Portsmouth, Warren	SA
RI0007024R-06	Rumstick Run. Barrington	A
RI0007024L-01	Sandy Pond (Little Pond, south of airport). Warwick	B
RI0007024L-02	Warwick Pond. Warwick	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Narragansett Basin RI0007 (continued)

Upper Narragansett Bay Subbasin RI0007024 (continued)

RI0007024R-01	Buckeye Brook. Warwick	B
RI0007024R-02	Parsonage (Knowles) Brook. Warwick	B
RI0007024R-04	Warner Brook. Warwick	B
RI0007024R-03	Lockwood Brook. Warwick	B
RI0007024E-02	Old Mill Creek. Warwick	SA

Barrington & Runnins Rivers Subbasin RI0007021

RI0007021R-01	Runnins River from the MA-RI border to the Mobil Dam in East Providence. Providence, East Providence	B
RI0007021E-01A	Barrington River from the Mobil Dam in East Providence to the East Bay Bike Path trestle in Barrington approximately 2500 feet north of the confluence with the Palmer River. East Providence, Barrington	SA
RI0007021E-01B	Barrington River from the East Bay Bike Path trestle, south approximately 2500 feet to the confluence with the Palmer River. Barrington	SB1

Palmer River Subbasin RI0007022

RI0007022E-01A	Palmer River from the MA-RI border to the East Bay Bike Path trestle in Warren, approximately 2500 feet north of the confluence with the Barrington River. Warren, Barrington	SA
RI0007022E-01B	Palmer River from the East Bay Bike Path trestle in Warren, south approximately 2500 feet to the confluence with the Barrington River. Warren, Barrington	SB1

Warren River Subbasin RI0007023

RI0007023E-01A	Warren River from the confluence with the Barrington and Palmer Rivers, approximately 2500 feet south of the East Bay Bike Path trestles, south to a line between the concrete jetty at the north end of the Warren Town Beach through Nun Buoy 18 and its extension to the Barrington Shore. Barrington, Warren.	SB1
RI0007023E-01B	Warren River waters south of a line from the concrete jetty at the north end of the Warren Town Beach through Nun Buoy 18 and its extension to the Barrington shore and north of a line from Adams Point in Barrington to Jacobs Point in Warren. Warren, Barrington.	SB

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Narragansett Basin RI0007 (continued)

Greenwich Bay Subbasin
RI0007025

RI0007025R-02	Cedar Brook. West Warwick	B
RI0007025R-01	Hardig Brook. West Warwick, Warwick	B
RI0007025R-14	Mill Brook. Warwick	B
RI0007025R-13	Gorton Pond tributary. Warwick	B
RI0007025L-01	Gorton Pond. Warwick	B
RI0007025R-11	Greenwood Creek. Warwick	B
RI0007025E-01	Apponaug Cove waters north and west of a line from the RIDEM range marker located at the end of Neptune Lane In Chepiwanoxet to the RIDEM range marker located at Cedar Tree Point. Warwick	SB
RI0007025E-07	Mary's Creek. Warwick	SB
RI0007025E-04A	Greenwich Bay waters north and west of a line from the eastern extremity of Sandy Point on Potowomut Neck, Warwick, to the flag pole located at the Warwick Country Club on Warwick Neck; east of a line from the northerly point of Long Point to the southerly point of Chepiwanoxet Point, and east of a line from the northern extremity of Chepiwanoxet Point to the extension of Capron Farm Drive in Nausauket. Warwick, East Greenwich	SA
RI0007025E-04B	Greenwich Bay waters west of a line from the northern extremity of Chepiwanoxet Point to the extension of Capron Farm Drive in Nausauket, of Warwick, and east of a line from the RIDEM range marker located at the end of Neptune Lane in Chepiwanoxet to the RIDEM range marker located at Cedar Tree Point. Warwick, East Greenwich	SA
RI0007025R-06	Baker Creek. Warwick	A
RI0007025R-05	Tuscatucket Brook. Warwick	A
RI0007025R-09	Southern Creek (Carpenter Brook). Warwick	A
RI0007025E-02	Brushneck Cove. Warwick	SA
RI0007025E-03	Buttonwoods Cove. Warwick	SA
RI0007025R-07	Fosters Brook. Warwick	B
RI0007025R-08	Oakside Street Brook. Warwick	B
RI0007025E-06A	Warwick Cove north of a line from the easternmost extension of Burr Avenue on Horse Neck to the southern-most point of the Harbor Light Marina parking lot on the east shore. Warwick	SB

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE
Narragansett Basin RI0007 (continued)		
Greenwich Bay Subbasin RI0007025 (continued)		
RI0007025E-06B	Warwick Cove south of a line from the easternmost extension of Burr Avenue on Horse Neck to the southernmost point of the Harbor Light Marina parking lot on the east shore and north of a line from the southeastern most riprap jetty at the entrance of Warwick Cove, located at the southeastern end of Oakland Beach to the southern (landward) end of Dorr's Dock on Warwick Neck,. excluding the waters noted below in RI0007025E-06C. Warwick	SA
RI0007025E-06C	Warwick Cove in the vicinity of Captain's Shellfish. Warwick	SB
RI0007025R-16	Saddle Brook. West Warwick, Warwick, East Greenwich	B
RI0007025R-03	Maskerchugg River. Warwick, East Greenwich	B
RI0007025R-17	Nichols River. East Greenwich	B
RI0007025R-04	Dark Entry Brook. Warwick, East Greenwich	B
RI0007025E-05A	Greenwich Cove south of Long Point. East Greenwich/Warwick	SB1
RI0007025E-05B	Greenwich Cove north of Long Point and west of a line extending from the DEM range marker located on the westerly side of Goddard Park State Beach to the southerly point of Chepiwanoxet Peninsula. East Greenwich/Warwick	SB
Potowomut River Subbasin RI0007028		
RI0007028R-06	Scrabbletown Brook. East Greenwich, North Kingstown	A
RI0007028R-03A	Hunt River headwaters to Frenchtown Road. East Greenwich, North Kingstown	A
RI0007028R-01	Frenchtown Brook. West Greenwich, East Greenwich	A
RI0007028R-04	Mawney Brook. East Greenwich	A
RI0007028R-03B	Hunt River from Frenchtown Road to the Brown and Sharpe discharge outfall located approximately 0.55 miles downstream of Frenchtown Road. East Greenwich, North Kingstown	B
RI0007028R-02	Fry Brook. West Warwick, East Greenwich	B
RI0007028R-03C	Hunt River from the Brown and Sharpe discharge outfall located approximately 0.55 miles downstream of Frenchtown Road to Austin Road. East Greenwich, North Kingstown	B1
RI0007028R-07	Pierce Brook. East Greenwich	B
RI0007028L-01	Potowomut Pond. North Kingstown	B
RI0007028R-03D	Hunt River, excluding Potowomut Pond, from Austin Road To the tidal waters of the Potowomut River approximately 1000 Feet south of the Forge Road Bridge. North Kingstown	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Narragansett Basin RI0007 (continued)

Potowomut River Subbasin RI0007028 (continued)

RI0007028R-05	Sandhill Brook. North Kingstown	B
RI0007028E-01	Potowomut River. East Greenwich, North Kingstown	SA

West Passage Narragansett Bay Subbasin RI0007027

RI0007027E-03A	West Passage waters south of a line from the eastern extremity of Sandy point on Potowomut Neck, East Greenwich, to the flagpole located at the Warwick Country Club on Warwick Neck; south of a line from the southernmost extremity of Warwick Point on Warwick Neck, to the northernmost point on Prudence Island (Providence Point); west of a line from the southernmost point on Prudence Island to the northernmost point on Jamestown, and north of a line from Cormorant Point at the mouth of Pettaquamscutt River, Narragansett to Beavertail, Jamestown, excluding the West Passage waters, Allen's Harbor and Wickford Harbor waters described below. Warwick, East Greenwich, Portsmouth, North Kingstown, Jamestown, Narragansett.	SA
RI0007027R-10	Tibbets Creek. North Kingstown	A
RI0007027E-01A	Allen's Harbor waters north of a line extending from the westernmost indentation of the cove which is immediately north of the easternmost curve of Westcott Road to the northernmost point of land on the south side of the mouth of Allen's Harbor. North Kingstown	SA{b}
RI0007027E-01B	Allen's Harbor waters south and east of a line extending from the westernmost indentation of the cove which is immediately north of the easternmost curve of Westcott Road to the northernmost point of land on the south side of the mouth of Allen's Harbor. North Kingstown	SB
RI0007027E-05	Little Allen's Harbor. North Kingstown	SB
RI0007027E-03B	West Passage waters in the vicinity of Piers No. 1 and No. 2 at the Davisville Depot that are south of a line from the northeast corner of Pier No. 2 (the more northerly pier at the Davisville Depot) to Nun Buoy 14, north of a line from the RIDEM range Marker located on the bulkhead approximately 300 feet south of Pier No. 1 (the more southerly pier at the Davisville Depot) to Nun Buoy 12, including all waters between the above described Lines that are west of a line and the extension of a line from the Northeastern end of the bulkhead at Quonset State Airport Through Nun Buoy 16. North Kingstown.	SB
RI0007027E-03C	West Passage waters in the vicinity of Quonset Point within 1500 feet of shore from the western end of the carrier pier to a point 1000 feet north of Quonset Point. North Kingstown	SB1

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Narragansett Basin RI0007 (continued)

West Passage Narragansett Bay Subbasin RI0007027 (continued)

RI0007027E-03D	West Passage waters in the vicinity of Quonset Point exclusive of those waters described above, north and east of the intersection of a line extending from Fourth Street, Sauga Point, North Kingstown, southeast to the northeastern most point on Fox Island and a line drawn from the Wickford Lighthouse to Buoy R 6, west of a line from Buoy R 6 to Nun Buoy 10, south of a line from Nun Buoy 10 through F G Buoy 11 extended to the shore. North Kingstown.	SB
RI0007027E-03E*	West Passage waters in the vicinity of Quonset Point that are south of a line from the northeastern end of the bulkhead at Quonset State Airport to Nun Buoy 10; and north of a line from Nun Buoy 10 through F G Buoy 11 extended to the shore. North Kingstown	SA
RI0007027E-03F*	West Passage waters in the vicinity of Quonset Point that lie within the following intersection of lines: south of a line from the Wickford Lighthouse to Buoy R 6; west of a line from Fox Island to Nun Buoy 8; east and north of a line from the Southerly extension of 2nd Street in the Sauga Point area in North Kingstown, to the western extremity of Sand Point on Jamestown. North Kingstown	SA
RI0007027E-03G*	West Passage waters in the vicinity of Sauga Point, North Kingstown defined by the intersection of a line from the southerly extension of 2nd Street in the Sauga Point area to the western extremity of Sand Point on Jamestown, with a line extending from Fourth Street in the Sauga Point area, southeast to the northeastern most point on Fox Island. North Kingstown	SA
RI0007027L-05	Davol Pond. North Kingstown	A
RI0007027L-06	Frys Pond. North Kingstown	A
RI0007027R-11	Hall Creek. North Kingstown	B
RI0007027R-05	Pine River from headwaters to confluence with Mill Creek. North Kingstown	B
RI0007027R-06	Mill Creek from headwaters to Camp Avenue culvert. North Kingstown	B
RI0007027R-03	Cocumcussoc Brook. North Kingstown	B
RI0007027E-04B	Wickford Harbor including Mill Cove and the estuarine portion of Mill Creek, west of a line extending from the northern extremity of Big Rock Point to the southern extremity of Cornelius Island, and west and south of a line extending from the northern extremity of Cornelius Island, to a point 1000 feet north of Calf Neck. North Kingstown	SB

Narragansett Basin RI0007 (continued)

West Passage Narragansett Bay Subbasin RI0007027 (continued)

RI0007027E-04A	Wickford Harbor outer waters and Fishing Cove east of a line extending from the northern extremity of Big Rock Point to the southern extremity of Cornelius Island, and east and north of a line extending from the northern extremity of Cornelius Island to a point 1000 feet north of Calf Neck, and west of Sauga point breakwater and a line from the light at the southern end of Sauga Point breakwater to the northern end of the Poplar Point breakwater. North Kingstown	SA{b}
RI0007027R-02	Belleville Upper Pond Inlet. North Kingstown	B
RI0007027L-02	Belleville Ponds. North Kingstown	B
RI0007027L-04	Kettle Hole Pond. North Kingstown	B
RI0007027R-04	Kettle Hole Pond to Secret Lake. North Kingstown	B
RI0007027L-03	Secret Lake. North Kingstown	B
RI0007027R-07	Oak Hill Brook. North Kingstown	B
RI0007027R-01	Annaquatucket River. North Kingstown	B
RI0007027L-01	Annaquatucket Mill Pond. North Kingstown	B
RI0007027E-02A	Bissel Cove waters west of a line from the RIDEM Range marker on the north shore of Bissel Cove in the vicinity of 'The Homestead", to the range marker on the southern shore of Bissel Cove. North Kingstown	SA
RI0007027E-02B	Bissel Cove waters east of a line from the RIDEM Range marker on the north shore of Bissel Cove in the vicinity of 'The Homestead", to the range marker on the southern shore of Bissel Cove. North Kingstown	SA
RI0007027R-09	Wannuchecomecut Brook. North Kingstown	A
RI0007027E-03H	West Passage waters within a 700 foot radius of the extension Of South Ferry Road at the URI Bay Campus, including the EPA dock located north of South Ferry Road and the GSO dock located south of South Ferry Road. Narragansett	SB
RI0007027R-08	Great Creek freshwater portion from headwaters to estuarine portion in Round Swamp. Jamestown	A
RI0007027E-03I	West Passage waters off Jamestown in the vicinity of West Ferry/Dutch Island Harbor, from a point on the shore of the western coast of Jamestown which is due east of the Dutch Island pier, to the Fort Getty Pier on Beaverhead Point, to a point at the southern terminus of Maple Avenue. Jamestown	SA{b}
RI0007027E-07	Wesquage Pond. Narragansett	SA

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Narragansett Basin RI0007 (continued)

Bristol Harbor Subbasin
RI0007026

RI0007026E-01B	Bristol Harbor waters north of a line extending from Rockwell's Dock on Popasquash Neck to the Premier Thread Company water tower on the east shore of Bristol Harbor and west of a line from the northernmost extremity of Hog Island to the northernmost indentation of the harbor. Bristol	SA{b}
RI0007026E-01A	Bristol Harbor waters north of a line extending from Popasquash Point to the northernmost extremity of Hog Island and west of a line from the northernmost extremity of Hog Island to the northernmost indentation of the harbor and south of a line from Rockwell's Dock on Popasquash Neck to the Premier Thread Company water tower on the east shore of Bristol Harbor. Bristol	SA
RI0007026E-01C	Bristol Harbor waters east of a line extending from the northernmost indentation of Bristol Harbor to the northeast extremity of Hog Island and west of a line extending from McKee's Warf on Bristol Neck to the Coast Guard dock and north of a line extending from the northeast extremity of Hog Island to Mckee's Wharf on Bristol Neck. Bristol	SB
RI0007026E-01D	Bristol harbor waters east of a line extending from McKee's Wharf north to the Coast Guard dock. Bristol	SB1
RI0007026R-01	Silver Creek. Bristol	B
RI0007026R-02	Walker Creek. Bristol	B
RI0007026L-01	Mill Pond. Bristol	A

East Passage Narragansett Bay Subbasin
RI0007029

RI0007029E-01A	East Passage south of a line from the northern tip of Prudence Island to Popasquash Point, Bristol to the northern tip of Hog Island to McKee's Wharf on Bristol Neck; west of a line across the mouth of Mt Hope Bay; south of a line from the southern point on Prudence Island to the northernmost point on Jamestown; north of a line from the southernmost point of Beaver Tail on Jamestown to the southernmost tip of Brenton Point, Newport; exclusive of the East Passage waters, Coasters Harbor and Coddington Cove waters Described below. Portsmouth, Middletown, Newport, Jamestown.	SA
RI0007029R-05	Mill Creek. Prudence Island, Portsmouth.	A
RI0007029E-03	Potter Cove. Prudence Island, Portsmouth	SA{b}
RI0007029E-04	Nag Pond. Prudence Island, Portsmouth	SA
RI0007029R-02	Barker Brook. Portsmouth	A
RI0007029R-03	Bloody Brook. Portsmouth	A
RI0007029L-01	Melville Ponds. Portsmouth	A

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Narragansett Basin RI0007 (continued)

East Passage Narragansett Bay Subbasin RI0007029 (continued)

RI0007029E-01D	East Passage waters east of a line drawn from Coggeshall Point southwesterly to the southeastern most point of Dyer Island and the area east of a line drawn from Carr Point northwesterly to the southeastern most point of Dyer Island. Portsmouth	SB1
RI0007029R-01B	Mother of Hope Brook from Redwood Road, Portsmouth, to East Passage, Narragansett Bay. Portsmouth.	B1
RI0007029R-01A	Mother of Hope Brook from the headwaters south of Greene Lane, Middletown, to Redwood Road, Portsmouth. Middletown, Portsmouth	B
RI0007029E-01N*	East Passage waters south of a line from the RIDEM range marker located just south of Carr Point to Buoy "GR C" located at Fiske Rock, and north and east of a line from the RIDEM range marker located approximately 2,300 feet north of the former Blue Gold Pier, to Nun Buoy "22". Portsmouth, Middletown	SA
RI0007029E-01C	East Passage waters in the vicinity of McAlister Point. Middletown	SA
RI0007029E-01B*	East Passage waters east of a line from range marker painted on the shoreline approximately 500 feet west of the monument flagpole located in Fort Adams State Park to the Rose Island light, east of a line from the Rose Island light to Navy buoy W or "D" located at the southeast side of Gould Island, east of a line from Navy buoy W or "D" off Gould Island to buoy GR C at Fiske Rock, south of a line from buoy GR C at Fiske Rock to the eastern (landward) end of the former dock site located approximately 800 feet north of Greene Lane, Middletown, and west of the Newport Harbor/Coddington Cove SB and SB1 waters described in waterbody ID's RI0007030E-01A, RI0007030E-01B, RI0007030E-01C, and RI0007030E-01D. Newport, Middletown	SA
RI0007029E-01E	East Passage waters within 500 feet of the firing pier at the U.S. Navy torpedo testing station at the northern end of Gould Island. Newport	SB
RI0007029E-01F	East Passage waters in the vicinity of Taylor Point which are within a 300 foot radius of the Jamestown WWTF outfall. Jamestown	SB1
RI0007029E-01G	East Passage waters in the vicinity of Taylor Point, exclusive of those waters described directly above, south of a line extending from the northernmost extremity of Taylor Point to Can Buoy 13, north of a line from a point of land on the Jamestown shore approximately 1000 feet south of the Newport Bridge extending eastward to the northernmost extremity of Rose Island and within 1000 feet of the shoreline of Jamestown. Jamestown	SB
RI0007029E-01H	East Passage waters in the vicinity of East Ferry, Jamestown, west of a line from Bryer Point to Lincoln Street. Jamestown	SB

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Narragansett Basin RI0007 (continued)

East Passage Narragansett Bay Subbasin RI0007029 (continued)

RI0007029E-01I	East Passage waters in the vicinity of Wharton's Shipyard which are south and west of a line from a point of land approximately 3000 feet north of Bull Point to the northernmost of "The Dumplings", and west of a line from the northernmost of "The Dumplings" to a point of land approximately 1000 feet north of Bull Point. Jamestown	SB
RI0007029E-01J	East Passage waters bound on the north by a line extending 1000 feet seaward from shore at the base of the Newport Bridge; bound to the east by a line extending 1000 feet seaward of the shoreline and bound to the south by a line extending from Bull Point to buoy G"11", excluding the Class SB waters described in the preceding two descriptions. Jamestown	SA{b}
RI0007029E-01K	East Passage waters in the vicinity of the Fort Wetherill Boat Basin that are west of the extension of a line from the southeast corner of the pier at Forth Wetherill, through the northeast corner of the pier at Fort Wetherill to the opposite northern shore. Jamestown	SB
RI0007029E-01L	Castle Hill Cove. Newport	SB
RI0007029E-01M*	East Passage waters in the vicinity of Taylor Point and East Ferry, Jamestown, south of a line from the northern most tip of Taylor Point to buoy R14 located off Coasters Harbor in Newport; west of a line from buoy N2 located at the south end of Gould Island through buoy C13, to the House on the rocks located in "The Dumplings"; east of a line from the northernmost tip of Taylor Point to Bull Point which is 1000 feet seaward of the shoreline exclusive of the SB and SA{b} waters described above in waterbody ID's: RI0007029E-01K, RI0007029E-01J, RI0007029E-01I, RI0007029E-01H, RI0007029E-01G, and RI0007029E-01F. Jamestown	SA
RI0007029E-02	Mackerel Cove. Jamestown	SA

Newport Harbor/Coddington Cove Subbasin RI0007030

RI0007030E-01A	Coddington Cove waters north of a line from buoy (FLR) bell 14 to Bishop Rock and southeast of a line from buoy (FLR) bell 14 through Nun buoy 16 at Coddington point and its extension to the end of the Coddington Cove breakwater. Newport, Middletown	SB
RI0007030E-01B	Newport Harbor waters in the vicinity of Bishop Rock which are within 500 feet of the Newport marine sewer outfall. Newport	SB1
RI0007030E-01C	Newport Harbor waters east of a line from Fort Adams light to Rose Island light, to buoy (FLR) bell 14 and south of a line from buoy (FLR) bell 14 to Bishop Rock, excluding Coaster's Harbor. Newport	SB

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Narragansett Basin RI0007 (continued)

Newport Harbor/Coddington Cove Subbasin RI0007030 (continued)

RI0007030E-01D	Coaster's Harbor waters east of a line from Bishop Rock to the northernmost point of Coaster's Harbor Island and north of the Training Station Road bridge. Newport	SB

Jamestown Water Supply Subbasin RI0007036

RI0007036L-01@	North Carr Pond. Jamestown	AA
RI0007036L-02@	South Watson Pond. Jamestown	AA
RI0007036R-01	Jamestown Brook. Jamestown	AA

Aquidneck Water Supply Tributaries Subbasin RI0007035

RI0007035L-05@	Saint Mary's Pond. Portsmouth	AA
RI0007035L-10	Sisson Pond. Portsmouth	AA
RI0007035L-06@	Lawton Valley Reservoir. Portsmouth	AA
RI0007035R-04	Lawton Brook. Portsmouth	A
RI0007035R-01	Bailey's Brook. Middletown	AA
RI0007035L-03@	North Easton Pond (Green End Pond). Middletown, Newport	AA
RI0007035L-04@	South Easton Pond. Middletown, Newport	AA
RI0007035R-02A	Maidford River from the headwaters to the confluence with Paradise Brook. Middletown	AA
RI0007035L-02@	Nelson Paradise Pond. Middletown	AA
RI0007035R-03	Paradise Brook. Middletown	AA
RI0007035L-01@	Gardiner Pond. Middletown	AA
RI0007035R-02B	Maidford River from the confluence with Paradise Brook to the end of the river at Third Beach, Middletown.	AA
RI0007035L-07@	Watson Reservoir. Little Compton	AA
RI0007035L-08@	Nonquit Pond. Tiverton	AA

Warren Reservoir Subbasin RI0007034

RI0007034R-01	Upper Kickemuit River from the Kickemuit (Warren) Reservoir north to the RI-MA border. Warren	AA
RI0007034L-01@	Kickemuit Reservoir (Warren Reservoir). Warren	AA

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Narragansett Basin RI0007 (continued)

Kickemuit River Subbasin RI0007033

RI0007033E-01A	Kickemuit River from the Child Street bridge (Route 103) in Warren, south to the river mouth at "Bristol Narrows" excluding the waters described below. Bristol, Warren	SA
RI0007033E-01B	Kickemuit River south of a line from the eastern extension of Kickemuit Avenue in Bristol to the DEM range marker located on the western tip of Little Neck in Touisset, and north of a line from the DEM range markers located on the east shore and west shore at the entrance to the Kickemuit River including the "Bristol Narrows" in its entirety. Bristol, Warren	SA{b}
RI0007033E-01C	Kickemuit River west of a line from the DEM range marker located on the western tip of Little Neck in Touisset to the brick stack located at 426 Metacom Avenue in Warren (formally known as the Carol Cable Building),north of a line from the eastern extension of Sherman Avenue in Bristol to the western extension of Chase Avenue Touisset, and south of a line from the eastern extension of Harris Avenue in Warren to the "5 MPH No Wake" buoy. Bristol, Warren	SA{b}

Mt. Hope Bay Subbasin RI0007032

RI0007032E-01D	Mt. Hope Bay waters south and west of the MA-RI border and north of a line from Borden's Wharf, Tiverton to buoy R "4" and east of a line from buoy R "4" to Brayton Point in Somerset, MA. Bristol, Portsmouth and Tiverton.	SB1
RI0007032E-01C	Mt. Hope Bay waters south of a line from Borden's Wharf, Tiverton, to buoy R "4" and west of a line from buoy R "4" to Brayton Point, Somerset, MA., and east of a line from the end of Gardiner's Neck Road in Swansea to buoy N "2", through buoy R4 to Common Fence Point, Portsmouth, and north of a line from Portsmouth to Tiverton at the railroad bridge at "The Hummocks" on the northeast point of Portsmouth. Portsmouth	SB
RI0007032E-01A*	Mt. Hope Bay south and west of the MA/RI border, and east of a line from Touisset Point to the channel marker buoy R "4" and south and east of a line from buoy R "4" to the southernmost landward end of Bristol Point and south of a line from Bristol Point to the Hog Island shoal light, to the southwestern extremity of Arnold Point in Portsmouth where a RIDEM range marker has been established; and west of a line from the end of Gardiner's Neck Road, Swansea to buoy N"2", through buoy R4 to Common Fence Point, Portsmouth excluding the waters defined in RI0007032E-01E below. Warren, Portsmouth	SA
RI0007032E-01B	Mt. Hope Bay waters north and west of a line from the southernmost landward end of Bristol Point to buoy R "4" and west of a line from buoy R "4" to the DEM range marker on Touisset Point, and south of the Bristol Narrows. Bristol, Warren	SA

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Narragansett Basin RI0007 (continued)

Mt. Hope Bay Subbasin RI0007032 (continued)

RI0007032E-01E	Waters approximately 100 feet off the Weyerhauser Dock as defined by the following geographical coordinates:-71.265097 west longitude 41.625132 north latitude;-71.265086 west longitude 41.627190 north latitude;-71.264170 west longitude 41.627188 north latitude;-71.264177 west longitude 41.625455 north latitude. Portsmouth	SB
RI0007032R-01	Fonders Brook. Portsmouth	A

Stafford Pond Subbasin RI0007037

RI0007037L-01@	Stafford Pond. Tiverton	AA
RI0007037R-01	Sucker Brook. Tiverton	A

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Pawcatuck River Basin
RI0008

Pawcatuck River & Tributaries Subbasin
RI0008039

RI0008039L-21	The Reservoir. Exeter	A
RI0008039R-06A	Chipuxet River headwaters to the entrance of Yawgoo Mill Pond. North Kingstown, Exeter	A
RI0008039L-16	Yawgoo Mill Pond. Exeter	A
RI0008039R-06B	Chipuxet River from outlet of Yawgoo Mill Pond to the entrance of Hundred Acre Pond. Exeter, South Kingstown	B
RI0008039L-13	Hundred Acre Pond. South Kingstown	B
RI0008039R-06C	Chipuxet River from outlet of Hundred Acre Pond to the entrance into Warden Pond, excluding Thirty Acre Pond. South Kingstown	B
RI0008039L-12	Thirty Acre Pond. South Kingstown	B
RI0008039L-07	Worden Pond. South Kingstown	B
RI0008039R-27A	White Horn Brook headwaters to Route 138. South Kingstown	A
RI0008039R-08	Genessee Brook. South Kingstown	B
RI0008039R-27B	White Horn Brook from Route 138 to the wetlands associated with and due east of, Worden Pond. South Kingstown	B
RI0008039L-11	Larkin Pond. South Kingstown	B
RI0008039R-15	Mink Brook. South Kingstown	B
RI0008039L-08	Tucker Pond. South Kingstown	B
RI0008039R-01	Alewife Brook. South Kingstown	B
RI0008039R-18A	Pawcatuck River from Warden Pond to the dam at Kenyon. South Kingstown, Charlestown	B
RI0008039R-05A	Chickasheen Brook headwaters to Yawgoo Pond. Exeter	A
RI0008039L-15	Yawgoo Pond. Exeter, South Kingstown	A
RI0008039R-39	Mud Brook. Exeter, South Kingstown	B
RI0008039L-14	Barber Pond. South Kingstown	B
RI0008039R-05B	Chickasheen Brook from the Yawgoo Pond outlet to the confluence with the Usquepaug river. South Kingstown, Richmond	B
RI0008039R-21A	Queens River from headwaters south to its entrance into Bear Swamp in Exeter. West Greenwich, Exeter	A

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE
Pawcatuck River Basin RI0008 (continued)		
Pawcatuck River & Tributaries Subbasin RI0008039 (continued)		
RI0008039R-21B	Queens River from its entrance into Bear Swamp to its confluence with Queens Fort Brook. Exeter	A
RI0008039R-29	Pendock River. West Greenwich, Exeter	A
RI0008039R-07	Fisherville Brook. West Greenwich, Exeter	A
RI0008039R-30	Dutemple Brook. Exeter	A
RI0008039R-22	Sodom Brook. Exeter	A
RI0008039L-25	Dawley Pond. Exeter	A
RI0008039R-31A	Queens Fort Brook headwaters to 3/4 mile south of Victory Highway (Route 102). Exeter	A
RI0008039R-33	Reuben Brown Brook. Exeter	A
RI0008039R-31B	Queens Fort Brook from 3/4 mile south of Victory Highway (Route 102) to the confluence with the Queens River. Exeter.	B
RI0008039R-21C	Queens River from its confluence with Queens Fort Brook to Glen Rock Reservoir. Exeter	A
RI0008039R-10	Locke Brook. Exeter	B
RI0008039R-32	Rake Factory Brook. Exeter, South Kingstown	B
RI0008039R-34	Sherman Brook. Exeter, South Kingstown	B
RI0008039R-09	Glen Rock Brook. Richmond, South Kingstown	B
RI0008039L-19	Glen Rock Reservoir. South Kingstown	B
RI0008039R-25	Usquepaug River from Glen Rock Reservoir to the confluence with the Pawcatuck River. Richmond, Charlestown, South Kingstown	B
RI0008039R-18B	Pawcatuck River from the dam at Kenyon to the beginning of the Carolina Mill Pond in Carolina. Richmond, Charlestown	B1
RI0008039L-20	James Pond. Exeter	A
RI0008039R-03	Beaver River. Exeter, Richmond	A
RI0008039L-06	Pasquiset Pond. Charlestown	A
RI0008039R-17	Pasquiset Brook. Charlestown	A
RI0008039L-22	Maple Lake. Charlestown	A
RI0008039R-18C	Pawcatuck River from the entrance to the Carolina Mill Pond to the Bradford Dyeing Associates WWTF discharge point. Richmond, Charlestown, Hopkinton, Westerly	B

Pawcatuck River Basin RI0008 (continued)

Pawcatuck River & Tributaries Subbasin RI0008039 (continued)

RI0008039L-23	Grass Pond. Richmond	A
RI0008039R-23	Taney Brook. Richmond	B
RI0008039R-26	White Brook. Richmond	B
RI0008039R-13	Meadow Brook from the headwaters to the confluence with the Pawcatuck River. Richmond	A
RI0008039L-05	Meadowbrook Pond (Sandy Pond). Richmond	A
RI0008039L-24	Saw Mill Pond. Charlestown	B
RI0008039R-04	Cedar Swamp Brook. Charlestown	B
RI0008039R-19	Perry Healy Brook. Westerly, Charlestown	B
RI0008039L-02	Watchaug Pond. Charlestown	B
RI0008039R-20	Poquiant Brook. Charlestown	B
RI0008039R-24	Tomaquag Brook. Hopkinton	A
RI0008039R-18D	Pawcatuck River from the Bradford Dyeing Associates WWTF discharge point to the Route 3 bridge crossing. Hopkinton, Westerly	B1
RI0008039R-12	McGowan Brook. Westerly	B
RI0008039L-01	Chapman Pond. Westerly	B
RI0008039R-35	Aguntaug Brook. Westerly	B
RI0008039R-14	Mile Brook. Hopkinton	B
RI0008039R-38	Wine Brook. Hopkinton	A
RI0008039R-37	Parmenter Brook. Hopkinton	A
RI0008039R-02A	Ashaway River headwaters south to the Ashaway Road highway bridge. Hopkinton	A
RI0008039R-02B	Ashaway River from the Ashaway Road highway bridge to its confluence with the Pawcatuck River. Hopkinton	B
RI0008039R-18E	Pawcatuck River from the Route 3 bridge crossing to the Route 1 highway bridge at the junction of Main Street and Broad Street in Westerly. Westerly	B
RI0008039R-11	Mastuxet Brook. Westerly	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Pawcatuck River Basin RI0008 (continued)

Wood River & Tributaries Subbasin RI0008040

RI0008040R-20	White Brook. West Greenwich	A
RI0008040R-02	Breakheart Brook. West Greenwich, Exeter	A
RI0008040L-15	Breakheart Pond. West Greenwich, Exeter	A
RI0008040R-01	Acid Factory Brook. West Greenwich	A
RI0008040L-16	Eisenhower Lake. West Greenwich	A
RI0008040R-19	Factory Brook. West Greenwich	A
RI0008040R-14	Phillips Brook. West Greenwich	A
RI0008040R-08	Flat River. West Greenwich, Exeter	A
RI0008040L-19	Tillinghast Pond. West Greenwich	A
RI0008040R-05	Coney Brook. West Greenwich	A
RI0008040L-18	Wickaboxet Pond. West Greenwich	A
RI0008040R-10	Kelley Brook. West Greenwich	A
RI0008040L-21	Hazard Pond. West Greenwich	A
RI0008040R-07	Falls River. West Greenwich, Exeter	A
RI0008040R-16A	Wood River from the headwaters starting at confluence of Flat and Falls Rivers, to the confluence with Roaring Brook. Exeter, Hopkinton, Richmond.	A
RI0008040L-17	Tippencansett Pond. West Greenwich	A
RI0008040R-13	Parris Brook. West Greenwich, Exeter	A
RI0008040L-12	Deep Pond. Exeter	A
RI0008040R-17	Woody Hill Brook. Exeter	A
RI0008040L-14	Boone Lake. Exeter	B
RI0008040R-15	Roaring Brook. West Greenwich, Exeter, Richmond	B
RI0008040L-13	Browning Mill Pond (Arcadia Pond). Exeter, Richmond	B
RI0008040L-22	Frying Pan Pond. Richmond, Hopkinton	B
RI0008040R-16B	Wood River from confluence with Roaring Brook to the inlet of Wyoming Pond. Richmond, Hopkinton	B
RI0008040R-18	Baker Brook. Richmond	B

Pawcatuck River Basin RI0008 (continued)

Wood River & Tributaries Subbasin RI0008040 (continued)

RI0008040R-22	Moonshine Creek. Richmond	B
RI0008040L-23	Canob Pond. Richmond	B
RI0008040R-23	Canob Brook. Richmond	B
RI0008040L-11	Wyoming Pond. Hopkinton	B
RI0008040R-16C	Wood River from the outlet of Wyoming Pond to the inlet of Alton Pond. Richmond, Hopkinton	B
RI0008040L-07@	Yawgoog pond. Hopkinton	AA
RI0008040L-06	Wincheck Pond. Hopkinton	B
RI0008040L-08	Grassy Pond. Hopkinton	A
RI0008040R-09	Grassy Brook. Hopkinton	A
RI0008040R-12	Moscow Brook. Hopkinton	B
RI0008040R-11	Log House Brook. Hopkinton	B
RI0008040L-09	Moscow Pond. Hopkinton	B
RI0008040R-03A	Brushy Brook headwaters to Sawmill Road. Exeter, Hopkinton	A
RI0008040R-03B	Brushy Brook from Sawmill Road to the entrance of Locustville Pond. Hopkinton	B
RI0008040L-10	Locustville Pond. Hopkinton	B
RI0008040R-03C	Brushy Brook from the outlet of Locustville Pond to the confluence with the Wood River. Hopkinton	B
RI0008040R-06	Diamond Brook. Richmond	B
RI0008040L-02	Carolina Trout Pond. Richmond	A
RI0008040L-05	Ell Pond. Hopkinton	B
RI0008040L-20	Long Pond. Hopkinton	B
RI0008040R-24	Glade Brook. Hopkinton	A
RI0008040R-04A	Canonchet Brook headwaters, excluding all ponds, to Route 3 crossing. Hopkinton	B
RI0008040L-03	Blue Pond. Hopkinton	B
RI0008040L-04	Ashville Pond. Hopkinton	B
RI0008040R-04B	Canonchet Brook from Route 3 in Hopkinton to the confluence with the Wood River. Hopkinton	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Pawcatuck River Basin RI0008 (continued)

Wood River & Tributaries Subbasin RI0008040 (continued)

RI0008040R-16D	Wood River from the Alton Pond dam to the confluence with the Pawcatuck River. Richmond, Hopkinton, Charlestown	B
RI0008040L-01	Alton Pond. Hopkinton	B

Tidal Pawcatuck River/Little Narragansett Bay Subbasin RI0008038

RI0008038E-01A	Tidal Pawcatuck River from Route 1 highway bridge to Pawcatuck Rock. Westerly	SB1
RI0008038E-01B	Tidal Pawcatuck River from Pawcatuck Rock to a line from Rhodes Point, RI to Pawcatuck Point, CT. Westerly	SB
RI0008038E-02A	Little Narragansett Bay west of a line extending from Pawcatuck Point in Connecticut to Rhodes Point in Rhode Island, excluding the area described below. Westerly	SA
RI0008038E-02B	Little Narragansett Bay including Watch Hill Cove, southeast of a line from the northernmost extension of land that forms Napatree Point to the westernmost point of land on the south side of the mouth of Fosters Cove. Westerly	SA{b}

Westport River Basin RI0009

Adamsville Brook & Tributaries Subbasin RI0009041

RI0009041R-01	Adamsville Brook. Tiverton, Little Compton	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE
Coastal Waters RI0010		
Southwest Coastal Ponds Subbasin RI0010043		
RI0010043E-03	Maschaug Pond. Westerly	SA
RI0010043L-18	Little Maschaug Pond. Westerly	A
RI0010043E-09	Winnapaug Pond. Westerly	SA
RI0010043E-07	Quonochontaug Pond. Charlestown, Westerly	SA
RI0010043R-05	Quonochontaug Brook. Westerly	A
RI0010043E-04A	Ninigret Pond waters excluding the easternmost waters described in RI0010043E-04B. Charlestown	SA
RI0010043E-04B	Ninigret Pond waters, including Tockwotten Cove, east of a line from the DEM Range marker located on the shore directly eastward of pole number 16-1 at the end of Starrett Drive, to the DEM Range marker located at the end of Florence Avenue, and west of the breachway entrance to Green Hill Pond. Charlestown	SA
RI0010043L-16	Garden Pond. Charlestown	A
RI0010043L-17	West Pond. Charlestown	A
RI0010043L-09	Schoolhouse Pond. Charlestown	A
RI0010043L-08	Deep Pond. Charlestown	A
RI0010043L-11	King Tom Pond. Charlestown	A
RI0010043L-04	Cross Mills Pond. Charlestown	A
RI0010043R-01	Cross Mills Stream. Charlestown	A
RI0010043L-15	Perry Pond. Charlestown	A
RI0010043E-02	Green Hill Pond. South Kingstown	SA
RI0010043L-14	Bull Head Pond. South Kingstown	A
RI0010043L-03	Factory Pond. South Kingstown	A
RI0010043R-02	Factory Pond Stream. South Kingstown	A
RI0010043R-04	Teal Pond Stream. South Kingstown	A
RI0010043E-08	Trustom Pond. South Kingstown	SA
RI0010043L-13	Mill Pond. South Kingstown	A
RI0010043R-03	Mill Pond to Card Pond. South Kingstown	A
RI0010043E-01	Cards Pond. South Kingstown	SA
RI0010043E-05	Potter Pond. South Kingstown	SA

Coastal Waters RI0010 (continued)

Southwest Coastal Ponds Subbasin RI0010043 (continued)

RI0010043L-12	Fresh Pond. South Kingstown	A
RI0010043L-05	White Pond. South Kingstown	A
RI0010043L-07	Long Pond. South Kingstown	A
RI0010043L-01	Hothouse Pond. South Kingstown	A
RI0010043L-02	Cedar Swamp Pond. South Kingstown	A
RI0010043L-06	Wash Pond. South Kingstown	A
RI0010043E-06A	Point Judith Pond waters exclusive of those described below. Narragansett, South Kingstown	SA
RI0010043E-06B	Upper Point Judith Pond from the mouth of the Saugatucket River at Route 1, downstream to Can Buoy 33. Narragansett, South Kingstown	SB
RI0010043E-06C	Upper Point Judith Pond, south of Can Buoy 33 and north and east of a line from Buttonwood Point to the southern extremity of Cummock Island, to the flagpole at the northwest extremity of Betty Hull Point, excluding the marina area described in RI0010043E-06D below. Narragansett, South Kingstown	SA
RI0010043E-06D	Point Judith Pond waters in the vicinity of Billington Cove Marina as shown on the plan entitled "Billington Cove Marina: Marina Perimeter Plan", dated August 1994 by Coastal Engineering Group, Inc., east of a line from the western edge of the rip-rap retaining wall, 221 feet seaward, and west of a line from the flagpole, 280 feet seaward, and north of the line that connects these two lines. South Kingstown	SA{b}
RI0010043E-06E	Point Judith Pond waters in the vicinity of Galilee within 500 feet of the shore from the northern end at the breachway to the western side of the Great Island Road Bridge. Narragansett	SB
RI0010043E-06F	Point Judith Pond waters in the vicinity of Jerusalem within 500 feet of the shore from the breachway to a point approximately 1000 feet north of the State Pier. Narragansett	SB
RI0010043E-06G	Point Judith Pond waters in the vicinity of Snug harbor within 500 feet of shore from Gooseberry Road to High Point. South Kingstown	SB
RI0010043E-06H	Point Judith Pond waters in the channel to Potter Pond east of a line across the western end of the Potter Pond entrance channel located approximately 500 feet west of Succotash Road and west of a line from a point of land on the northern shore of the channel approximately 700 feet east of Succotash Road to a point of land on the southern shore of the channel, exclusive of the waters noted below. South Kingstown	SA

Coastal Waters RI0010 (continued)

Southwest Coastal Ponds Subbasin RI0010043 (continued)

RI0010043E-06I	Point Judith Pond waters in the channel to Potter Pond in the vicinity of the Captain Jacks and Kenport marinas as shown on the plans entitled "Captain Jacks Marina: Marina Site Plan for Jack Piemonte", approved by CRMC on November 15, 1994; and "Marina Perimeter limit for Kenport Marina" approved by CRMC on April 28, 1994. South Kingstown	SB
RI0010043E-06J	Point Judith Pond waters in the channel to Potter Pond east of a line from a point of land on the northern shore of the channel approximately 700 feet east of Succotash Road to a point of land on the southern shore of the channel; west of a line across the mouth of the channel from Gooseberry Road due south to Succotash Road, including the waters of Succotash Salt Marsh. South Kingstown	SA
RI0010043E-06K	Point Judith Pond waters in the vicinity of Champlin's Cove, north of a line from the westernmost extension of Delray Drive to the easternmost extension of Flint Stone Road, located on Harbor Island. Narragansett	SA
RI0010043R-06	Browns Brook. South Kingstown	A
RI0010043R-07	Smelt Brook. South Kingstown	A

Saugatucket River & Tributaries Subbasin RI0010045

RI0010045R-05A	Saugatucket River headwaters to the Rose Hill Landfill property. South Kingstown	B
RI0010045L-04	Indian Lake. South Kingstown	B
RI0010045R-01	Fresh Meadow Brook. South Kingstown	B
RI0010045R-03A	Mitchell Brook headwaters to the Rose Hill Landfill property. South Kingstown	B
RI0010045R-03B	Mitchell Brook from the Rose Hill Landfill to the confluence with the Saugatucket River. South Kingstown	B
RI0010045R-05B	Saugatucket River from the Rose Hill Landfill property to the dam at Main Street in Wakefield. South Kingstown	B
RI0010045L-01	Saugatucket Pond. South Kingstown	B
RI0010045R-02	Indian Run Brook. South Kingstown	B
RI0010045L-02	Asa Pond. South Kingstown	B
RI0010045L-03	Peace Dale Reservoir. South Kingstown	B
RI0010045R-04	Rocky Brook. South Kingstown	B
RI0010045R-05C	Saugatucket River from the Main Street Dam in Wakefield to the Route 1 overpass. South Kingstown	SB
RI0010045L-05	Silver Lake. South Kingstown	B

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE
Coastal Shoreline Subbasin		
RI0010042		
RI0010042E-01A	Coastal Waters in the vicinity of Tucker's Dock which are within a 500 foot radius of the South Kingstown/Narragansett Regional Wastewater Treatment Facility outfall. Narragansett	SB1
RI0010042E-01B	Coastal Waters in the vicinity of Tucker's Dock, exclusive of those waters described above, within 2500 feet of any point on the shoreline between Continental Road and Hazard Avenue. Narragansett	SB
RI0010042E-01C*	Coastal Waters in the vicinity of Tucker's Dock, exclusive of those described above, within 4000 feet of the marine WWTF discharge. Narragansett	SA
RI0010042E-02A	Coastal Waters in the vicinity of Scarborough within 500 feet of the Narragansett-Scarborough WWTF outfall located approximately 2000 feet from a point of land at the northern boundary of Fort Nathaniel Greene. Narragansett	SB1
RI0010042E-02B	Coastal Waters in the vicinity of Scarborough that are more than 500 feet but less than 1500 feet away from the WWTF outfall located approximately 2000 feet from a point of land at the northern boundary of Fort Nathaniel Greene. Narragansett	SB
RI0010042E-02C*	Coastal Waters in the vicinity of Scarborough, exclusive of those waters described above, which are within 5600 feet of the WWTF outfall. Narragansett	SA
RI0010042L-01	Lake Conochet/Little Neck Pond. Narragansett	A
RI0010042R-01	Deadman Brook. Narragansett	A
Tributaries to Pettaquamscutt River Subbasin		
RI0010044		
RI0010044L-02	Silver Spring Lake. North Kingstown	B
RI0010044R-02	Mattatuxet River. North Kingstown	B
RI0010044L-03	Carr Pond. North Kingstown	B
RI0010044R-01	Gilbert Stuart Stream. North Kingstown	A
RI0010044E-01A	Pettaquamscutt (Narrow) River exclusive of the waters noted below, from the headwaters at the end of Gilbert Stuart Stream to the mouth of the river including Pettaquamscutt Cove. North Kingstown, South Kingstown, Narragansett	SA
RI0010044E-01B	Pettaquamscutt (Narrow) River waters in the vicinity of the marina at Middle Bridge. Narragansett	SA{b}
RI0010044R-03	Crooked Brook. Narragansett	A
RI0010044R-11	Sprague Brook. Narragansett	A
RI0010044L-04	Sprague Pond. Narragansett	A
RI0010044R-10	Mumford Brook. South Kingstown, Narragansett	A

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Coastal Waters RI0010 (continued)

Coastal Aquidneck Subbasin
RI0010047

RI0010047L-02	Lily Pond. Newport	A
RI0010047L-01	Almy Pond. Newport	A

Sakonnet River Subbasin
RI0010031

RI0010031E-01C	Sakonnet River from the railroad bridge at the Hummock Point south to the Stone Bridge on Almy Neck in Portsmouth and its extension from the Tiverton shore. Portsmouth, Tiverton	SB
RI0010031E-03A	The Cove, Island Park north of a line from the southern end of Hummock Point to the RIDEM Range marker located at the eastern extremity of a point of land on the western shore of The Cove. Portsmouth	SA
RI0010031E-03B	The Cove, Island Park south of a line from the southern end of Hummock Point to the RIDEM Range marker located at the eastern extremity of a point of land on the western shore of The Cove. Portsmouth	SA
RI0010031E-01B	Sakonnet River waters from the Stone Bridge in Portsmouth/Tiverton south to a line at the mouth of the river extending from Sachuest Point in Middletown to Sakonnet Point in Little Compton, excluding the Portsmouth Park area described below in RI0010031E-01A, and the Sakonnet Point marina area described below in RI0010031E-01D. Portsmouth, Middletown, Tiverton, Little Compton	SA
RI0010031E-01A	Sakonnet River waters in the vicinity of Portsmouth Park north of a line extending from the southwestern most corner of the Stone Bridge in Tiverton to the easternmost extension of Morningside Lane in Portsmouth. Portsmouth, Tiverton	SA
RI0010031E-01D	Sakonnet River south of a line from the light at the end of the Sakonnet breakwater to the point of land at the end of Goodrich Lane, Little Compton, on the eastern shore of the harbor. Little Compton	SA{b}
RI0010031L-01	Creamer Pond. Tiverton	A
RI0010031R-05A	Sin & Flesh Brook from headwaters to Fish Street. Tiverton	B1
RI0010031R-05B	Sin & Flesh Brook from Fish Street to main Road (Route 77). Tiverton	B
RI0010031E-02A	Nannaquaket Pond east of a line extending from the northwestern most point of Nannaquaket Neck to the Rhode Island Department of Environmental Management Range Marker and west to the easternmost side of the Nannaquaket Bridge. Tiverton	SB
RI0010031E-02B	Nannaquaket Pond south and east of the Nannaquaket Bridge,. excluding the waters noted immediately below. Tiverton	SA

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Coastal Waters RI0010 (continued)

Sakonnet River Subbasin RI0010031 (continued)

RI0010031E-02C	Nannaquaket Pond waters of the area called "The Gut", located at the north end of Nannaquaket Pond, north of the northern side of Route 77 (Main Road). Tiverton	SA
RI0010031R-06	White Wine Brook. Tiverton	A
RI0010031R-01	Borden Brook. Tiverton	AA
RI0010031R-04	Quaker Creek. Tiverton	AA
RI0010031E-04	Sapowet Creek. Tiverton	SA
RI0010031R-03	Pachet Brook. Little Compton, Tiverton	AA
RI0010031R-02	Little Creek. Portsmouth, Middletown	B

Southeast Coastal Ponds Subbasin RI0010048

RI0010048L-02	Round Pond. Little Compton	A
RI0010048L-01	Long Pond. Little Compton	A
RI0010048R-02A	Dundery Brook headwaters to Meetinghouse Lane. Little Compton	B
RI0010048R-02B	Dundery Brook from Meetinghouse Lane to 1 mile downstream of Meetinghouse Lane. Little Compton	B1
RI0010048R-02C	Dundery Brook from 1 mile downstream of Meetinghouse Lane to Briggs Marsh Pond. Little Compton	B
RI0010048E-01	Briggs Marsh Pond. Little Compton	SA
RI0010048R-04	Sisson Brook. Little Compton	A
RI0010048L-04	Tunipus Pond. Little Compton	A
RI0010048R-01	Cold Brook. Little Compton	A
RI0010048L-03	Simmons Pond. Little Compton	A
RI0010048E-02	Quicksand Pond. Little Compton	SA
RI0010048R-03	Tributaries East of Cold Brook. Little Compton	A

Block Island Waters Subbasin RI0010046

RI0010046L-03	Sachem Pond. New Shoreham	A
RI0010046L-04	Middle Pond. New Shoreham	A

WATERBODY ID NUMBER	WATERBODY DESCRIPTION	CLASSIFICATION AND PARTIAL USE

Coastal Waters RI0010 (continued)

Block Island Waters Subbasin RI0010046 (continued)

RI0010046E-01A	Great Salt Pond north of a line from the northern most extremity of Cormorant Point to the northern most landward dock located at the Block Island Club. New Shoreham	SA
RI0010046E-01B	Great Salt Pond south of a line from the northern most extremity of Cormorant Point to the northern most landward dock located at the Block Island Club. New Shoreham	SA{b}
RI0010046E-02A	Block Island Waters in the vicinity of Pebbly Beach, within a 500 foot radius of the New Shoreham marine sewer outfall. Block Island	SB1
RI0010046E-02B	Block Island Waters in the vicinity of Pebbly Beach exclusive of the waters described above, which are within 1000 feet from shore from a point 1000 feet north of the New Shoreham marine sewer outfall to a point 1000 feet south of the marine sewer outfall. Block Island	SB
RI0010046E-02C	Block Island Waters in the vicinity of Old Harbor west of a line from the fixed red light at the end of the northern breakwater to the seaward end of the southern breakwater. Block Island	SB
RI0010046E-02D*	Block Island Waters along the eastern coast exclusive of the waters described above, which are within 5,900 feet of the New Shoreham marine sewer outfall. Block Island	SA
RI0010046L-02@	Fresh Pond. New Shoreham	AA
RI0010046L-01@	Sands Pond. New Shoreham	AA

Coastal Waters

RI0010042C-01	Coastal Waters off the southwestern shoreline from Watch Hill, Westerly to Point Judith, Narragansett; up the coast to a point just north of the mouth of Pettaquamscutt (Narrow) River; across to Beavertail, Jamestown; across to Brenton Point, Newport; along the Newport/ Middletown shoreline to Sachuest Point across to Sakonnet Point, Little Compton and along The southeastern shoreline to the RI/MA border. Also includes the coastal waters off the shoreline of Block Island.	SA
	All other seawaters of Narragansett Bay, Sakonnet River, Rhode Island Sound , Block Island Sound, Rhode Island portions of Mt. Hope Bay and coastal ponds not delineated above.	SA

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WATER RESOURCES

APPENDIX B

RIDEM AMBIENT WATER QUALITY

CRITERIA AND GUIDELINES FOR TOXIC POLLUTANTS

July 2006

WATER QUALITY REGULATIONS
APPENDIX B

I. General

Section 304(a)(1) of the Federal Clean Water Act (CWA) requires the USEPA to develop and publish water quality criteria. The USEPA has published criteria for a number of the pollutants listed pursuant to Section 307(a)(1) of the CWA, as well as for other toxic substances, based on available toxicological information on the pollutants. Section 303(c)(2)(B) of the CWA, as amended by the Water Quality Act of 1987, requires states to adopt numeric criteria to protect the uses of their waters from all toxic pollutants listed pursuant to Section 307(a)(1) for which criteria have been published pursuant to Section 304(a)(1), and which are present, or could reasonably be expected to be present, at levels that would impair the uses. This Appendix contains the ambient chemical-specific numeric criteria and guidelines for aquatic life and human health which satisfies the requirements of Section 303(c)(2)(B).

Table 1 contains the acute and chronic aquatic life criteria and minimum data base guidelines for freshwater and saltwater and two sets of human health criteria. In Table 1, the first column of human health criteria represents criteria applicable to waters where the designated route of exposure is due to consumption of drinking water and aquatic organisms. The second column under human health represents criteria applicable to waters where the designated route of exposure is due only to consumption of aquatic organisms.

For parameters which have both aquatic life and human health criteria or guidelines, the applicable criteria or guideline is determined by using the more stringent of the aquatic life or human health criteria or guidelines, according to the use of the waterbody.

Aquatic life criteria may be subject to site-specific modification procedures, as referenced in rules 8.D.(2) and 8.D.(3) of these Regulations, in accordance with RIDEM's most current "Site-Specific Aquatic Life Water Quality Criteria Development Policy"; EPA's "Interim Guidance on Determination and Use of Water Effect Ratios for Metals, EPA-823-B-94-001, February 1994, and subsequent site specific criteria modification guidance documents published in a memo from Jeanette Wiltse, Director of EPA's Health and Ecological Criteria Division on December 3, 1997; and EPA's Streamlined Water Effect Ration Procedure for Discharges of Copper, EPA-822-R-01-005, March 2001. Aquatic life guidelines may be modified by adding to the database following the procedures outlined on page B-4 of this Appendix. Human health criteria are subject to site-specific criteria development utilizing the methodology in the EPA guidance manual, "Assessing Human Health Risk from Chemically-Contaminated Fish and Shellfish" (EPA - 503/8-89-002), and the methodology published in the Federal Register on November 28, 1980 (45 FR 79347) entitled "Water Quality Criteria Documents; Availability, Appendix C - Guidelines and Methodology used in Preparation of Health Effect Assessment Chapters of the Consent Decree Water Criteria Documents", or the most recent EPA documentation.

In addition to these criteria and guidelines, Table 5 of this Appendix contains a complete list of "priority pollutants".

II. Aquatic Life Criteria

The aquatic life criteria in Table 1 represents the EPA water quality criteria for the protection of aquatic life, pursuant to Section 304(a) of the CWA, for acute and chronic exposure to toxics in freshwater and saltwater. These toxics are priority metals, organics, pesticides, PCBs and cyanide. To protect aquatic

life, the one hour average concentration of a pollutant should not exceed the acute criteria more than once every three years on the average. An exclusion to this rule are the pesticides and PCBs acute criteria which are considered instantaneous values (See footnote $ to Table 1). The four day average concentration of a pollutant should not exceed the chronic criteria more than once every three years on the average. These aquatic life criteria shall be achieved in all waters, except mixing zones, regardless of the waters' classification.

The acute and chronic aquatic life criteria for freshwaters shall not be exceeded at or above the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years (7Q10). For non-flowing freshwaters, the acute and chronic aquatic life criteria shall not be exceed under the most adverse conditions which will be determined on a case-by case basis.

The acute and chronic aquatic life criteria for seawater shall not be exceeded beyond the boundary of the mixing zone(s), as defined and determined by rules 8.D.(1).e. and 8.D.(1).f. of the Water Quality Regulations, and thence throughout the waterbody. If a mixing zone has not been established, these criteria shall not be exceeded in any portion of the receiving water.

For purposes of calculating freshwater aquatic life criteria for metals from the equations in Table 2, the ambient hardness values shall be used, and shall be consistent with the design flow conditions established in rules 8.D. and 8.E. of the Regulations. For waters in which the salinity is equal to or less than one part per thousand, the applicable criteria are the freshwater criteria. For waters in which the salinity is equal to or greater than ten parts per thousand, the applicable criteria are the saltwater criteria. For waters in which the salinity is between one and ten parts per thousand (brackish), the applicable criteria are the more stringent of the freshwater or saltwater criteria. However, for those waters between one and ten parts per thousand (brackish), the Department may deviate from the general rule if scientifically defensible information and data demonstrates that on a site-specific basis the biology of the waterbody is dominated by freshwater aquatic life and that freshwater criteria are more appropriate; or conversely, the biology of the waterbody is dominated by saltwater aquatic life and that saltwater criteria are more appropriate.

The acute and chronic freshwater criteria for 10 metals and the acute and chronic saltwater criteria for 11 metals listed in Table 1 are presented as dissolved metal criteria (see footnotes #5 and #6 on Table 1). For these metals, the dissolved metal, as opposed to the total recoverable metal, more closely approximates the bioavailable fraction of the metal in the water column. The conversion factors (CF) to calculate dissolved metal from total metal concentrations as listed in footnotes #5 and #6 are based on current EPA guidance (Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria, October 1, 1993; "Derivation of Correction Factors for the Calculation of Dissolved Freshwater Aquatic Life Criteria for Metals", Stephan, USEPA, March 31, 1995; "Derivation of Conversion Factors for the Calculation of Dissolved Saltwater Aquatic Life Criteria for Metals", USEPA, March 31, 1995; Federal Register, Vol. 60, No. 68, Thursday May 4, 1995, p. 22228-22237) and are subject to change as more data becomes available. The formulas used for calculating dissolved metals criteria are presented in Table 2.

III. Site Specific Criteria

Section 131.11(b)(1)(ii) of the Federal water quality standards regulation provides States with the opportunity to adopt water quality criteria that are modified to reflect local environmental conditions. Following the procedures outlined in RIDEM's "Site Specific Aquatic Life Water Quality Criteria Development Policy", as amended, and EPA's "Interim Guidance on Determination and Use of Water-Effect Ratios for Metals", (February 1994, EPA-823-B-94-001), acute Water Effect Ratios (WERs) were

developed for 5 metals; cadmium, copper, lead, silver and zinc (Table 4). The WER procedure provides for the use of a WER that is intended to take into account relevant differences between the toxicities of the chemical in laboratory dilution water and in site water. These WERs are then used to derive acute site specific criteria from the State aquatic life criteria as indicated in Table 4. Chronic site specific criteria are then calculated using the derived acute site specific criteria, as indicated in Table 4. The "RI Site Specific Criteria Development Policy" and the WER procedures were applied using total recoverable metals and therefore, the calculated site specific criteria are in the form of total recoverable metals. The conversion factors for converting total recoverable metal criteria to dissolved metal criteria cannot be applied to these site specific criteria.

The criteria derived from these WERs (Table 4), and therefore not the criteria listed in Tables 1 and 2, apply to the segments of the Pawtuxet River classified as B1 (see Appendix A).

IV. Freshwater Minimum Data Base Guidelines

RIDEM has derived freshwater guidelines for many pollutants for which EPA water quality criteria are not available. In order for guidelines to be derived, the toxicity data base for the pollutants must meet minimum requirements. These guidelines are given in Table 1 and are marked with an asterisk (*).

The data base must contain at least two acute toxicity test results expressed as either an EC_{50} or an LC_{50} as specified in the EPA Water Quality Criteria Guidelines (45 FR 79343, 1980 and amendments). "LC_{50}" is defined as the concentration of a test material in a suitable diluent at which 50 percent of the exposed organisms die during a specified time period. "EC_{50}" is defined as the concentration of a test material in a suitable diluent at which 50 percent of the exposed organisms exhibit a specified response during a specified time period.
The two acute toxicity test results shall consist of:

1. One daphnid (D. magna or D. pulex)

2. One fish, either:

    (a) fathead minnow (Pimephales promelas)

    (b) bluegill (Lepomis macrochirus)

    (c) rainbow trout (Salmo gairdneri)

For every pollutant which meets these minimum data requirements, acute and chronic guidelines are derived using the following equations:

Lowest LC_{50} or EC_{50} x 0.05 = Acute Guideline

Acute Guideline ÷ 45 = Chronic Guideline

The uncertainty factor, 0.05, is intended to provide an adequate margin of safety to protect most aquatic organisms from acutely toxic effects. The uncertainty factor was selected by calculating uncertainty factor guidelines for those pollutants with EPA Water Quality Criteria. These guidelines were most similar to the EPA Water Quality Criteria when an uncertainty factor of 0.05 was used.

The acute guideline is divided by an acute to chronic ratio of 45 to yield the chronic guideline. This ratio

was derived by the State of Michigan using all available acute to chronic values for priority pollutant tests performed on freshwater species. It was determined that 80% of the pollutants would have a geometric mean acute to chronic ratio of 45 or less.

V. Human Health Criteria

The human health criteria in Table 1 represent the highest concentration of a pollutant in surface waters that is not expected to pose a significant risk to human health as determined by EPA. For almost all of the pollutants, bioaccumulation properties are used to assess the relative extent of human exposure to the pollutant either directly through ingestion or indirectly through consumption of aquatic organisms. These criteria represent the chronic criteria necessary to protect human health. As research continues on reference dose factors and cancer potency factors, new or updated human health criteria may be established by EPA and utilized by RIDEM. These new or updated human health criteria are maintained in EPA's electronic database known as Integrated Risk Information System (IRIS) and on the EPA Office of Water's water quality criteria website.

Ambient water quality criteria for human health are primarily based on two types of biological endpoints: (1) carcinogenicity and; (2) toxicity (i.e., all other adverse effects other than cancer). There are essentially two procedures for assessing health effects; one which addresses carcinogens and one which addresses non-carcinogens. The reason for having two methodologies is that, for the purpose of deriving ambient water quality criteria, carcinogenicity is regarded as a non-threshold phenomenon, whereas toxicity is regarded as having a threshold below which there will not be an effect. For those toxic substances which are identified as carcinogens, the criteria have been established at a risk level of 10^{-5} assuming a lifetime exposure to a 70 kg male consuming 17.5 grams per day of fish and shellfish product and ingesting 2.0 liters of water per day. For those toxic substances which are identified as non-carcinogens, the human health criteria are best estimates of concentrations which are not expected to produce adverse effects in human health assuming a lifetime exposure of a 70 kg male consuming 17.5 grams per day of fish and shellfish products and ingesting 2.0 liters of water per day.

Human health criteria represent ambient pollutant concentrations that are acceptable based on a lifetime (70 years) of exposure. Accordingly, the concentration of these pollutants should not exceed criteria under stream conditions that represent long-term average conditions. The stream design flow to be used to implement both carcinogen and noncarcinogen human health criteria is the harmonic mean flow which is a long term mean flow value calculated by dividing the number of daily flows analyzed by the sum of the reciprocals of those daily flows. For non-flowing freshwaters, the human health criteria shall not be exceed under the most adverse conditions which will be determined on a case-by case basis. For seawaters, the ambient human health water quality criteria for carcinogens and non-carcinogens are applicable when the most adverse hydrographic and pollution conditions occur at the particular point of evaluation.

VI. Priority Pollutants Without Criteria or Guidelines

Any pollutant listed on the most recent EPA priority pollutant list published in accordance with Section 307(a)(1) of the Clean Water Act (Table 5 of this Appendix) or additional criteria EPA has established for non-priority pollutants, for which there is no RIDEM ambient water quality criteria or guideline, shall be regulated in accordance with rules 8.D.(2) and 8.D.(3) of the Regulations.

Table 1. RIDEM Ambient Water Quality Criteria and Guidelines

CHEMICAL NAME	CAS Number	AQUATIC LIFE CRITERIA (µg/l) FRESHWATER ACUTE	FRESHWATER CHRONIC	SALTWATER ACUTE	SALTWATER CHRONIC	CARCINOGEN ?	HUMAN HEALTH CRITERIA (ug/l)[2] For Consumption of: Water and Aquatic Organisms	Aquatic Organisms Only
PRIORITY POLLUTANTS:								
TOXIC METALS & CYANIDE								
ANTIMONY	7440360	450*	10*	-	-	no	5.6	640
ARSENIC [5,6]	7440382	340	150	69	36	yes	0.18	1.4
ASBESTOS	1332214	-	-	-	-	yes	$7x10^6$ fibers/l	
BERYLLIUM	7440417	7.5*	0.17*	-	-	yes	-	-
CADMIUM [5,6]	7440439	@	@	40	8.8	no	-	-
CHROMIUM III [5]	16065831	@	@	-	-	no	-	-
CHROMIUM VI [5,6]	18540299	16	11	1100	50	no	-	-
COPPER [5,6]	7440508	@	@	4.8	3.1	no	1300	-
CYANIDE	57125	22	5.2	1.0	1.0	no	140	140
LEAD [5,6]	7439921	@	@	210	8.1	no	-	-
MERCURY [5,6]	7439976	1.4	0.77	1.8	0.94	no	0.14	0.15
NICKEL [5,6]	7440020	@	@	74	8.2	no	610	4600
SELENIUM [6]	7782492	20	5	290	71	no	170	4200
SILVER [5,6]	7440224	@	-	1.9	-	no	-	-
THALLIUM	7440280	46*	1.0*	-	-	no	0.24	0.47
ZINC [5,6]	7440666	@	@	90	81	no	7400	26000
VOLATILE ORGANIC COMPOUNDS								
ACROLEIN	107028	2.9*	0.06*	-	-	no	190	290
ACRYLONITRILE	107131	378*	8.4*	-	-	yes	0.51	2.5
BENZENE	71432	265*	5.9*	-	-	yes	22	510
BROMOFORM	75252	1465*	33*	-	-	yes	43	1400

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CARBON TETRACHLORIDE	56235	1365*	30*	-	-	yes	2.3	16
CHLOROBENZENE	108907	795*	18*	-	-	no	130	1600
CHLORODIBROMOMETHANE	124481						4.0	130
CHLOROFORM	67663	1445*	32*	-	-	yes	57	4700
DICHLOROBROMOMETHANE	75274	-	-	-	-	yes	5.5	170
1,2-DICHLOROETHANE	107062	5900*	131*	-	-	yes	3.8	370-
1,1-DICHLOROETHYLENE	75354	580*	13*	-	-	yes	330	7100
1,2-DICHLOROPROPANE	78875	2625*	58*	-	-	yes	5.0	150
1,3-DICHLOROPROPENE	542756	-	-	-	-	no	0.34	21
ETHYLBENZENE	100414	1600*	36*	-	-	no	530	2100
METHYL BROMIDE	74839	-	-	-	-	no	47	1500
METHYL CHLORIDE	74873	-	-	-	-	yes	-	-
METHYLENE CHLORIDE	75092	9650*	214*	-	-	yes	46	5900
1,1,2,2-TETRACHLOROETHANE	79345	466*	10*	-	-	yes	1.7	40
TETRACHLOROETHYLENE	127184	240*	5.3*	-	-	yes	6.9	33
TOLUENE	108883	635*	14*	-	-	no	1300	15 mg/l
1,2-TRANS-DICHLOROETHYLENE	156605	-	-	-	-	no	140	10 mg/l
1,1,1-TRICHLOROETHANE	71556	-	-	-	-	no	-	-
1,1,2-TRICHLOROETHANE	79005	900*	20*	-	-	yes	5.9	160
TRICHLOROETHYLENE	79016	1950*	43*	-	-	yes	25	300
VINYL CHLORIDE	75014	-	-	-	-	yes	0.025	2.4
ACID ORGANIC COMPOUNDS								
2-CHLOROPHENOL	95578	129*	2.9*	-	-	no	81	150

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2,4-DICHLOROPHENOL	120832	101*	2.2*	-	-	no	77	290
2,4-DIMETHYLPHENOL	105679	106*	2.4*	-	-	no	380	850
2-METHYL-4,6-DINITROPHENOL	534521						13	280
2,4-DINITROPHENOL	51285	31*	0.69*	-	-	no	69	5300
4-NITROPHENOL	88755	-	-	-	-		-	-
PENTACHLOROPHENOL	87865	@	@	13	7.9	yes	2.7	30
PHENOL	108952	251*	5.6*	-	-	no	21 mg/l	1700 mg/l
2,4,6-TRICHLOROPHENOL	88062	16*	0.36*	-	-	yes	14	24
BASE NEUTRAL COMPOUNDS								
ACENAPHTHENE	83329	85*	1.9*	-	-	no	670	990
ANTHRACENE	120127	-	-	-	-	no	8300	40 mg/l
BENZIDINE	92875	-	-	-	-	yes	0.86 ng/l	2.0 ng/l
POLYCYCLIC AROMATIC HYDROCARBONS[4]		-	-	-	-	yes	0.038	0.18
BIS(2-CHLOROETHYL)ETHER	111444	-	-	-	-	yes	0.30	5.3
BIS(2-CHLOROISOPROPYL)ETHER	108601	-	-	-	-	no	1400	65 mg/l
BIS(2-ETHYLHEXYL)PHTHALATE	117817	555*	12*	-	-	yes	12	22
BUTYL BENZYL PHTHALATE	85687	85*	1.9*			no	1500	1900
2-CHLORONAPHTHALENE	91587	-	-	-	-	no	1000	1600
1,2-DICHLOROBENZENE	95501	79*	1.8*	-	-	no	420	1300
1,3-DICHLOROBENZENE	541731	390*	8.7*	-	-	no	320	960
1,4-DICHLOROBENZENE	106467	56*	1.2*	-	-	no	63	190
3,3-DICHLOROBENZIDENE	91941	-	-	-	-	yes	0.21	0.28
DIETHYL PHTHALATE	84662	2605*	58*	-	-	no	17 mg/l	44 mg/l
DIMETHYL PHTHALATE	131113	1650*	37*	-	-	no	270 mg/l	1.1 g/l

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DI-n-BUTYL PHTHALATE	84742	-	-	-	-	no	2000	4500
2,4-DINITROTOLUENE	121142	1550*	34*	-	-	yes	1.1	34
1,2-DIPHENYLHYDRAZINE	122667	14*	0.31*	-	-	yes	0.36	2.0
FLUORANTHENE	206440	199*	4.4*	-	-	no	130	140
FLUORENE	86737	-	-	-	-	no	1100	5300
HEXACHLOROBENZENE	118741	-	-	-	-	yes	2.8 ng/l	2.9 ng/l
HEXACHLOROBUTADIENE	87683	-	-	-	-	yes	4.4	180
HEXACHLOROCYCLOPENTADIENE	77474	0.35*	0.008*	-	-	no	40	1100
HEXACHLOROETHANE	67721	49*	1.1*	-	-	yes	14	33
ISOPHORONE	78591	5850*	130*	-	-	yes	350	9600
NAPHTHALENE	91203	115*	2.6*	-	-		-	-
NITROBENZENE	98953	1350*	30*	-	-	no	17	690
N-NITROSODIMETHYLAMINE	62759	-	-	-	-	yes	6.9 ng/l	30
N-NITROSODI-N-PROPYLAMINE	621647	-	-	-	-	yes	0.05	5.1
N-NITROSODIPHENYLAMINE	86306	293*	6.5*	-	-	yes	33	60
PYRENE	129000	-	-	-	-	no	830	4000
1,2,4-TRICHLOROBENZENE	120821	75*	1.7*	-	-		35	70
PESTICIDES/PCBs								
ALDRIN	309002	3.0[$]	-	1.3[$]	-	yes	0.49 ng/l	0.5 ng/l
alpha BHC	319846	-	-	-	-	yes	26 ng/l	49 ng/l
beta BHC	319857	-	-	-	-	yes	91 ng/l	170 ng/l
gamma BHC (Lindane)	58899	0.95[$]		0.16[$]	-	yes	0.98	1.8
CHLORDANE	57749	2.4[$]	0.0043	0.09[$]	0.004	yes	8.0 ng/l	8.1 ng/l
4,4-DDT	50293	1.1[$]	0.001	0.13[$]	0.001	yes	2.2 ng/l	2.2 ng/l

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4,4-DDE	72559	-	-	-	-	yes	2.2 ng/l	2.2 ng/l
4,4-DDD	72548	-	-	-	-	yes	3.1 ng/l	3.1 ng/l
DIELDRIN	60571	0.24	0.056	0.71[$]	0.0019	yes	0.52 ng/l	0.54 ng/l
ENDOSULFAN alpha	959988	0.22[$]	0.056	0.034[$]	0.0087	no	62	89
ENDOSULFAN, beta	33213659	0.22[$]	0.056	0.034[$]	0.0087		62	89
ENDOSULFAN (sulfate)	1031078	-	-	-	-	no	62	89
ENDRIN	72208	0.086[$]	0.036	0.037[$]	0.0023	no	0.059	0.06
ENDRIN ALDEHYDE	7421934	-	-	-	-	no	0.29	0.30
HEPTACHLOR	76448	0.52[$]	0.0038	0.053[$]	0.0036	yes	0.79 ng/l	0.79 ng/l
HEPTACHLOR EPOXIDE	1024573	0.52[$]	0.0038	0.053[$]	0.0036	yes	0.39 ng/l	0.39 ng/l
POLYCHLORINATED BIPHENYLS (PCBs)[3]	1336363	-	0.014	-	0.03	yes	0.64 ng/l	0.64 ng/l
2,3,7,8-TCDD (DIOXIN)	1746016	-	-	-	-	yes	5×10^{-8}	5.1×10^{-8}
TOXAPHENE	8001352	0.73	0.0002	0.21	0.0002	yes	2.8 ng/l	2.8 ng/l
TRIBUTYLTIN	**	0.46	0.072	0.42	0.0074	no	-	-
NON PRIORITY POLLUTANTS:								
OTHER SUBSTANCES								
ALUMINUM	7429905	750[■]	87[■]	-	-		-	-
AMMONIA	7664417	#	#	#	#	no	-	-
4-BROMOPHENYL PHENYL ETHER		18*	0.4*	-	-		-	-
CHLORIDE	16887006	860,000	230,000					
CHLORINE	7782505	19	11	13	7.5			
4-CHLORO-2-METHYLPHENOL		15*	0.32*	-	-		-	-
1-CHLORONAPHTHALENE		80*	1.8*	-	-		-	-
4-CHLOROPHENOL	106489	192*	4.3*	-	-		-	-

Table 1. RIDEM Ambient Water Quality Criteria and Guidelines

CHEMICAL NAME	CAS Number	AQUATIC LIFE CRITERIA (µg/l) FRESHWATER ACUTE	FRESHWATER CHRONIC	SALTWATER ACUTE	SALTWATER CHRONIC	CARCINOGEN ?	HUMAN HEALTH CRITERIA (ug/l)[2] For Consumption of: Water and Aquatic Organisms	Aquatic Organisms Only
2,4-DICHLORO-6-METHYLPHENOL		22*	0.48*	-	-		-	-
1,1-DICHLOROPROPANE		1150*	26*	-	-		-	-
1,3-DICHLOROPROPANE	142289	303*	6.7*	-	-		-	-
2,3-DINITROTOLUENE		17*	0.37*	-	-		-	-
2,4-DINITRO-6-METHYL PHENOL		12	0.26	-	-		-	-
IRON	7439896		1000				300	
PENTACHLOROBENZENE	608935	13*	0.28*	-	-		-	-
PENTACHLOROETHANE		362*	8.0*	-	-		-	-
1,2,3,5-TETRACHLOROBENZENE		321*	7.1*	-	-		-	-
1,1,1,2-TETRACHLOROETHANE	630206	980*	22*	-	-		-	-
2,3,4,6-TETRACHLOROPHENOL	58902	7*	0.16*	-	-		-	-
2,3,5,6-TETRACHLOROPHENOL		8.5*	0.19*	-	-		-	-
2,4,5-TRICHLOROPHENOL	95954	23*	0.51*	-	-			
2,4,6-TRINITROPHENOL	88062	4235	94	-	-		-	-
XYLENE	1330207	133 *	3.0 *	-	-			

Table 1 RIDEM Ambient Water Quality Criteria and Guidelines

KEY:

* = RIDEM minimum database guidelines.

** = Only data generated in toxicity and bioconcentration tests on TBTCl (tributyltin chloride; CAS 1461-22-9), TBTF (tributyltin floride; CAS 1983-10-4), TBTO [bis(tributyltin) oxide; CAS 56-35-9], commonly called "tributyltin oxide" and TBTS[bis(tributyltin) sulfide; CAS 4808-30-4], commonly called "tributyltin sulfide" were used in the derivation of the water quality criteria concentrations for aquatic life presented herein. All concentrations from such tests are expressed as TBT, not as tin and not as the chemical tested.

■ = Freshwater criteria for aluminum are for waters in which the pH is between 6.5 and 9

= See Table 3 for ammonia criteria

@ = see Table 2 for criteria equations

- = No criteria recommendation.

$ = The aquatic life criteria for these compounds were issued in 1980 utilizing the 1980 Guidelines for criteria development. The acute values shown are final acute values which, by the 1980 Guidelines, are instantaneous values as contrasted with a Criteria Maximum Concentration (CMC)which is a one-hour average.

[1] = carcinogens calculated at 10^{-5} risk

[2] = criteria are in µg/l unless otherwise noted
µg/l = micrograms/liter
ng/l = nanograms/liter
mg/l = milligrams/liter

[3] = Polychlorinated Biphenyl criteria apply to total PCBs (e.g. the sum of all cogener or all isomer or homolog or Aroclor analyses.)

[4] = Polycyclic Aromatic Hydrocarbons criteria apply to each of the following:

PAH	CAS Number
indeno(1,2,3-cd)pyrene	193395
dibenzo(ah)anthracene	53703
benzo(a)anthracene	56553
benzo(a)pyrene	50328
benzo(b)fluoranthene	205992
benzo(k)fluoranthene	207089
chrysene	218019

(Key is continued on next page)

Key (continued):

[5] = Freshwater values in Table 1 for the following parameters are presented as dissolved criteria using the EPA recommended conversion factors (CF), as listed below:

Metal	Acute CF	Chronic CF
Arsenic	1.000	1.000
Cadmium	1.136672 - [(ln H) x 0.041838]	1.101672 - [(ln H) x 0.041838]
Chromium III	0.316	0.86
Chromium VI	0.982	0.962
Copper	0.96	0.96
Lead	1.46203 - [(ln H) x 0.145712]	1.46203 - [(ln H) x 0.145712]
Mercury	0.85	0.85
Nickel	0.998	0.997
Silver	0.85	(no freshwater criteria)
Zinc	0.978	0.986

NOTE: (ln H) = natural log of Hardness, using any hardness as appropriate.

[6] = Saltwater values in Table 1 for the following parameters are presented as dissolved criteria using the EPA recommended conversion factors, as listed below:

Metal	Conversion Factor
Arsenic	1.000
Cadmium	0.994
Chromium III	(no saltwater criteria)
Chromium VI	0.993
Copper	0.83
Lead	0.951
Mercury	0.85 (see Note below)
Nickel	0.990
Selenium	0.998
Silver	0.85
Zinc	0.946

NOTE: Conversion factors on this table were calculated for acute criteria only. Conversion factors for chronic criteria are not currently available. In the absence of chronic conversion factors saltwater acute conversion factors are used. Chronic criteria for mercury cannot be converted to dissolved because it is based on mercury residues rather than toxicity.

Table 2. Freshwater Criteria Equations and Base e Exponential Values

Parameter	**ACUTE** (µg/l) $CF \times e^{(m_a [\ln \text{Hardness}] + b_a)}$			**CHRONIC** (µg/l) $CF \times e^{(m_c [\ln \text{Hardness}] + b_c)}$		
	CF =	m_a =	b_a =	CF =	m_c =	b_c =
Cadmium	@	1.0166	-3.924	@	0.7409	- 4.719
Chromium III	0.316	0.8190	3.7256	0.86	0.819	0.6848
Copper	0.96	0.9422	-1.700	0.96	0.8545	-1.702
Lead	#	1.273	-1.46	#	1.273	-4.705
Nickel	0.998	0.846	2.255	0.997	0.846	0.0584
Silver	0.85	1.72	-6.52	-	-	-
Zinc	0.978	0.8473	0.884	0.986	0.8473	0.884
Pentachlorophenol*	-	1.005	-4.869	-	1.005	-5.134

- Hardness values are in mg/l as $CaCO_3$

* substitute pH for hardness in the equations for pentachlorophenol

CF = Conversion Factor to calculate dissolved metal from total metal concentrations

[ln H] = natural log of hardness

EXAMPLE:
If you wish to calculate the acute criteria for Copper at a hardness of 30 mg/l, the equation value for $m_a = 0.9422$, $b_a = -1.700$, and CF = 0.96 from Table 2. The acute criteria equation for dissolved Copper is therefore:

$$0.96 \times e^{(0.9422[\ln 30] + (-1.700))} = 4.32$$

Result : The acute criteria for Dissolved Copper at a hardness of 30 mg/l is = 4.32 µg/l

- = no recommended value

@ = Cadmium Conversion Factors:
acute CF = 1.136672 - [(ln H) x 0.041838]
chronic CF = 1.101672 - [(ln H) x 0.041838]

= Lead Conversion Factors:
acute and chronic CF = 1.46203 - [(ln H) x 0.145712]

NOTE: When an ambient hardness of less than 25 mg/L is used to establish criteria for lead or cadmium, the hardness dependent Conversion Factor (CF) should not exceed one.

Table 3 Ammonia Criteria

A. Freshwater

1. Acute Criteria as Total Ammonia Nitrogen (mg N/L)

pH	Acute Criterion with Salmonids present	Acute Criterion with Salmonids absent
6.5	32.6	48.8
6.6	31.3	46.8
6.7	29.8	44.6
6.8	28.1	42.0
6.9	26.2	39.1
7.0	24.1	36.1
7.1	22.0	32.8
7.2	19.7	29.5
7.3	17.5	26.2
7.4	15.4	23.0
7.5	13.3	19.9
7.6	11.4	17.0
7.7	9.65	14.4
7.8	8.11	12.1
7.9	6.77	10.1
8.0	5.62	8.40
8.1	4.64	6.95
8.2	3.83	5.72
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0	0.885	1.32

Table 3. Ammonia Criteria

A. Freshwater

2. Chronic Criteria **for Fish Early Life Stages Present**, mg N/L

Temperature and pH-Dependent Values of the Chronic Criterion for Fish Early Life Stages Present										
pH	Temperature, C									
	0	14	16	18	20	22	24	26	28	30
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

Table 3. Ammonia Criteria

A. Freshwater (continued)

3. Chronic Criteria **for Fish Early Life Stages Absent**, mg N/L

Temperature and pH-Dependent Values of the CCC (Chronic Criterion) for Fish Early Life Stages Absent										
pH	Temperature, C									
	0-7	8	9	10	11	12	13	14	15*	16*
6.5	10.8	10.1	9.51	8.92	8.36	7.84	7.35	6.89	6.46	6.06
6.6	10.7	9.99	9.37	8.79	8.24	7.72	7.24	6.79	6.36	5.97
6.7	10.5	9.81	9.20	8.62	8.08	7.58	7.11	6.66	6.25	5.86
6.8	10.2	9.58	8.98	8.42	7.90	7.40	6.94	6.51	6.10	5.72
6.9	9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33	5.93	5.56
7.0	9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11	5.73	5.37
7.1	9.20	8.63	8.09	8.58	7.11	6.67	6.25	5.86	5.49	5.15
7.2	8.75	8.20	7.69	7.21	6.76	6.34	5.94	5.57	5.22	4.90
7.3	8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25	4.92	4.61
7.4	7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89	4.59	4.30
7.5	7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51	4.23	3.97
7.6	6.46	6.05	5.67	5.32	4.99	4.68	4.38	4.11	3.85	3.61
7.7	5.81	5.45	5.11	4.79	4.49	4.21	3.95	3.70	3.47	3.25
7.8	5.17	4.84	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89
7.9	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	2.71	2.54
8.0	3.95	3.70	3.47	3.26	3.05	2.86	2.68	2.52	2.36	2.21
8.1	3.41	3.19	2.99	2.81	2.63	2.47	2.31	2.17	2.03	1.91
8.2	2.91	2.73	2.56	2.40	2.25	2.11	1.98	1.85	1.74	1.63
8.3	2.47	2.32	2.18	2.04	1.91	1.79	1.68	1.58	1.48	1.39
8.4	2.09	1.96	1.84	1.73	1.62	1.52	1.42	1.33	1.25	1.17
8.5	1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13	1.06	0.990
8.6	1.49	1.40	1.31	1.23	1.15	1.08	1.01	0.951	0.892	0.836
8.7	1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.805	0.754	0.707
8.8	1.07	1.01	0.944	0.885	0.829	0.778	0.729	0.684	0.641	0.601
8.9	0.917	0.86	0.806	0.756	0.709	0.664	0.623	0.584	0.548	0.513
9.0	0.790	0.740	0.694	0.651	0.610	0.572	0.536	0.503	0.471	0.442

At 15 C and above, the criterion for fish ELS absent is the same as the criterion for fish ELS present.

NOTE:

1. Averaging Periods and Frequency of Exceedances

Chronic Criteria - The ambient concentration, averaged over a period of 30 days, shall not exceed the chronic criterion more than once every three years on average. The highest four-day average ambient concentration should not exceed a concentration 2.5 times greater than the chronic criterion.

Acute Criteria - The ambient concentrations, averaged over one hour shall not exceed the acute criterion more than once every three years on average.

Early Life Stage Absent (ELS-Absent) Provision

This provision allows for a relaxation of the chronic criteria when early life stages (ELS) of fish are not present, since, at low ambient water temperatures, adult and juvenile fish are less sensitive to ammonia toxicity than are early life stages of fish. In accordance with EPA's guidance, *1999 Update of Ambient Water Quality Criteria for Ammonia*, it is appropriate to relax the ammonia chronic criterion, as ambient water temperature decreases, in waterbodies where it is determined, to the Director's satisfaction, that early life stages are not present. The chronic criteria applicable when ELS are absent are found in Table 3.A.3. The Director has determined that the ELS-Absent Provision applies, but is not limited, to:

ii. The entire Blackstone River during the period November 1 to April 30.

iii. The main stem of the Pawtuxet River during the period November 1 to April 30.

iv. The Woonasquatucket River from Georgiaville Pond to the confluence with the Moshassuck River during the period November 1 to April 30.

Table 3 continued

B. Saltwater: criteria as total ammonia (mg/l)

1. Acute Water Quality Criteria for Saltwater Aquatic Life Based on Total Ammonia (mg/l). (To convert these values to mg/liter N, multiply by 0.822).

Temperature (˚C)

	0	**5**	**10**	**15**	**20**	**25**	**30**	**35**
pH	**Salinity = 10 g/kg**							
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
	Salinity = 20 g/kg							
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
	Salinity = 30 g/kg							
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

Table 3 continued
B. Saltwater:

2. Chronic Water Quality Criteria for Saltwater Aquatic Life Based on Total Ammonia (mg/l). (To convert these values to mg/liter N, multiply by 0.822).

Temperature (˚C)

	0	**5**	**10**	**15**	**20**	**25**	**30**	**35**
pH	**Salinity = 10 g/kg**							
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
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
	Salinity = 20 g/kg							
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	0.94	0.66	0.47	0.31	0.24
8.4	1.8	1.2	0.84	0.59	0.44	0.30	0.22	0.16
8.6	1.1	0.78	0.56	0.41	0.28	0.20	0.15	0.12
8.8	0.72	0.50	0.37	0.26	0.19	0.14	0.11	0.08
9.0	0.47	0.34	0.24	0.18	0.13	0.10	0.08	0.07
	Salinity = 30 g/kg							
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

Table 4. Freshwater Water Effect Ratios and Site Specific Criteria Equations

Parameter	**Acute** WER x $e^{(m_a [\ln Hardness] + b_a)}$			**Chronic** (Acute Site Specific x 2) ÷ National Acute:Chronic Ratio
	WER[@]	m_a =	b_a =	National Acute:Chronic Ratio
Cadmium	2.2	1.128	-3.828	--
Copper	4.77	0.9422	-1.464	2.823
Lead	0.19	1.273	-1.46	51.29
Silver	2.85	1.72	-6.52	--
Zinc	1.63	0.8473	0.8604	2.208

[@] WER = Water Effect Ratio

-- = no recommended value, use chronic value as calculated in Table 2.

NOTE: 1). Resulting acute and chronic site specific criteria are as total recoverable metals. The conversion factors noted in Tables 1 and 2 cannot be applied to site specific criteria.

2). These WERs and resulting site specific criteria apply only to the segments of the Pawtuxet River classified as B1 (see Appendix A).

Table 5. 126 Priority Pollutants

The following comprise the list of toxic pollutants designated pursuant to Section 307(a)(1) of the Act

1. acenaphthene
2. acrolein
3. acrylonitrile
4. benzene
5. benzidine
6. carbon tetrachloride (tetrachloromethane)

Chlorinated Benzenes

7. chlorobenzene
8. 1,2,4-trichlorobenzene
9. hexachlorobenzene

Chlorinated Ethanes

10. 1,2-dichloroethane
11. 1,1,1-trichloroethane
12. hexachloroethane
13. 1,1-dichloroethane
14. 1,1,2-trichloroethane
15. 1,1,2,2-tetrachloroethane
16. chloroethane

Chloroalkyl Ethers

17. bis(2-chloroethyl) ether
18. 2-chloroethyl vinyl ether

Chlorinated Napthalene

19. 2-chloronapthalene

Chlorinated Phenols

20. 2,4,6-trichlorophenol
21. 4-chloro-3-methylphenol
22. chloroform (trichloromethane)
23. 2-chlorophenol

Dichlorobenzenes

24. 1,2-dichlorobenzene
25. 1,3-dichlorobenzene
26. 1,4-dichlorobenzene

Dichlorobenzidine

27. 3,3-dichlorobenzidine

Dichloroethylenes

28. 1,1-dichloroethylene
29. 1,2-trans-dichloroethylene
30. 2,4-dichlorophenol

Table 5. 126 Priority Pollutants, cont.

Dichloropropane and Dichloropropene

31. 1,2-dichloropropane
32. 1,3-dichloropropene (cis and trans isomers)

33. 2,4-dimethylphenol

Dinitrotoluene

34. 2,4-dinitrotoluene
35. 2,6-dinitrotoluene

36. 1,2-diphenylhydrazine
37. ethylbenzene
38. fluoranthene

Haloethers

39. 4-chlorophenyl phenyl ether
40. 4-bromophenyl phenyl ether
41. bis(2-chloroisopropyl) ether
42. bis(2-chlorethoxy) methane

Halomethanes

43. methylene chloride (dichloromethane)
44. methyl chloride (chloromethane)
45. methyl bromide (bromomethane)
46. bromoform (tribromomethane)
47. dichlorobromomethane
48. chlorodibromomethane

49. hexachlorobutadiene
50. hexachlorocyclopentadiene
51. isophorone
52. naphthalene
53. nitrobenzene

Nitrophenols

54. 2-nitrophenol
55. 4-nitrophenol
56. 2,4-dinitrophenol

57. 4,6-dinitro-2-methylphenol

Nitrosamines

58. N-nitrosodimethylamine
59. N-nitrosodiphenylamine
60. N-nitrosodi-n-propylamine

61. pentachlorophenol
62. phenol

Table 5. 126 Priority Pollutants, cont.

Phthalate Esters

63. bis-(2-ethylhexyl) phthalate
64. butyl benzyl phthalate
65. di-n-butyl phthalate
66. di-n-octyl phthalate
67. diethly phthalate
68. dimethyl phthalate

Polynuclear Aromatic Hydrocarbons

69. benzo(a)anthracene (1,2-benzanthracene)
70. benzo(a)pyrene (3,4-benzopyrene)
71. 3,4-benzofluoranthene
72. benzo(k)fluorathene (11,12-benzofluoranthene)
73. chrysene
74. acenaphthylene
75. anthracene
76. benzo(ghi)perylene (1,12-benzoperylene)
77. fluorene
78. phenanthrene
79. dibenzo(ah)anthracene (1,2,5,6-dibenzanthracene)
80. indeno (1,2,3-cd) pyrene (2,3-o-phenylenepyrene)
81. pyrene

82. tetrachloroethylene
83. toluene
84. trichloroethylene
85. vinyl chloride (chloroethylene)

Pesticides and Metabolites

86. aldrin
87. dieldrin
88. chlordane (technical mixture and metabolites)

DDT and Metabolites

89. 4,4' -DDT
90. 4,4' -DDE (p.p' -DDE)
91. 4,4' -DDD (p.p' -TDE)

Endosulfan and Metabolites

92. a-endosulfan-Alpha
93. b-endosulfan-Beta
94. endosulfan sulfate

Endrin and Metabolites

95. endrin
96. endrin aldehyde

Heptachlor and Metabolites

97. heptachlor
98. heptachlor epoxide

Table 5. 126 Priority Pollutants, cont.

Hexachlorocyclohexane

99. a-BHC-Alpha
100. b-BHC-Beta
101. g-BHC (lindane) Gamma
102. d-BHC-Delta

Polychlorinated Biphenyls (PCBs)

103. PCB-1242 (Arochlor 1242)
104. PCB-1254 (Arochlor 1254)
105. PCB-1221 (Arochlor 1221)
106. PCB-1232 (Arochlor 1232)
107. PCB-1248 (Arochlor 1248)
108. PCB-1260 (Arochlor 1260)
109. PCB-1016 (Arochlor 1016)
110. toxaphene

Metals, Asbestos and Cyanide

111. antimony and compounds
112. arsenic and compounds
113. asbestos
114. beryllium and compounds
115. cadmium and compounds
116. chromium and compounds
117. copper and compounds
118. cyanides
119. lead and compounds
120. mercury and compounds
121. nickel and compounds
122. selenium and compounds
123. silver and compounds
124. thallium and compounds
125. zinc and compounds
126. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WATER RESOURCES

APPENDIX C

POLICY ON THE IMPLEMENTATION OF THE ANTIDEGRADATION PROVISIONS OF THE RHODE ISLAND WATER QUALITY REGULATIONS

July 2006

WATER QUALITY REGULATIONS
APPENDIX C

I. Introduction - Antidegradation Standard

Rule 18 of the Rhode Island Water Quality Regulations is based on the Federal Antidegradation Policy requirements (40 CFR 131.12) and adopted under the authority of Chapter 46-12, 42-17.1 and 42-35 of the General Laws of Rhode Island, as amended. Antidegradation is one of the minimum elements required in State Water Quality Standards. The provisions of the State Antidegradation Regulations have as their objective the maintenance and protection of various levels of water quality and uses. The Rhode Island Antidegradation provisions consist of four (4) tiers of water quality protection which are defined in general terms below and in more specific terms in subsequent sections of this policy:

Tier 1 - Protection of Existing Uses - In all surface waters, existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

Tier 2 - Protection of Water Quality in High Quality Waters - In waters where the existing water quality exceeds levels necessary to support propagation of fish and wildlife, and recreation in and on the water, that quality shall be maintained and protected, except for insignificant changes in water quality as determined by the Director and in accordance with this Antidegradation Implementation Policy, as amended. In addition, the Director may allow significant degradation which is determined to be necessary to achieve important economic or social benefits to the State, in accordance with this Antidegradation Implementation Policy, as amended.

Tier 2½ - Protection of Water Quality for SRPWs - Where high quality waters constitute a SRPW, there shall be no measurable degradation of the existing water quality necessary to protect the characteristic(s) which cause the waterbody to be designated as an SRPW. Notwithstanding that all public drinking water supplies are SRPWs, public drinking water suppliers may undertake temporary and short term activities within the boundary perimeter of a public drinking water supply impoundment for essential maintenance or to address emergency conditions in order to prevent adverse effects on public health or safety, provided that these activities comply with the requirements set forth in Rule 18.B. (Tier 1 Protection of Existing Uses) and Rule 18.C. (Tier 2 Protection of Water Quality in High Quality Waters).

Tier 3 - Protection of Water Quality for ONRWs - Where high quality waters constitute an Outstanding National Resource, that water quality shall be maintained and protected. The State may allow some limited activities that result in temporary and short-term changes in the water quality of an ONRW. Such activities must not permanently degrade water quality or result in water quality lower than that necessary to protect the existing uses in the ONRW.

II. Applicability

Antidegradation applies to all new or increased projects or activities which may lower water quality or affect existing water uses, including but not limited to all 401 Water Quality Certification reviews and any new, reissued, or modified RIPDES permits. This Antidegradation Implementation Policy describes the general strategy the State will use to determine on a case-by-case basis whether, and to what extent, water quality may be lowered.

III. Definitions

"Assimilative Capacity" means the amount of a pollutant or pollutants that can safely be released to a waterbody or segment of a waterbody under the most adverse conditions, as defined in Rule 8.E. of the Water Quality Regulations, which will not cause any violations of applicable water quality criteria nor cause measurable harm or alteration to the natural biological community found therein.

"Background" means the water quality upstream of all point and nonpoint sources of pollution.

"Best Management Practices (BMPs)" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of and impacts upon waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

"Best Professional Judgement (BPJ)" means a determination, based on best engineering and/or scientific practices and best management practices, involving any pollutant, combination of pollutants or practice(s), on a case-by-case basis, which is determined by the Director to be necessary to carry out the provisions of the Clean Water Act and any applicable chapters of the General laws of Rhode Island. BPJ can be used to set Best Available Technology Economically Achievable, Best Conventional Pollutant Control Technology, Best Practicable Control Currently Available or BMP limitations pursuant to the Clean Water Act either in the absence of an applicable promulgated effluent guideline or where promulgated effluent limitation guidelines only apply to certain aspects of the discharge's operation or to certain pollutants.

"Designated Uses" are those uses specified in water quality standards for each waterbody or segment whether or not they are being attained. In no case shall assimilation or transport of pollutants be considered a designated use.

"Existing use" means those designated uses and any other uses that do not impair the designated uses and that are actually attained in a waterbody on or after November 28, 1975; except that in no case shall assimilation or transport of pollutants be considered an existing use.

"High Quality Waters" include all Class A and SA surface waters as well as other surface waters whose quality exceeds the minimum water quality criteria for any State aquatic life and/or human health criteria or water quality standards assigned to them; or whose

qualities and characteristics make them critical to the propagation or survival of important living natural resources; or those waters constituting a Special Resource Protection Water or an Outstanding National Resource Water.

"Outstanding National Resource Waters (ONRWs)" are surface waters of National and State Parks, Wildlife Refuges, and other such waters designated as having special recreational or ecological value.

"Public Drinking Water Supplier" means any city, town, district, or other municipal, public, private corporation or company, or non-profit entity authorized to engage in the collection and treatment of surface water for the purposes of distribution of drinking water in Rhode Island and whose source of drinking water is a surface water in Rhode Island.

"Public Drinking Water Supply" means the source of surface water for a public drinking water supplier.

"Special Resource Protection Waters (SRPW)" are surface waters identified by the Director as having significant recreational or ecological uses, and may include but are not limited to: wildlife refuge or management areas; public drinking water supplies; State and Federal parks; State and Federal designated Estuarine Sanctuary Areas; waterbodies containing critical habitats, including but not limited to waterbodies identified by the RIDEM Natural Heritage Program as critical habitat for rare or endangered species; wetland types or specific wetlands listed as rare, threatened, endangered, of special interest or of special concern by the Rhode Island Natural Heritage Program; waterbodies identified by the U. S. Department of the Interior on the Final List of Rivers for potential inclusion in the National Wild and Scenic Rivers System.

"Water Quality Criteria" means elements of the State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use.

"Water Quality Standard" means provisions of State or Federal law which consists of a designated use(s) and water quality criteria for the waters of the State. Water quality standards also consist of an antidegradation policy.

IV. Preconditions for Implementation of Antidegradation Procedures

A. At the onset of the antidegradation review, a determination by the State, of whether the proposed activity can be considered a new or increased activity, must be made.

1. A new activity in terms of application of this Antidegradation Implementation Policy shall refer to any activity which commenced after November 28, 1975.

2. An increased activity shall refer to:

(a). a proposed increase in loadings to a waterbody. For discharges

covered by existing RIPDES permits an evaluation of an increased loading shall constitute a comparison of the present permit limit with the newly calculated permit limit. If the new permit limit is less than or equal to the old limit, it would not be considered an increased activity. If the comparison indicates that the new permit limit is greater than the old limit, it would be considered an increased activity.

(b). an increase in a flow alteration over the existing use.

If the above evaluations result in a determination that the proposed activity is not a new or increased activity, then there would be no further review of the proposed activity under the Antidegradation Implementation Policy. If the above evaluations result in a determination that the proposed activity is a new or increased activity, then the activity will be reviewed for consistency with this Antidegradation Implementation Policy.

V. Tier 1 - Protection of Existing Uses

A. General

This provision applies to all surface waters. An existing use can be established by demonstrating that a use(s) has actually occurred since November 28, 1975, and the water quality is suitable to allow the existing use or by demonstrating that although a designated use(s) has not occurred the water quality is suitable to allow such a use(s) to occur, unless there are physical problems which prevent the use and which cannot be remedied. Under Tier 1, a proposed activity or discharge cannot partially or completely eliminate any existing uses nor the water quality needed to maintain and protect those uses. In addition, the proposed activity cannot violate the class-specific criteria for minimum water quality of the assigned water quality standard of a waterbody. The more stringent of instream aquatic life criteria or applicable human health criteria for toxic pollutants must be met in all waters, regardless of the classification. The Department may make requests for evidence/data for applications of proposed activities or discharges in accordance with Section VI.B.3. of this policy.

VI. Tier 2 - Protection of Water Quality in High Quality Waters

A. General

In a waterbody where, for any parameter, the existing water quality exceeds that level necessary to support the propagation of fish and wildlife and recreation in and on the waters, regardless of the use designation, that water shall be considered high quality for that parameter. All parameters do not need to be better quality than the ambient criteria for the water to be deemed a "high quality water". Instead, a waterbody is assessed as being high quality on a parameter-by-parameter basis.

That high quality shall be maintained and protected, except for insignificant changes in water quality as determined by the Director and in accordance with

this Antidegradation Implementation Policy, as amended (See Section VI.B. below). Significant changes in water quality may be allowed if it can be proven to the Director by a preponderance of clear and scientifically valid evidence having a probative value, and the Director finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the RI Continuing Planning Process, that allowing the water quality degradation is necessary to accommodate important economic and social benefit in the area in which the receiving waters are located (See Section VI.C below). In allowing a change in water quality, significant or insignificant, all reasonable measures to minimize the change shall be implemented.

In allowing any such significant change in water quality, the Director shall assure water quality adequate to fully protect existing and designated uses. Adequate scientifically valid documentation shall demonstrate that existing and designated uses, water quality to protect those uses, and all applicable water quality standards, will be fully protected. Further, achievement of the highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint source controls, shall be assured.

If the waterbody is a Special Resource Protection Water (SRPW), a special subset of High Quality Waters, additional requirements appear in Tier 2½ of this Antidegradation Policy.

If the waterbody is an Outstanding National Resource Water (ONRW), a special subset of High Quality Waters, additional requirements appear in Tier 3 of this Antidegradation Policy.

B. Assessment of protection of high quality waters consists of the following processes:

1. Assess waterbody for high quality on a parameter-by-parameter basis: This step involves characterizing the existing instream water quality and comparing that to the State's instream water quality criteria to assess for high quality water on a parameter-by-parameter basis.

   Instream water quality is characterized by the applicable flows associated with the most adverse conditions as stated in Rule 8.E. of these Regulations, background water quality levels (as determined by the Director), and all point source loadings and nonpoint source contributions and in accordance with Rule 10.B. of these Regulations.

   If this analysis indicates that the water is not high quality, then Tier 1 of the policy is the applicable level of protection.

   If this analysis indicates that the water is high quality, then continue with the Tier 2 antidegradation evaluation.

2. Define the remaining assimilative capacity of the receiving water: The remaining assimilative capacity or buffer of the receiving water is

equivalent to the difference between the State's instream water quality criteria and the existing instream water quality.

3. Request and obtain evidence/data for applications involving activities potentially impacting High Quality Waters: If it is determined that a high quality water is involved in a request for an approval of a discharge or other activity, and sufficient supplemental data is not available, RIDEM may request that the applicant provide, at a minimum, the following information prepared by a qualified professional. All engineering analyses and documentation must be prepared, stamped, and signed by a professional engineer registered in the State pursuant to Chapter 5-8 of the of the General Laws of Rhode Island of 1956, as amended. All biological and scientific analyses and documentation shall be prepared by individuals qualified in the scientific field.

   a. Adequate recent instream water quality data, and engineering analyses to calculate probable water quality impacts due to the discharge or activity, and evidence that the existing instream water uses, and the level of water quality necessary to protect those uses will be maintained and protected.

   b. Adequate scientific/engineering-based evidence describing the magnitude and duration of any lowering of water quality due to the discharge or activity by itself, and in combination with other discharges or activities presently occurring. Such evidence must also show that all water quality criteria applicable to the High Quality Water in question will not be violated.

   c. All documentation required by any other applicable RI Water Quality Regulation or which the Director determines is necessary.

   Where RIDEM determines that the information/documentation provided by the applicant is insufficient to make a valid determination, the Department has the authority to require additional information from the applicant before a decision is made. Failure to provide the required information shall result in denial of all approvals for the activity or discharge.

4. Determine if the discharge or activity will significantly impact the waterbody: For any water quality parameter, increments of water quality within any High Quality Water which exceed the minimum water quality criteria of that water's assigned water quality standard, constitute an important public resource to the State. Degradation of such increments by the applicant shall only be allowed if the extent of degradation expected can be adequately documented, and it can be demonstrated by the applicant through full intergovernmental coordination and public participation process that the discharge or activity is necessary to achieve important economic or social benefit to the State, as required in VI.A above.

Theoretically, any new or increased discharge or activity could lower existing water quality and thus require the important benefit demonstration. However, RIDEM will: 1) evaluate applications on a case-by-case basis, using BPJ and all pertinent and available facts, including scientific and technical data and calculations as provided by the applicant; and 2) determine whether the incremental loss is significant enough to require the important benefits demonstration described below. Some of the considerations which will be made to determine if an impact is significant in each site specific decision are: 1) percent change in water quality parameter value and their temporal distribution; 2) quality and value of the resource; 3) cumulative impact of discharges and activities on water quality to-date; 4) measurability of the change; 5) visibility of the change; 6) impact on fish and wildlife habitat; and 7) impact on potential and existing uses.

As a general guide, any discharge or activity which consumes greater than 20% of the remaining assimilative capacity (See Section VI.B.2) will be considered a significant impact and will be required to demonstrate important economic or social benefits to justify the activity (See Section VI.C. below). However, on a case-by-case basis, any proposed percent consumption of the remaining assimilative capacity may be deemed significant and invoke full requirements to demonstrate important economic or social benefits. (For example, Class A waters allow a maximum level of 5 mg/l of parameter X at any time. If a High Quality Water has an actual maximum level of 4 mg/l of parameter X, there is an assimilative capacity of 1 mg/l of parameter X. Following the above guidance, any activity which is projected to increase the level of parameter X by greater than 20% of this 1 mg/l assimilative capacity (= 0.2 mg/l) under the most adverse conditions, must go through the demonstration of important economic or social benefit.)

C. Demonstration that the discharge or activity is necessary to achieve important economic or social benefits to the State:

When the Department determines from BPJ and documentation provided by the applicant that a proposed new or increased discharge or activity would result in a significant impact to the existing water quality of a High Quality waterbody, the Department requires that the applicant demonstrate by a preponderance of clear and scientifically valid evidence having a probative value that the discharge or activity is necessary to achieve important economic or social benefits to the State. The applicant shall submit evidence to the Department, including but not limited to:

1. Adequate scientific and technical evidence describing the magnitude and duration of the lowering of water quality.

2. Adequate evidence detailing the extent of the important economic or social benefits that will accrue to the State from the proposed activity.

3. Adequate scientific and technical evidence which demonstrates that the discharge or activity is necessary and methods of alternative production, alternative methods of treatment, or alternative sites for the activity will not achieve the important social or economic benefits.

Where RIDEM determines that the information/documentation provided by the applicant is insufficient to make a valid determination, the Department has authority to require additional information from the applicant before a decision is made.

Upon receipt and review of the applicant's antidegradation socioeconomic benefits demonstration, the Department may either determine that the significant change in water quality is not necessary to provide important economic or social benefit and deny the proposed new or increased discharge, or tentatively accept the demonstration and provide the opportunity for public comment on the action that may lower water quality in a high quality waterbody. The public participation requirement will be met by providing the public with the opportunity to comment and the opportunity to request a public hearing (See Section VI.D. below).

D. Public Participation:

When the Department determines that a proposed new or increased discharge or activity would result in either significant or insignificant impacts to the existing water quality of any High Quality waterbody, the Department will cause and approve public notice to be given by the applicant, in accordance with Rhode Island General Laws 42-35, and said notice shall include: 1) description of the proposed activity; 2) statement of the State's antidegradation policy and how the activity complies with the State's policy; 3) a determination that existing uses will be maintained and protected; 4) summary of the expected water quality impact; 5) summary of the important economic or social benefits to the State. The notice shall invite written comments to be submitted to DEM, Water Resources, and shall provide an opportunity to request a public hearing. For RIPDES permit related activities, this public notice may be a part of the normal public participation procedures involved with the issuance of a RIPDES permit. Intergovernmental coordination and review will be fulfilled by submitting a copy of the public notice to the following agencies, requesting comment to be submitted to DEM, Water Resources by the public comment deadline.

State Agencies
RIDEM - Fish and Wildlife; Environmental Coordination; Groundwater and ISDS; Freshwater Wetlands; Water Supply Management; Natural Heritage Program.

Governor's Policy Planning Office; RI Division of Statewide Planning, Department of Administration; RI Water Resources Board; RI Department of Economic Development; RI Office of Drinking Water Quality, Department of Health; RI Coastal Resources Management Council (if applicable).

Federal Agencies
US EPA Region I; US Army Corps of Engineers; US Fish and Wildlife Service; National Marine Fisheries Service; National Park Service.

Once all public comment has been received (following the comment deadline), the Director of RIDEM or the Director's designee will respond to all significant comments. If significant evidence of need in terms of public interest, significant new technical information, or significant and valid disagreement as to technical conclusions exist, the Director or the Director's designee will hold a public hearing.

Following this public participation process, the Director or the Director's designee will render a decision as to the allowance or denial for such activity to take place. If the application is denied, the applicant may 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.

VII. Tier 2½ - Protection of Water Quality for SRPWs

Special Resource Protection Waters (SRPWs) are a special subset of High Quality Waters. SRPWs are subject not only to Tier 2 protection but also special protection under Tier 2½ of the Antidegradation Policy. Waterbodies which have been designated as SRPWs are listed in Appendix D of the Water Quality Regulations.

Under Tier 2½, there shall be no measurable degradation of the existing water quality necessary to protect the characteristic(s) which cause the waterbody to be designated as a SRPW. The new or increased discharge or activity will not be allowed unless the applicant can provide adequate scientific and technical documentation and engineering plans which can prove, to the satisfaction of the Director, that specific pollution controls and/or other mitigation measures and BMPs will completely eliminate any measurable impacts to water quality necessary to protect the characteristics which cause the waterbody to be designated a SRPW. If the RIDEM, using BPJ and scientific and technical knowledge of proper modern pollution control engineering practices, agrees that the specified pollution controls and/or BMPs will protect the SRPW from all measurable degradation, those agreed-to measures will be conditions required of the applicant in an approval. Any avoidance of such conditions by the applicant will result in automatic revocation of the approval and potential enforcement action. The burden of proof rests on the applicant. Notwithstanding that all public drinking water supplies are SRPWs, public drinking water suppliers may undertake temporary and short term activities within the boundary perimeter of a public drinking water supply impoundment for essential maintenance or to address emergency conditions in order to prevent adverse effects on public health or safety, provided that these activities comply with the requirements set forth in Rule 18.B. (Tier 1 Protection of Existing Uses) and Rule 18.C. (Tier 2 Protection of Water Quality in High Quality Waters).

VIII. Tier 3 - Protection of Water Quality for ONRWs

Outstanding National Resource Waters (ONRWs) are a special subset of High Quality Waters. ONRWs are subject not only to Tier 2 protection but also special protection under Tier 3 of the Antidegradation Policy.

Under Tier 3, the State cannot allow any degradation of the existing water quality necessary to protect and maintain ONRWs. There shall be no new or increased discharge to ONRWs or to tributaries to ONRWs that would result in lower water quality in the ONRW. However, the State may allow some limited activities that result in temporary and short-term changes in the water quality of an ONRW. Such activities must not permanently degrade water quality or result in water quality lower than that necessary to protect the existing uses in the ONRW. During any period of time when, after opportunity for public participation in the decision, the State allows temporary degradation, all practical means of minimizing such degradation shall be implemented.

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WATER RESOURCES

APPENDIX D

SPECIAL RESOURCE PROTECTION WATERS (SRPWs)

July 2006

WATER QUALITY REGULATIONS
APPENDIX D

Special Resource Protection Waters (SRPWs) are high quality surface waters identified by the Director as having significant ecological or recreational uses, which may include but are not limited to: wildlife refuge or management areas; public drinking water supplies; State and Federal parks; State and Federal designated Estuarine Sanctuary Areas; waterbodies containing critical habitats, which may include but are not limited to waterbodies identified by the RIDEM Natural Heritage Program as critical habitat for rare or endangered species; wetland types or specific wetlands listed as rare, threatened, endangered, of special interest or of special concern by the RI Natural Heritage Program; waterbodies identified by the U.S. Department of the Interior on the Final List of Rivers for potential inclusion in the National Wild and Scenic Rivers System.

The following list contains surface waters of the State which have been designated by the Department as SRPWs. Utilizing criteria set forth in the Rhode Island Water Quality Regulations and information garnered from the review and analyses of recommendations and documents by federal and state agencies and private non-profit organizations, RIDEM objectively established a list of SRPWs. This list of designated SRPWs includes the waterbody name, location and water quality classification for each SRPW. Additional information on SRPWs is available from RIDEM, Water Resources and the RIDEM Natural Heritage Program.

Under Tier 2½ of the Antidegradation Provisions, Protection of Water Quality for SRPWs, the State cannot allow any measurable degradation of the existing water quality necessary to protect the characteristic(s) which cause the waterbody to be designated a SRPW. The new or increased discharge or activity will not be allowed unless the applicant can provide adequate scientific and technical documentation and engineering plans which can prove, to the satisfaction of the Director, that specific pollution controls and/or other mitigation measures and BMPs will completely eliminate any measurable impacts to water quality necessary to protect the characteristics which cause the waterbody to be designated a SRPW. If the RIDEM, using Best Professional Judgement and scientific and technical knowledge of proper modern pollution control engineering practices, agrees that the specified pollution controls and/or BMPs will protect the SRPW from all measurable degradation, those agreed-to measures will be conditions required of the applicant in an approval. Any avoidance of such conditions by the applicant will result in automatic revocation of the approval and potential enforcement action. The burden of proof rests on the applicant. Notwithstanding that all public drinking water supplies are SRPWs, public drinking water suppliers may undertake temporary and short term activities within the boundary perimeter of a public drinking water supply impoundment for essential maintenance or to address emergency conditions in order to prevent adverse effects on public health or safety, provided that these activities comply with the requirements set forth in Rule 18.B. (Tier 1 Protection of Existing Uses) and Rule 18.C. (Tier 2 Protection of Water Quality in High Quality Waters).

Basin Name	Subbasin Name	Waterbody Name	Waterbody ID Number	Town	SRPW Categories										
					Recreation	Ecological Habitat	State Park	Federal Park	State Estuarine Area	Federal Estuarine Area	Critical Habitat (Rare and Endangered Species)	Unique Fresh Water Wetland	Wild & Scenic	Drinking Water Supply	Conservation Area
Blackstone River Basin	Abbott Run Brook & Tribs	Abbott Run Brook	RI0001006R-01	Cumberland										X	
Blackstone River Basin	Abbott Run Brook & Tribs	Ash Swamp	RI0001006R-04	Cumberland		X					X	X			
Blackstone River Basin	Abbott Run Brook & Tribs	Ash Swamp Brook	RI0001006R-04	Cumberland		X					X				
Pawcatuck River Basin	Wood River & Tribs	Asheville Pond	RI0008040L-04	Hopkinton	X		X				X				X
Narragansett Basin	Aquidneck Water Supply & Tribs	Bailey Brook	RI0007035R-01	Middletown										X	
Pawtuxet River Basin	Scituate Reservoir & Tribs	Barden Reservoir	RI0006015L-06	Scituate										X	
Narragansett Basin	Barrington & Runnins Rivers	Barrington River Estuary	RI0007021E-01A/B, RI0007021R-01	Barrington, East Providence	X	X					X				X
Thames River Basin	Beach Pond & Tribs	Beach Pond	RI0005010L-01	Exeter	X		X				X				
Narragansett Basin	West Passage Narragansett Basin	Belleville Pond	RI0007027L-02	North Kingstown	X	X					X				
Pawtuxet River Basin	Big River & Tribs	Big River	RI0006012R-02	West Greenwich		X					X				
Pawcatuck River Basin	Wood River & Tribs	Blue Pond	RI0008040L-03	Hopkinton	X		X				X				X
Thames River Basin	Tribs to Five Mile	Bowdish Reservoir	RI0005047L-03	Glocester	X	X	X				X				
Coastal Waters	Southeast Coastal Ponds	Briggs Marsh	RI0010048E-01	Little Compton		X					X	X			X
Coastal Waters	Sakonnet River	Brown Point Marsh	No WB ID	Little Compton		X									
Coastal Waters	Southwest Coastal Ponds	Cards Pond	RI0010043E-01	South Kingstown				X							
Thames River Basin	Tribs to Five Mile	Cedar Swamp Pond	RI0005047L-05	Burrillville		X					X				
Pawcatuck River Basin	Pawcatuck River & Tribs	Chapman Pond/ Crandall Swamp	RI0008039L-01	Westerly		X					X	X			
Coastal Waters	Southeast Coastal Ponds	Cold Brook	RI0010048R-01	Little Compton							X				
Thames River Basin	Tribs to Five Mile	Cold Spring Brook	RI0005047R-05	Burrillville		X					X				
Thames River Basin	Tribs to Five Mile	Croff Farm Brook	RI0005047R-04	Burrillville		X					X				
Blackstone River Basin	Woonsocket Reservoir #3 & all Tribs	Crookfall Brook	RI0001004R-01	North Smithfield, Cumberland										X	
Coastal Waters	Southwest Coastal Ponds	Deep Pond	RI0010043L-08	Charlestown		X					X	X			

Basin Name	Subbasin Name	Waterbody Name	Waterbody ID Number	Town	SRPW Categories										
					Recreation	Ecological Habitat	State Park	Federal Park	State Estuarine Area	Federal Estuarine Area	Critical Habitat (Rare and Endangered Species)	Unique Fresh Water Wetland	Wild & Scenic	Drinking Water Supply	Conservation Area
Blackstone River Basin	Abbott Run Brook & Tribs	Diamond Hill Reservoir	RI0001006L-01	Cumberland										X	
Pawcatuck River Basin	Wood River & Tribs	Diamond Pond/Bog Complex	RI0008040R-06	Richmond		X					X	X			
Coastal Waters	Sakonnet River	Donovan Marsh	No WB ID	Little Compton		X									
Blackstone River Basin	Abbott Run Brook & Tribs	East Sneech Brook	RI0001006R-03	Cumberland							X			X	
Pawcatuck River Basin	Wood River & Tribs	Ell Pond	RI0008040L-05	Hopkinton	X		X				X				X
Coastal Waters	Southwest Coastal Ponds	Factory Pond	RI0010043L-03	South Kingstown		X					X	X			
Pawcatuck River Basin	Pawcatuck River & Tribs	Fisherville Brook, from headwaters north of Henry Brown Rd. in West Greenwich to Route 102 in Exeter.	Ri0008039R-07	West Greenwich, Exeter		X					X				X
Coastal Waters	Sakonnet River	Fogland Point Marsh	No WB ID	Tiverton		X					X				
Coastal Waters	Block Island Waters	Fresh Pond	RI0010046L-02	New Shoreham										X	
Coastal Waters	Southwest Coastal Ponds	Fresh Pond	No WB ID	Charlestown		X					X				
Coastal Waters	Southwest Coastal Ponds	Galilee Bird Sanctuary	RI0010043E-06A/E	Narragansett, South Kingstown		X	X								
Narragansett Basin	Aquidneck Water Supply & Tribs	Gardiner Pond	RI0007035L-01	Middletown				X						X	X
Pawcatuck River Basin	Pawcatuck River & Tribs	Gennesee Swamp	RI0008039R-08	South Kingstown		X					X				
Narragansett Basin	Greenwich Bay	Gorton Pond	RI0007025L-01	Warwick	X	X					X	X			X
Pawcatuck River Basin	Wood River & Tribs	Grass Pond	No WB ID	Richmond		X					X	X			X
Coastal Waters	Block Island Waters	Great Salt Pond and Marshes	RI0010046E-01A	New Shoreham							X				
Pawcatuck River Basin	Pawcatuck River & Tribs	Great Swamp	RI0008039L-07	South Kingstown		X	X				X				
Coastal Waters	Southwest Coastal Ponds	Green Hill Pond	RI0010043E-02	South Kingstown							X				
Blackstone River Basin	Abbott Run Brook & Tribs	Happy Hollow Pond	RI0001006L-03	Cumberland										X	
Narragansett Basin	Potowomut River	Hunt River	RI0007028R-03B	North Kingstown		X					X				X
Pawtuxet River Basin	Scituate Reservoir & Tribs	Huntinghouse Brook	RI0006015R-11	Scituate		X					X				

Basin Name	Subbasin Name	Waterbody Name	Waterbody ID Number	Town	SRPW Categories										
					Recreation	Ecological Habitat	State Park	Federal Park	State Estuarine Area	Federal Estuarine Area	Critical Habitat (Rare and Endangered Species)	Unique Fresh Water Wetland	Wild & Scenic	Drinking Water Supply	Conservation Area
Narragansett Basin	Jamestown Water Supply	Jamestown Brook	RI0007036R-01	Jamestown										X	
Narragansett Basin	Warren Reservoir	Kickemuit Reservoir	RI0007034L-01	Warren			X							X	X
Narragansett Basin	Aquidneck Water Supply & Tribs	Lawton Valley Reservoir	RI0007035L-06	Portsmouth										X	
Coastal Waters	Southwest Coastal Ponds	Little Maschaug Pond	No WB ID	Westerly							X				
Pawcatuck River Basin	Tidal Pawcatuck River/Little Narragansett Bay	Little Narragansett Bay	RI0008038E-02A/B	Westerly	X						X				
Blackstone River Basin	Abbott Run Brook & Tribs	Long Brook	RI0001006R-02	Cumberland		X					X				
Pawcatuck River Basin	Wood River & Tribs	Long Pond	RI0008040L-20	Hopkinton	X		X				X				X
Coastal Waters	Southeast Coastal Ponds	Long Pond	RI0010048L-01	Little Compton		X					X	X			
Blackstone River Basin	Blackstone River & Tribs	Lonsdale Marsh Complex (Blackstone River)	RI0001003R-01A	Lincoln, Central Falls, Cumberland		X					X	X			
Narragansett Basin	Aquidneck Water Supply & Tribs	Maidford River	RI0007035R-02A/B	Middletown							X			X	
Coastal Waters	Southwest Coastal Ponds	Maschaug Pond	RI0010043E-03	Westerly							X				
Pawcatuck River Basin	Pawcatuck River & Tribs	Matunuck Hills Complex-Long, White, Spectacle, Hot House and Lily Ponds	RI0010043L-07 (Long), RI0010043L-05 (White), RI0010043L-01 (Hothouse), No WB ID for Spectacle and Lily Ponds	South Kingstown		X					X	X			X
Pawcatuck River Basin	Pawcatuck River & Tribs	McGowan Swamp	RI0008039R-12	Westerly		X					X				
Pawcatuck River Basin	Pawcatuck River & Tribs	Meadowbrook Pond	RI0008039L-05	Richmond		X					X	X			
Pawtuxet River Basin	Pawtuxet River South Branch & Tribs	Mishnock Swamp	RI0006014L-01	Coventry							X				
Pawtuxet River Basin	Scituate Reservoir & Tribs	Moswansicut Pond	RI0006015L-04	Scituate										X	
Narragansett Basin	Aquidneck Water Supply Tribs	Nelson Pond	RI0007035L-02	Middletown										X	X

Basin Name	Subbasin Name	Waterbody Name	Waterbody ID Number	Town	SRPW Categories										
					Recreation	Ecological Habitat	State Park	Federal Park	State Estuarine Area	Federal Estuarine Area	Critical Habitat (Rare and Endangered Species)	Unique Fresh Water Wetland	Wild & Scenic	Drinking Water Supply	Conservation Area
Coastal Waters	Southwest Coastal Ponds	Ninigret Pond	RI0010043E-04A	Charlestown	X	X		X			X	X			X
Narragansett Basin	Aquidneck Water Supply & Tribs	Nonquit Pond	RI0007035L-08	Tiverton		X								X	
Narragansett Basin	Aquidneck Water Supply & Tribs	North Easton Pond	RI0007035L-03	Middletown										X	
Narragansett Basin	Jamestown Water Supply	North Carr Pond	RI0007036L-01	Jamestown										X	
Narragansett Basin	Palmer River	Palmer River	RI0007022E-01A/B	Barrington, Warren		X					X				X
Narragansett Basin	Aquidneck Water Supply & Tribs	Paradise Brook	RI0007035R-03	Middletown										X	
Blackstone River Basin	Abbott Run Brook & Tribs	Pawcatuck Reservoir (Arnold Mills Reservoir)	RI0001006L-02	Cumberland										X	
Pawcatuck River Basin	Pawcatuck River & Tribs	Pawcatuck River	RI0008039R-18A/C/E	Charlestown, Westerly, South Kingstown, Richmond, Hopkinton							X		X		X
Coastal Waters	Tribs to Pettaquamscutt River	Pettaquamscutt River (Narrow River)	RI0010044E-01A	North Kingstown, South Kingstown, Narragansett		X					X	X			X
Pawcatuck River Basin	Wood River & Tribs	Phantom Bog	No WB ID	Hopkinton		X					X	X			
Coastal Waters	Southwest Coastal Ponds	Point Judith Pond	RI0010043E-06A-I	South Kingstown, Narragansett		X	X								X
Pawtuxet River Basin	Scituate Reservoir & Tribs	Ponaganset Reservoir	RI0006015L-02	Glocester										X	
Pawtuxet River Basin	Scituate Reservoir & Tribs	Ponaganset River	RI0006015R-20	Foster/Glocester	X		X							X	
Coastal Waters	Southwest Coastal Ponds	Potters Pond	RI0010043E-05	South Kingstown	X	X					X				
Pawcatuck River Basin	Pawcatuck River & Tribs	Queen River, from William Reynolds Road in Exeter to Dugway Bridge Road in South Kingstown.	RI0008039R-21A/B/C	Exeter, South Kingstown		X					X				X
Coastal Waters	Southeast Coastal Ponds	Quicksand Pond	RI0010048E-02	Little Compton		X					X	X			
Coastal Waters	Southwest Coastal Ponds	Quonochontaug Pond	RI0010043E-07	Charlestown, Westerly	X	X					X				
Pawtuxet River Basin	Scituate Reservoir & Tribs	Regulating Reservoir	RI0006015L-01	Scituate										X	
Blackstone River Basin	Abbott Run Brook & Tribs	Robin Hollow Pond	RI0001006L-04	Cumberland										X	

Basin Name	Subbasin Name	Waterbody Name	Waterbody ID Number	Town	SRPW Categories										
					Recreation	Ecological Habitat	State Park	Federal Park	State Estuarine Area	Federal Estuarine Area	Critical Habitat (Rare and Endangered Species)	Unique Fresh Water Wetland	Wild & Scenic	Drinking Water Supply	Conservation Area
Narragansett Basin	Barrington & Runnins River	Runnins River	RI0007021R-01	Barrington, East Providence							X				
Coastal Waters	Block Island Waters	Sachem Pond	RI0010046L-03	New Shoreham	X						X				
Coastal Waters	Sakonnet River	Sakonnet River - waters in the vicinity of Sachuest Point and Third Beach, Middletown, RI as defined under the Coastal Barrier Resources Act.	RI0010031E-01B		X	X		X			X				
Coastal Waters	Sakonnet River	Sakonnet River - waters in the vicinity of Sakonnet Harbor as defined by the Coastal Barrier Resources Act.	RI0010031E-01D		X	X					X				
Coastal Waters	Sakonnet River	Sakonnet River - waters in the vicinity of Sakonnet Point as defined by the Coastal Barrier Resources Act and the US Fish and Wildlife's designation of Significant Coastal Habitat for the Rhode Island Sound - Buzzards Bay Beach Complex under the Northeast Coastal Areas Study.	RI0010031E-01B		X	X					X				
Coastal Waters	Block Island Waters	Sands Pond	RI0010046L-01	New Shoreham										X	
Coastal Waters	Sakonnet River	Sapowet Marsh	No WB ID	Tiverton			X				X				
Coastal Waters	Southwest Coastal Ponds	Schoolhouse Pond	RI0010043L-09	Charlestown		X	X				X	X			
Pawtuxet River Basin	Scituate Reservoir & Tribs	Scituate Reservoir	RI0006015L-07	Scituate										X	
Blackstone River Basin	Branch River & Tribs	Screech Hole Bog	No WB ID	Burrillville		X					X	X			
Blackstone River Basin	Branch River & Tribs	Scwindels Swamp Preserve	No WB ID	Glocester		X					X				

Basin Name	Subbasin Name	Waterbody Name	Waterbody ID Number	Town	SRPW Categories										
					Recreation	Ecological Habitat	State Park	Federal Park	State Estuarine Area	Federal Estuarine Area	Critical Habitat (Rare and Endangered Species)	Unique Fresh Water Wetland	Wild & Scenic	Drinking Water Supply	Conservation Area
Pawtuxet River Basin	Scituate Reservoir & Tribs	Shippee Saw Mill Pond	RI0006015L-05	Foster	X									X	
Coastal Waters	Southeast Coastal Ponds	Sisson Pond	RI0007035L-10	Portsmouth										X	
Blackstone River Basin	Branch River & Tribs	Smith & Sayles Reservoir	RI0001002L-07	Glocester	X						X				X
Blackstone River Basin	Sneech Pond & Tribs	Sneech Pond	RI0001005L-01	Cumberland										X	
Narragansett Basin	Aquidneck Water Supply & Tribs	South Easton Pond	RI0007035L-04	Newport										X	
Narragansett Basin	Jamestown Water Supply	South Watson Pond	RI0007036L-02	Jamestown			X							X	X
Narragansett Basin	Aquidneck Water Supply & Tribs	St.Mary's Pond	RI0007035L-05	Portsmouth										X	
Narragansett Basin	Stafford Pond	Stafford Pond	RI0007037L-01	Tiverton	X						X			X	
Coastal Waters	Southwest Coastal Ponds	Succotash Marsh	No WB ID	South Kingstown							X				
Pawcatuck River Basin	Wood River & Tribs	Tippencansett Pond	RI0008040L-17	West Greenwich, Exeter		X					X	X			
Coastal Waters	Southwest Coastal Ponds	Trustom Pond	RI0010043E-08	South Kingstown				X			X				
Coastal Waters	Southeast Coastal Ponds	Tunipus Pond	RI0010048L-04	Little Compton		X									
Coastal Waters	Southwest Coastal Ponds	Twin Pond	No WB ID	Narragansett							X				
Blackstone River Basin	Blackstone River & Tribs	Valley Falls Pond	RI0001003L-02	Cumberland		X					X				
Blackstone River Basin	Wallum Lake & Tribs	Wallum Lake	RI0001001L-01	Burrillville	X		X				X			X	
Pawcatuck River Basin	Pawcatuck River & Tribs	Watchaug Pond	RI0008039L-02	Charlestown	X	X	X				X	X			X
Narragansett Basin	Aquidneck Water Supply & Tribs	Watson Reservoir	RI0007035L-07	Little Compton										X	
Narragansett Basin	West Passage Narragansett Bay	Wesquage Pond	No WB ID	Narragansett							X				X
Pawtuxet River Basin	Scituate Reservoir & Tribs	Westconnaug Reservoir	RI0006015L-03	Scituate, Foster										X	
Pawcatuck River Basin	Wood River & Tribs	Wickaboxet Pond	RI0008040L-18	West Greenwich		X					X	X			
Coastal Waters	Southwest Coastal Ponds	Winnapaug Pond & Salt Marsh	RI0010043E-09	Westerly							X				X
Pawcatuck River Basin	Wood River & Tribs	Wood River	RI0008040R-16A/B/C/D	Richmond, Hopkinton, Westerly	X						X		X	X	
Blackstone River	Woonsocket	Woonsocket	RI0001004L-02	North Smithfield										X	

Basin Name	Subbasin Name	Waterbody Name	Waterbody ID Number	Town	SRPW Categories										
					Recreation	Ecological Habitat	State Park	Federal Park	State Estuarine Area	Federal Estuarine Area	Critical Habitat (Rare and Endangered Species)	Unique Fresh Water Wetland	Wild & Scenic	Drinking Water Supply	Conservation Area
Basin	Reservoir #3 & all Tribs	Reservoir #1													
Blackstone River Basin	Woonsocket Reservoir #3 & all Tribs	Woonsocket Reservoir #3	RI0001004L-01	North Smithfield										X	
Pawcatuck River Basin	Pawcatuck River & Tribs	Worden Pond	RI0008039L-07	South Kingstown	X	X	X				X	X			X
Pawcatuck River Basin	Wood River & Tribs	Wyoming Pond	RI0008040L-11	Hope Valley	X										
Pawcatuck River Basin	Wood River & Tribs	Yawgoog Pond	RI0008040L-07	Hopkinton	X									X	

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WATER RESOURCES

APPENDIX E

RHODE ISLAND SITE SPECIFIC

AQUATIC LIFE WATER QUALITY CRITERIA

DEVELOPMENT POLICY

July 2006

Rhode Island Site Specific
Aquatic Life Water Quality Criteria
Development Policy

Introduction

On November 28, 1980 (45 FR 79318), and February 15, 1984 (49 FR 5831), EPA announced through Federal Register notices, the publication of 65 individual ambient water quality criteria documents for pollutants listed as toxic under section 307(a)(1) of the Clean Water Act. On July 29, 1985 (50 FR 30784), EPA published additional water quality criteria documents. Pursuant to new section 303(c)(2)(B) of the Clean Water Act, the Rhode Island Department of Environmental Management (RIDEM), Water Resources, adopted, as guidelines, the aquatic life criteria for those 307(a)(1) toxic pollutants for which there are National criteria recommendations under Section 304(a) of the Act. The purpose of these guidelines is to use optimally, and consistently, all quality data pertaining to the aquatic toxicity of a pollutant in order to determine a concentration of that pollutant which will be protective of aquatic life and support the designated uses. There is valid scientific rationale for the contention that the National criteria derived using the November 28, 1980 National guidelines (45 FR 79341) may be underprotective or overprotective at specific sites. National water quality criteria are based on laboratory toxicity tests in which aquatic organisms were exposed to known concentration of toxicants in laboratory water and, thus, may not adequately represent site water and effluent effects. The underlying intent of adopting water quality criteria into States standards is to establish a set of conditions which, if consistently achieved, will not impair the biological integrity of the aquatic community residing in the waterbody. A prominent aspect of the National criteria is a provision allowing for modification to reflect local environmental conditions. Incorporating site specific water quality criteria into discharge permits will still ensure that the aquatic community is adequately protected from the effects of toxic pollutant discharges, while considering the mitigation of toxicity due to characteristics of a local waterbody and effluent. The need to reevaluate the National criteria and develop site specific criteria can emerge from many factors including:

1) High natural ambient concentrations relative to standards or criteria.
2) The presence of substances for which water quality based effluent limits are below analytical detectability.
3) The possibility of complex or synergistic interactions of chemicals within the effluent and/or site water.
4) Observed beneficial or detrimental effects on the receiving water biota.

RIDEM has assembled an extensive data base on background, or natural, ambient concentration of various toxics (eg. copper) in groundwater-fed tributaries. An evaluation of this data base in conjunction with instream observations has revealed that the National criteria may be too stringent for several toxic parameters. In an attempt to connect acceptable instream concentrations for a chemical with the physical/chemical and toxic characteristics of a discharge and site water, RIDEM first developed this site specific criteria procedure using a Mostly Sanitary Secondary Treatment Plant's (MSSTP) effluent and designated site water in 1990. Due to the uncertainties associated with the instream fate of pollutant loading after discharge, RIDEM will not allow for unchecked or maximum attenuation of toxicity by various physical/chemical parameters in every effluent. Using

a MSSTP effluent will afford a consistent, predictable baseline behavior of specific pollutants when attenuated by standard sanitary, secondary effluent components (TSS, alkalinity, pH etc.) This procedure will allow for a moderate amount of attenuation of toxicity by a discharge and site water while addressing the concern of instream fate of pollutant loadings. However, site specific criteria may also be developed using the procedures outlined in the recently finalized EPA document entitled Interim Guidance on Determination and Use of Water-Effect Ratios for Metals (EPA-823-B-94-001 ("EPA WER Guidance"). Since the EPA WER Guidance procedures allow for the evaluation of more site specific characteristics (which may attenuate toxicity) than the RIDEM policy, a more rigorous testing program may be required when following the EPA WER Guidance than that described herein.

The new criteria developed will be applied only to sites where there are existing discharges and will be administered uniformly to disallow any significant fluctuations in toxicity that may occur due to inconsistencies in the influent component or overall treatment. Documentation of the factors that exist at a facility or within a basin, which necessitate site specific criteria development, shall be submitted to RIDEM. This documentation shall include any previous effluent or instream bioassay test results and/or evaluation of the impact of the discharge on the resident aquatic community. It is also necessary to characterize existing water quality conditions at the site or within the basin. The parameters for which site specific criteria are to be developed should be listed with an explanation of why the National criteria for these parameters can not be met. An indication of what levels of the parameters of concern could be attained after institution of an aggressive pretreatment program and exploration of other municipal standard treatment controls, should be discussed within this document.

The municipal effluent and site water data generated from this procedure will be applied to industries as a baseline for permit derivation. Furthermore, the criteria developed from one site may be applied to additional sites if it is demonstrated to the satisfaction of the Director that the hydrologic, ecological and physiographic conditions are consistent between the two sites. New permit limits will be developed in accordance with applicable federal and state regulations and laws, including antibacksliding and antidegradation prohibitions. Necessary modifications to all permits will be based on compliance bioassay monitoring results.

Methodology

As explained above, the RIDEM site specific criteria testing protocol narrowly limits the degree to which mitigation of toxicity may be considered. The main advantage of the RIDEM policy is that the criteria may be applicable to a number of discharges and site waters. However, the RIDEM protocol is also expected to result in more stringent criteria compared to the criteria resulting from following the EPA WER Guidance. The remainder of this document describes RIDEM's protocol and describes testing and data analysis. EPA's WER Guidance should be consulted for further information concerning alternative testing and data analysis procedures.

The site specific criteria shall be developed using a Mostly Sanitary Secondary Treatment Plant's (MSSTP, as designated by RIDEM) effluent with site water. This MSSTP will be a standard secondary facility with little or no industrial input. An efficient Wastewater Treatment facility which handles primarily domestic flow will offer the situation of limited buffering of toxicity due

to chemicals from industrial inputs and/or domestic organic loadings to the WWTF. Thus, this set of tests will represent a best case scenario which can be applied to almost all facilities in the state. Future routine toxicity test results shall be used to monitor continued compliance and may determine if more stringent or lenient permit limits and/or requirements are needed for all facilities.

Since the rationale for site specific criteria development is also based on potential differences in physical and chemical characteristics of the site water, the concept of a "site" must be consistent with this rationale. Therefore, the site should be defined on the basis of expected changes in the relevant parameters' biological availability and/or toxicity due to physical and chemical variability of the site water. These changes in toxicity cannot result from components present in the effluent of an upstream discharge. A site can be limited to an area affected by a single point source discharge or it can be quite large. Due to the complexity of factors, RIDEM will be responsible for delineating sites. It is postulated that a site and site water will be defined on a basin-wide level.

These bioassay tests shall be conducted in accordance with protocol listed in the Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, Fourth Edition (or most recent edition), EPA/600/4-85/013 90/027, September 1991; and the USEPA Water Quality Standards Handbook: Second Edition, EPA-823-B-94-005a, August 1994 (or most recent edition), incorporating any deviations from protocol listed herein, or additional methods if approved by the Director. These tests shall consist of acute toxicity testing of 2 species including a fish (freshwater = fathead minnow, Pimephales promelas; marine = silversides, Menidia spp.) and an invertebrate (freshwater = Ceriodaphnia spp.; marine = shrimp, Mysidopsis bahia). Effluent testing shall be conducted on a pre-chlorinated, 24 hour flow proportioned (samples collected hourly), composite effluent sample of the MSSTP. A 100% effluent sample shall be analyzed to determine the concentration(s) of the parameter(s) of concern.

Acute tests shall be run on the MSSTP effluent diluted with a designated site water (MSSTP mixture) at a ratio of 20 site water:1 effluent. The ratio of 20:1 was chosen because it represents 75% of the dilution factors established for discharges in Rhode Island. However, the Director may approve a testing protocol which is based upon the actual ratio of effluent and site water which will result under the receiving water design flow specified in Section 8.E. of the RI Water Quality Regulations. In this case, the site specific criteria will only be applicable to the particular site evaluated.

An acute screening test shall be conducted on the MSSTP mixture sample, by spiking with one toxicant of concern at concentrations high enough to determine a statistically valid LC_{50}, which is <100%, for that toxicant relevant to each species being tested. Then at least five toxicant concentrations, spaced evenly above and below the previously determined LC_{50}, and a control shall be tested. Two replicates per concentration are required and the number of organisms per replicate will depend on the species being tested (see EPA Methods Manual EPA/600/4-90/027, September 1991). In the case of freshwater testing the hardness of the site water must be monitored at the time the tests are conducted to allow for calculations of the criteria based on hardness. Each complete set of tests shall be conducted on three different occasions (dates). Chemical analyses, including hardness, of the site water and MSSTP effluent combined sample will have to be conducted to confirm the concentration of the spiked chemical on selected dilutions during each testing occasion. Selected dilutions shall include low, medium, and high concentrations on one replicate and one species. Chemical analyses of these dilutions shall be conducted on a portion of the sample taken

immediately prior to the addition of the organisms. Dissolved metal analyses must be conducted if the results of the toxicity testing will be used to establish site specific criteria for dissolved metals.

In addition, similar tests shall be conducted on a control of laboratory water spiked with the toxicant of concern at concentrations not only equivalent to those observed in the effluent, but also which will allow for a statistical comparison with the National criteria. Using the data from both sets of replicates, the LC_{50}, standard deviation, and 95% confidence intervals shall be obtained for each species tested in the laboratory water, relative to each toxicant of concern, for each of the three testing occasions. The laboratory water LC_{50} test results shall be compared to the National acute LC_{50} values obtained for each testing occasion to confirm the validity of these site specific tests.

Using the data from both sets of replicates, the LC_{50}, standard deviation, and 95% confidence intervals shall be obtained for each species tested in the MSSTP mixture, relative to each toxicant of concern for each of the valid testing occasions. Species-specific water effect ratio shall be calculated for each of the valid testing occasions by dividing the laboratory water LC_{50} into the MSSTP mixture LC_{50}. Two species-specific final WER shall be calculated as the geometric mean of the valid WERs (from each species). These two specific WERs shall be compared to see if they are significantly different ($p \leq 0.05$). If these two species-specific WERs are not different, then the final site specific WER is the geometric mean of these two WERs. If the two species-specific water effect ratios are statistically different, then the WER from the most sensitive species shall be the final site specific WER.

If the final site specific WER is not significantly different from a value of one (1.0), then the National Acute Criteria is the Site Specific acute criteria. If the final site specific WER is significantly different from a value of one (1.0), then the Site Specific Criteria shall be calculated by multiplying the final site specific WER times the National freshwater acute criteria formula or the National saltwater acute criteria, as appropriate. The Director may determine not to use all of the valid testing occasions to calculate the final site specific WER if necessary to protect aquatic life.

If a National acute/chronic ratio was used to develop the National chronic criteria for the chemical of interest, the site specific chronic criteria is calculated by multiplying the site specific acute criteria by 2 and then dividing by the National acute/chronic ratio.

If the National acute/chronic ratio for the toxicant of concern does not exist, a site specific chronic criteria can also be obtained by testing species for chronic toxicity. Tests shall be conducted on two species, including a fish (freshwater = fathead minnow, Pimephales promelas; marine = silversides, Menidia spp.), and an invertebrate (freshwater = Ceriodaphnia spp.; marine = shrimp, Mysidopsis bahia) using a laboratory water control sample and the MSSTP effluent with site dilution water at a ratio of 1:20. However, the Director may approve a testing protocol which is based upon the actual ratio of effluent and site water which will result under the receiving water design flow specified in Section 8.E. of the RI Water Quality Regulations. In this case the site specific criteria will only be applicable to the particular site evaluated.

The chronic tests shall be conducted in accordance with protocol listed in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine

Organisms, May 1988, EPA/600/4-87/028 (or most recent edition), and Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms Second Edition, March 1989, EPA/600/4-87/001 (or most recent edition), incorporating any deviations from protocol listed below.

A chronic screening test shall be conducted on the MSSTP and site dilution water mixture by spiking with one toxicant of concern at concentrations high enough to determine a statistically valid chronic toxic effect value for that toxicant relevant to each species being tested. Then at least five toxicant concentrations, spaced evenly above and below the previously determined chronic toxic effect value, and a control, shall be tested. The number of replicates per concentration and the number of organisms per replicate will depend on the species being tested in accordance with the EPA protocol. For freshwater tests, the hardness of the site water must be monitored at the time the tests are conducted to allow for calculations of the criteria based on hardness. Each complete set of tests shall be conducted on three different occasions (dates). Chemical analyses, including hardness, of the site water and MSSTP effluent combined sample will have to be conducted to confirm the concentration of the spiked chemical on selected dilutions during each testing occasion. Selected dilutions shall include low, medium, and high concentrations on one replicate and one species. Chemical analyses of these dilutions shall be conducted on a portion of the sample taken immediately prior to the addition of the organisms.

Using the data from all sets of replicates, the No Observed Effect Concentration (NOEC), Lowest Observed Effect Concentration (LOEC), and Maximum Acceptable Toxicant Concentration (MATC) for each species tested in the lab water tests, relative to each toxicant of concern, for each of the three testing occasions. The results of the laboratory water test obtained for each testing occasion are compared with the National chronic value to determine the validity of these site specific tests.

Using the data from all sets of replicates, the No Observed Effect Concentration (NOEC), Lowest Observed Effect Concentration (LOEC), and Maximum Acceptable Toxicant Concentration (MATC) shall be obtained for each species tested in the MSSTP effluent, relative to each toxicant of concern for each of the valid testing occasions. Species-specific water effect ratios shall be calculated for each of the valid occasions by dividing the chronic value from the laboratory water test into the chronic value from the MSSTP effluent test. Two species-specific final WERs shall be calculated as the geometric mean of the valid WERs (from each species).

If the two species-specific WERs are not significantly different (confidence limits overlap), then the final site specific WER is the geometric mean of these two WERs. If the two species-specific final WERs are significantly different from each other, then the WER from the most sensitive species shall be the final site specific WER.

If the final site specific WER is not significantly different from a value of one (1.0), then the National chronic criteria equals the site specific chronic criteria. If the final site specific WER is significantly different from a value of one (1.0), the site specific Chronic Criteria can be calculated by multiplying the final site specific WER by the National Freshwater Chronic Criteria Formula or the National Saltwater Chronic Criteria, as appropriate. The Director may determine not to use all of the valid testing occasions to calculate the final site specific WER if necessary to protect aquatic life.

Permit Limits and Requirements

The information obtained from the three testing occasions will be reviewed by RIDEM to determine the Final Site Specific criteria for each parameter evaluated. If the results from these test procedures do not change the National criteria, the National criteria would apply to all dischargers on the waterbody and would be used to derive permit limits where necessary. Chemical specific limits will be developed for those pollutants which would cause an excursion above the National criteria and will be incorporated into permits on a case-by-case basis. Dischargers would be required to redesign their facility, if necessary, to ensure compliance with the National criteria and permit limits. Bioassay monitoring requirements and whole effluent toxicity (WET) limits may be developed and incorporate into permits, as necessary, based on previous bioassay test results, continual toxicity during compliance monitoring and new data from dilution studies.

If the results from these test procedures justify changing the National criterion to a site specific criterion, these new ambient criteria would apply to all dischargers on within the designated site and would be used to derive permit limits. For freshwaters, the site specific criteria will be established by multiplying the National criteria, determined at the hardness anticipated during the design receiving water flow, by the final water effect ratio(s). These permits may include chemical specific limits and/or whole effluent toxicity limits. Whole effluent toxicity limits and specifics of bioassay monitoring requirements will be based on previous bioassay test results, continual toxicity during compliance monitoring and new data from dilution studies.

If toxicity testing is incorporated into a permit, facilities with 20:1, or less dilution may be required to conduct chronic toxicity tests. Facilities with a 20.1-100:1 dilution may be required to conduct acute tests. Facilities with greater than 100:1 dilution may also be required to conduct acute toxicity tests. WET limits may be developed based on EPA's acute and/or chronic Toxic Units Method although meeting a minimum LC_{50} may be required if best professional judgement deems it is necessary. Toxicity Identification Evaluations (TIE) and Toxicity Reduction Evaluations (TRE) may be required of any discharger if bioassay compliance monitoring indicates continual toxicity. In addition, bioassessment studies may be required to ensure the integrity of the instream aquatic community.