

RULES AND REGULATIONS

WATER QUALITY STANDARDS FOR WATERS
OF THE VIRGIN ISLANDS

TITLE 12, CHAPTER 7

AMENDMENTS
to Subchapter 186

APPROVED:

28th day of August, 2015



KENNETH E. MAPP
Governor

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Commissioner
Department of Planning and Natural Resources

Copy below is hereby certified to be a true and correct copy of Rules and Regulations amended, pursuant to authority granted in 12 V.I.C. §186(d), by:

The Department of Planning and Natural Resources



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Commissioner Nominee

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AMENDMENTS
TO
VIRGIN ISLANDS RULES AND REGULATIONS
WATER QUALITY STANDARDS FOR WATERS
OF THE VIRGIN ISLANDS
TITLE 12, CHAPTER 7, SUBCHAPTER 186

SECTION 1. Title 19, Chapter 7, Subchapter 186, Virgin Islands Rules and Regulations is amended by deleting the existing sections in their entirety and inserting the following new sections to read as follows:

“§ 186 - 1: Definitions

The following words and terms, when used in these standards, shall have the following meanings, unless the context clearly indicates otherwise.

- (a) Abiotic: A nonliving physical and chemical attribute of a system such as light, temperature, wind patterns, rocks, soil, pH, and pressure in an environment.
- (b) Acute: Refers to a stimulus severe enough to rapidly induce an effect; in aquatic toxicity tests, an effect observed in 96-hours or less is typically considered acute. When referring to aquatic toxicology or human health, an acute affect is not always measured in terms of lethality.
- (c) Aesthetic qualifications: Criteria that by definition preserves one’s ability to experience natural beauty.
- (d) Aquatic Nuisance Species: A nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural or recreational activities dependent on such waters.
- (e) Assimilative capacity: The natural capacity of a water body to dilute and absorb pollutants and prevent harmful effects (e.g., damage to public health or physical, chemical, biological quality of the water).
- (f) Best management practices or BMPs: Schedules of activities, prohibitions of

practices, maintenance procedures, and other management practices to prevent or reduce point and non-point source pollution to “waters of the United States” or “territorial waters.” BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

- (g) Bioaccumulation factor or BAF: The ratio of a substance's concentration in tissue versus its concentration in ambient water, in situations where the organism and the food chain are exposed.
- (h) Biological criteria or biocriteria: Narrative expressions or numeric values of the biological characteristics of aquatic communities based on appropriate reference conditions. As such, biological criteria serve as an index of aquatic community health.
- (i) Biological integrity: The condition of the aquatic community inhabiting unimpaired water bodies of a specified habitat as measured by community structure and function.
- (j) Biotic: Living or of life.
- (k) CFR: The Code of Federal Regulations.
- (l) Chronic: A stimulus that lingers or continues for a relatively long period of time, often one-tenth of the life span or more. Chronic should be considered a relative term depending on the life span of an organism. The measurement of a chronic effect can be reduced growth, reduced reproduction, etc., in addition to lethality.
- (m) Class A Waters: Marine and coastal waters designated as Outstanding Natural Resource Waters that have unique characteristics to be preserved (e.g., waters of exceptional recreational, environmental, or ecological significance). Class A Waters are designated for the maintenance and propagation of desirable species of aquatic life and for primary contact recreation.
- (n) Class B Waters: Marine and coastal waters designated for the maintenance and propagation of desirable species of aquatic life and for primary contact recreation.
- (o) Class C Waters: Marine and coastal waters designated for the maintenance and propagation of desirable species of aquatic life and for primary contact recreation. Class C waters are those waters which are located in industrial harbors and ports and have less stringent water quality standards for certain parameters than Class B waters.

- (p) Class I Waters or Inland Waters: Designated aquatic-influenced environments located within land boundaries. Inland water systems are designated for the maintenance and propagation of desirable species of aquatic life, as a potable water source and for primary contact recreation. Waters included in this class can be either inland groundwaters (Subclass IG waters) or inland surface waters. Inland surface waters can be fresh (Subclass IF Waters), as well as saline or brackish (Subclass IBS Waters).
- (q) Commissioner: The Commissioner of the Department of Planning and Natural Resources, or his designee.
- (r) Community diversity: The variety and type of species present in a community, the complexity of their interactions, and the age and stability of the community. The community diversity of a region is influenced by the number of communities present, the degree of difference among the communities, and how the communities are distributed across the region.
- (s) Consistent sampling: Used to ensure that results can be aggregated and compared over time.
- (t) Coral reef: Any reef or shoal composed primarily of corals.
- (u) Coral reef ecosystems: Corals and other species of reef organisms (including reef plants) associated with coral reefs, and the nonliving environmental factors that directly affect coral reefs, that together function as an ecological unit in nature.
- (v) Coral reef ecosystems areas: Areas that can be measured in square miles/kilometers or as a percent of area with coral cover. These areas include but are not limited to those areas defined by the National Oceanic and Atmospheric Administration (NOAA), and are required to meet water quality standards for temperature and turbidity.
- (w) Criteria: Elements of State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use.
- (x) Criteria Continuous Concentration or CCC: The EPA national water quality criteria recommendation for the highest instream concentration of a toxicant or an effluent to which organisms can be exposed indefinitely without causing unacceptable effect.
- (y) Criteria Maximum Concentration or CMC: The EPA national water quality criteria

recommendation for the highest in stream concentration of a toxicant or an effluent to which organisms can be exposed for a brief period of time without causing an acute effect.

- (z) DPNR or Department: The Department of Planning and Natural Resources.
- (aa) Designated Use: A use specified in water quality standards for each water body or segment, whether or not it is being attained.
- (bb) Desirable Species: Species indigenous to the area or introduced to the area because of ecological or commercial value.
- (cc) Dissolved oxygen: The concentration of free molecular oxygen dissolved in water; expressed in milligrams/liter (mg/L) saturation and measured 1 meter below the surface and 1 meter above the sea floor (or at the max depth of the instrument (~30 m)) with an EPA approved field instrument.
- (dd) Effluent: The discharge of used waters, sanitary wastes, other wastewaters, or any liquid substances treated or untreated, proceeding from sanitary treatment plants, industrial wastewater treatment plants, manufacturing processes, storage tanks, ponds, sewers or any water pollution source.
- (ee) Embayment or coastal embayment aquifers: Consist of alluvial valley-fill deposits that grade into beach sands as the bedrock valleys open onto coastal embayments. The alluvium, which commonly ranges in thickness from 30 to 50 feet, generally is fine grained and consists of clay, silt, and fine sand eroded primarily from volcanic rocks. Where they contain mostly fine-grained sediments, the aquifers yield only small amounts of water and are semi confined. Locally, the alluvium is coarse sand and gravel, and the aquifer is unconfined. The alluvial deposits interfinger and grade into beach deposits that consist primarily of coarse coral sand. These deposits are permeable and yield only a few gallons per minute to wells. However, water in the coastal embayment aquifers is generally brackish to saline.
- (ff) Enterococci Bacteria or Fecal Coliform: Are commonly found in the feces of humans and other warm-blooded animals. The presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococci have a greater correlation with swimming-associated gastrointestinal illness in both marine and fresh waters than other bacterial indicator organisms, and are less likely to "die off" in saltwater.
- (gg) EPA: The United States Environmental Protection Agency.
- (hh) ESA: Endangered Species Act.

- (ii) Estuary: All or part of the mouth of a river or stream or other body of water having unimpaired natural connection with open sea and within which the sea water is measurably diluted with fresh water derived from land drainage.
- (jj) Existing uses: Those uses actually attained in the water body on or after November 28, 1975 (the date of EPA's initial water quality standards regulation), whether or not they are included in water quality standards 40 CFR 131.3(e).
- (kk) Exotic Species: A non-native plant or animal deliberately or accidentally introduced into a new habitat.
- (ll) Federal Clean Water Act or CWA or Federal Water Pollution Control Act or Federal Act or FWPCA: The Federal Clean Water Act, 33 U.S.C., section 1251 et seq. as amended, and the rules and regulations promulgated there under.
- (mm) Freshwater ponds: Refer to ponds that have water that are entirely non-marine.
- (nn) Groundwater: Water that fills all of the unblocked voids of underlying material below the ground surface which is the upper limit of saturation, or water which is held in the unsaturated zone by capillarity.
- (oo) Gut or Stream: A natural or constructed waterway or any permanent or intermittent stream.
- (pp) Indicator Species or Indicator Communities: Unique environmental indicators which offer a signal of the biological condition in a watershed.
- (qq) Inlet: A narrow water passage between peninsulas or through a barrier island leading to a bay or lagoon.
- (rr) Mangrove Wetlands: A wetland area populated with mangroves.
- (ss) Marine and Coastal Waters: Consist of the Atlantic Ocean, the Caribbean Sea, and all contiguous saline bays, inlets and harbors within the jurisdiction of Virgin Islands.
- (tt) Metric: An attribute that shows a quantitative change in value along a gradient of human influence.
- (uu) Mixing Zone: An area where an effluent discharge undergoes initial dilution and is extended to cover the secondary mixing in the ambient water body. A mixing zone is an allocated impact zone where water quality criteria can be exceeded as long as acutely toxic conditions are prevented.

- (vv) NPDES: National Pollutant Discharge Elimination System.
- (ww) Natural Condition: Describes the quality of surface and marine water untouched by human-caused pollution or disturbance. Natural conditions are rare and exist in limited settings, and must be demonstrated to the satisfaction of the DPNR-DEP, through extensive sampling and field investigations.
- (xx) Natural forces: Refer to chemical, biological, geological, ecological or any other conditions existing at specific sites, not resulting from, or as a consequence of, human intervention, that may cause the standard for a particular parameter not to be met at those sites.
- (yy) Non-point Source: A source of pollutant which is caused by rainfall moving over and through the ground. As runoff moves, it picks up and carries away both natural pollutants and pollutants resulting from human activities. These pollutants include sediments, nutrients, pesticides, and toxic substances such as hydrocarbons and heavy metals. Eventually these pollutants are deposited in wetlands, coastal waters and ground water.
- (zz) Nuisances: Any plant/animal species, material, or substance which is found in water to cause damage or interference with attainment of designated uses.
- (aaa) Nutrients: Refer to Total Nitrogen and Total Phosphorus, concentrations of which are expressed in mg/L.
- (bbb) Other Discharges or Wastes: Refers to garbage, refuse, decayed wood, sawdust, shavings, bark, sand, lime, cinders, ashes, offal, oil, tar, dyestuffs, acids, chemicals, leachate, sludge, salt and all other discarded matter not sewage or industrial waste that may cause or might reasonably be expected to cause pollution of the waters of the US Virgin Islands.
- (ccc) Outstanding Natural Resource Waters or ONRW: Waters that have unique characteristics to be preserved (e.g., waters of exceptional recreational, environmental, economic, or ecological significance) (Class A Waters).
- (ddd) Parameter of Concern: The parameter that is being assessed, analyzed or assumed to cause impairment.
- (eee) Permit: An authorization, license, or equivalent control document to discharge pollutants into United States Virgin Islands waters issued under 12 V.I.C., section 185 and regulations promulgated pursuant thereto.

- (fff) Permittee: The holder of a TPDES or NPDES permit.
- (ggg) Person: An individual, corporation, partnership, association, municipality, territory, or territorial agency, the Government of the United States Virgin Islands, the Government of the United States, and any board, commission, authority, or independent instrumentality of the Government of the Virgin Islands and the United States Government and any officer, agent, or employee thereof, including those having regulatory authority over the discharge of pollutants.
- (hhh) pH: A measure of the concentration of hydrogen ions in the water expressed in Standard Units (SU) measured 1 meter below the surface and 1 meter above the sea floor (or at the max depth of the instrument (~30 m)) with an EPA approved field instrument.
- (iii) Point Source: Includes but is not limited to 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, or landfill leachate collection system from which pollutants are or may be discharged.
- (jjj) Pollution: The man-made or man-induced alteration of the chemical, physical, biological and radiological integrity of any Waters of the United States Virgin Islands.
- (kkk) Pollutant or Waste: Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.
- (lll) Potable Water: Water that is intended for drinking, cooking, or domestic purposes, subject to compliance with Territorial or Federal drinking water standards (Class IG Waters).
- (mmm) Primary Contact Recreation: Activities where the human body may come in direct contact with raw water to the point of complete body submergence. Primary contact recreation includes, but is not limited to, swimming, diving, water skiing, skin diving and surfing.
- (nnn) Reference Conditions: The characteristics of water body segments least impaired by human activities. As such, reference conditions can be used to describe attainable biological or habitat conditions for water body segments with common watershed/catchment characteristics within defined water body classes.

- (ooo) Reliable Measure: A measure that is reliable if it consistently produces the same result.
- (ppp) Salinity: An estimate of the concentration of dissolved salts in seawater expressed in parts per thousand and measured 1 meter below the surface and 1 meter above the sea floor (or at the max depth of the instrument (~30 m)).
- (qqq) Salt Flats: Refers to a salt-encrusted flat area resulting from evaporation of a former body of water.
- (rrr) Salt Pond: A salt water embayment or lagoon separated from coastal waters by any barrier.
- (sss) Secchi Disc: Provides a method for assessing the water clarity expressed in meters by a secchi depth recording light transparency.
- (ttt) Site: 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.
- (uuu) Stream or Gut: A natural or constructed waterway or any permanent or intermittent stream.
- (vvv) Subclass IBS Waters: All inland brackish or saline waters.
- (www) Subclass IF Waters: All inland fresh waters.
- (xxx) Subclass IG Waters: All inland groundwaters that are current or potential supplies of potable water and their associated recharge areas. They shall be protected as potable water supplies. Unless otherwise identified, Subclass IG include all ground water with a naturally occurring salinity of less than 10,000 mg/l.
- (yyy) Sufficient Quality: The level of water quality providing acceptable conditions for the support of aquatic life.
- (zzz) Surface Water: Includes all waters other than groundwater within the jurisdiction of the United States Virgin Islands including all streams and/or guts (permanent or intermittent), freshwater ponds, wells, estuaries, and wetlands which includes: swamps, salt flats, salt ponds, and mangrove wetlands situated wholly or partly within or bordering upon the United States Virgin Islands, including the Territorial seas, contiguous zone, and oceans.
- (aaaa) Swamp: Wetland often partially or intermittently covered with water; especially, one dominated by wooded vegetation.

- (bbbb) Temperature: A measure of the energy of molecular motion expressed in degrees Centigrade measured 1 meter below the surface and 1 meter above the sea floor (or at the max depth of the instrument (~30 m)) with an EPA approved field instrument.
- (cccc) Territorial Waters: All inland and marine and coastal waters within the jurisdiction of the United States Virgin Islands.
- (dddd) TPDES: Territorial Pollutant Discharge Elimination System.
- (eeee) Thermal Discharge: A discharge that results or would result in a temperature change of the receiving water.
- (ffff) Total Maximum Daily Load or TMDL: The maximum amount of a pollutant that a waterbody can receive while still meeting water quality standards.
- (gggg) Toxic Pollutant: Any pollutant listed as toxic under section 307(a)(1) of the CWA.
- (hhhh) Turbidity: A measure of the degree to which light is scattered by suspended particulate material and soluble colored compounds in the water. Expressed in Nephelometric Turbidity Units (NTU's) measured 1 meter below the surface and 1 meter above the sea floor (or at the max depth of the instrument (~30 m)) using an EPA approved field instrument.
- (iiii) Variance: A time-limited designated use and criterion that is targeted to a specific pollutant(s), source(s), and/or water body or waterbody segment(s) that reflects the highest attainable condition during the specified time period. Variances are different from changes to the designated use and associated criteria in that they are intended as a mechanism to provide time for states and stakeholders to implement adaptive management approaches that will improve water quality where the designated use and criterion currently in place are not being met, but still retain the designated use as a long term goal.
- (jjjj) Wastewaters: Waters containing dissolved, suspended, agglomerated, emulsified or floating substances or solid pollutants resulting from industrial, commercial, residential, agricultural, and recreational or any other type of establishment or man induced activity.
- (kkkk) Water Quality Standards or WQS: Any water quality standards adopted and effective under United States Virgin Islands or Federal laws applicable to waters of the United States Virgin Islands, including the designated use or uses of a water body, the numeric and narrative water quality criteria that are necessary to protect the use or uses of that particular water body, and an anti-degradation policy.

- (llll) Water Quality Criteria: Any criteria describing the required quality supporting a particular designated use of United States Virgin Islands waters, as adopted under United States Virgin Islands laws or Federal laws applicable to waters of the United States Virgin Islands.
- (mmmm) Waters of the United States Virgin Islands: All waters within the jurisdiction of the United States Virgin Islands including all harbors, streams, lakes, ponds, impounding reservoirs, marshes, water-courses, water-ways, wells,, springs, irrigation systems, drainage systems and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the United States Virgin Islands, including the territorial seas, contiguous zones, and oceans.
- (nnnn) Well: A pit or hole sunk into the earth to reach a resource of potable water supply to be used for domestic purposes.
- (oooo) Wetlands: 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 salt ponds, marshes, swamps, and similar areas.

§ 186 - 2: Classification of Territorial Waters

Territorial Waters are classified as either Inland Waters or Marine and Coastal Waters.

- (a) Class of Inland Waters - Class I Waters – Class of Inland Waters - include groundwaters (IG waters) and surface waters (IF and IBS waters): Surface waters may be fresh or brackish saline.
 - (1) Subclass of Inland Fresh Surface Waters - Sub-class IF Waters: All inland fresh waters are classified as follows, based on their ecological characteristics and other natural attributes:
 - (A) Streams and/or guts (Permanent or Intermittent)
 - (B) Wetlands:
 - (i) Freshwater Ponds
 - (2) Subclass of Inland Brackish or Saline Surface Waters - Sub-class IBS Waters: All inland brackish or saline waters are classified as follows, based on their ecological characteristics and other natural attributes:
 - (A) Inland Estuaries (not designated as Classes A, B or C)
 - (B) Wetlands:
 - (i) Swamps
 - (ii) Salt Flats
 - (iii) Salt Ponds
 - (iv) Mangrove Wetlands
 - (3) Subclass of Groundwaters - IG Waters:
 - (A) Wells
- (b) Class of Marine and Coastal Waters – Class A, B and C Waters: All marine and coastal waters are either embayments, open coastal, or oceanic waters to include all contiguous saline bays, inlets and harbors within the jurisdiction of US Virgin Islands.
 - (1) Class A Waters - Outstanding Natural Resource Waters
 - (2) Class B - All other coastal or marine waters not classified as Class A or Class C

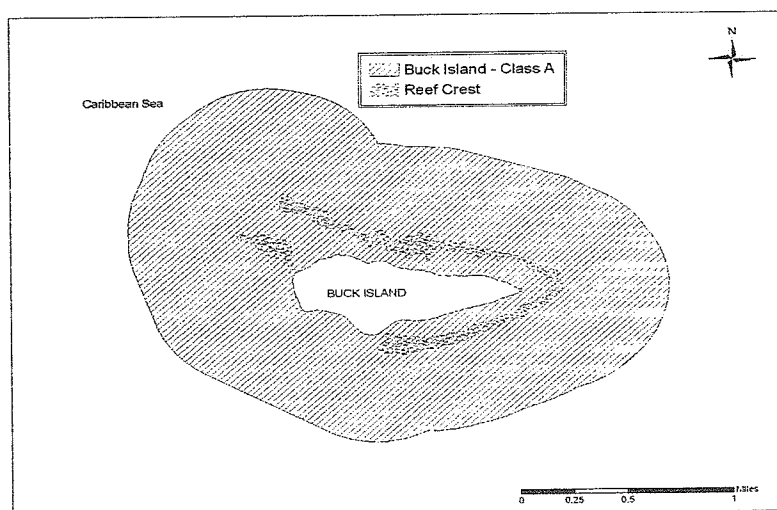
- (3) Class C - All other coastal or marine waters not classified as Class A or Class B.

§ 186 - 3: Legal Limits

The following serves as the legal description and boundaries for the Territorial Waters:

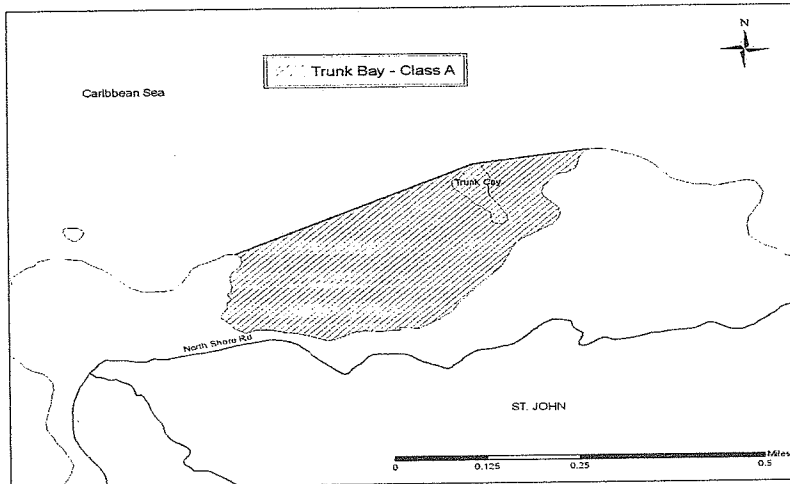
- (a) Class I (Inland Waters): Designated aquatic-influenced environments located within land boundaries. Inland water systems are designated for the maintenance and propagation of desirable species of aquatic life and for primary contact recreation. Waters included in this class can be either inland groundwaters (Subclass IG waters) or inland surface waters. Inland surface waters can be fresh (Subclass IF Waters), as well as saline or brackish (Subclass IBS Waters).
- (b) Class A Waters (Outstanding Natural Resource Waters):
- (1) Within 0.5 miles of the boundaries of Buck Island's Natural Barrier Reef, St. Croix.

Figure 1. Class A - Buck Island, St. Croix



(2) Trunk Bay, St. John.

Figure 2. Class A - Trunk Bay, St. John



(c) Class B Waters:

(1) All other coastal or marine waters not classified as Class A or Class C.

Figure 3. Class B - St. Croix

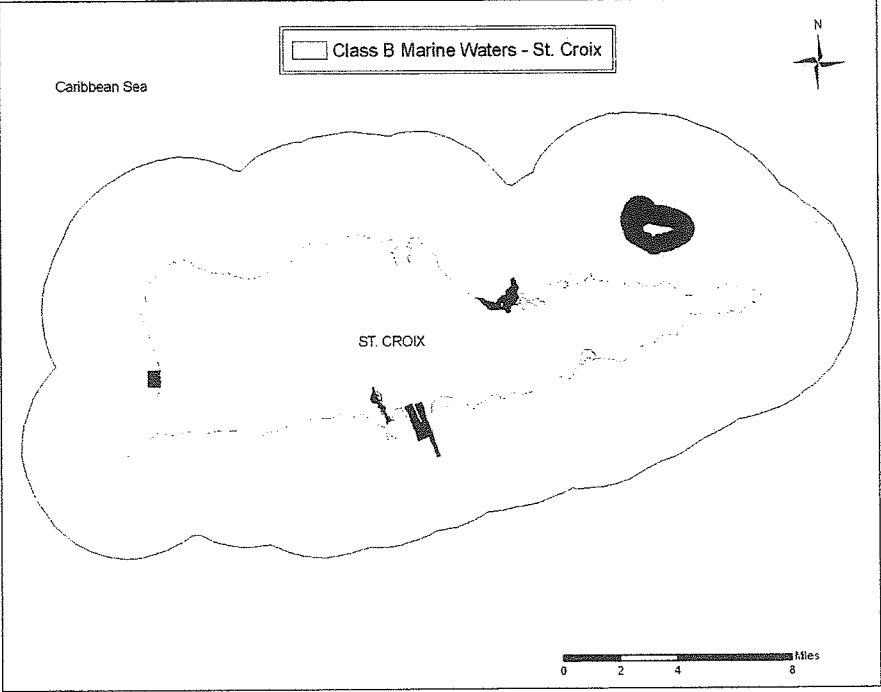
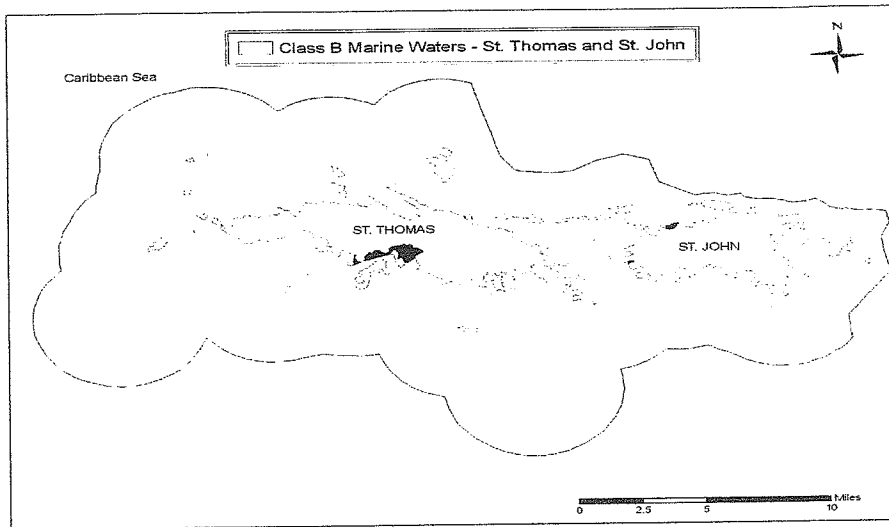


Figure 4. Class B - St. Thomas and St. John

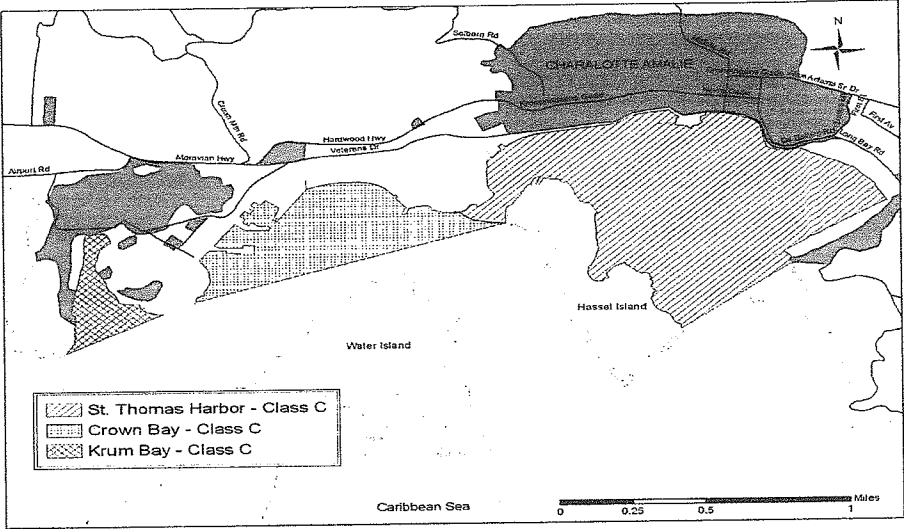


(d) Class C Waters:

(1) St. Thomas:

- (A) St. Thomas Harbor beginning at Rupert Rock and extending to Haulover Cut.
- (B) Crown Bay enclosed by a line from Hassel Island at Haulover Cut to Regis Point at West Gregerie Channel.
- (C) Krum Bay.

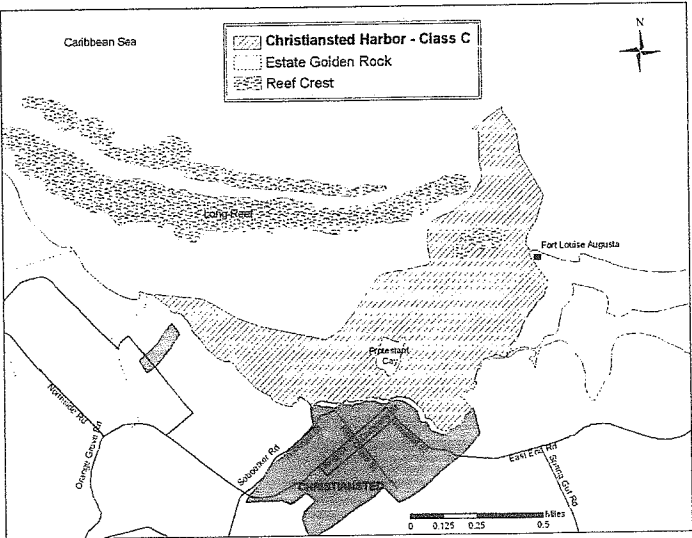
Figure 5. Class C - St. Thomas Harbor, Crown Bay and Krum Bay, St. Thomas



(2) St. Croix:

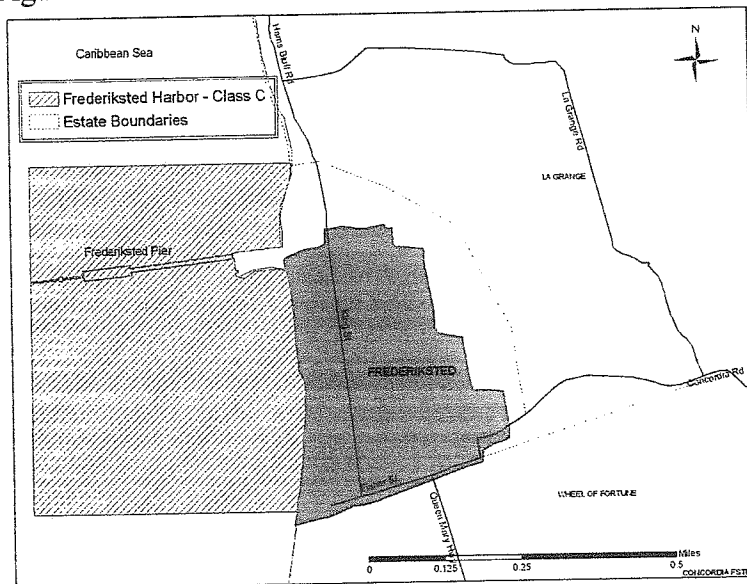
- (A) Christiansted Harbor from Fort Louise Augusta to Golden Rock, along the waterfront and seaward to include the navigational channels and mooring areas.

Figure 6. Class C - Christiansted Harbor, St. Croix



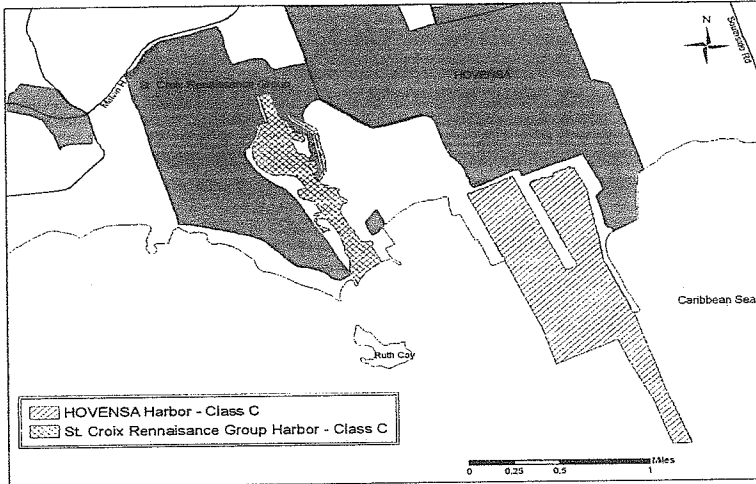
- (B) Frederiksted Harbor from La Grange to Fisher Street and seaward to the end of the Frederiksted Pier.

Figure 7. Class C - Frederiksted Harbor, St. Croix



- (C) Hess Oil Virgin Islands Harbor (alternatively named HOVENSA Harbor).
(D) Martin-Marietta Alumina Harbor (alternatively named Port Alucroix or St. Croix Renaissance Group Harbor).

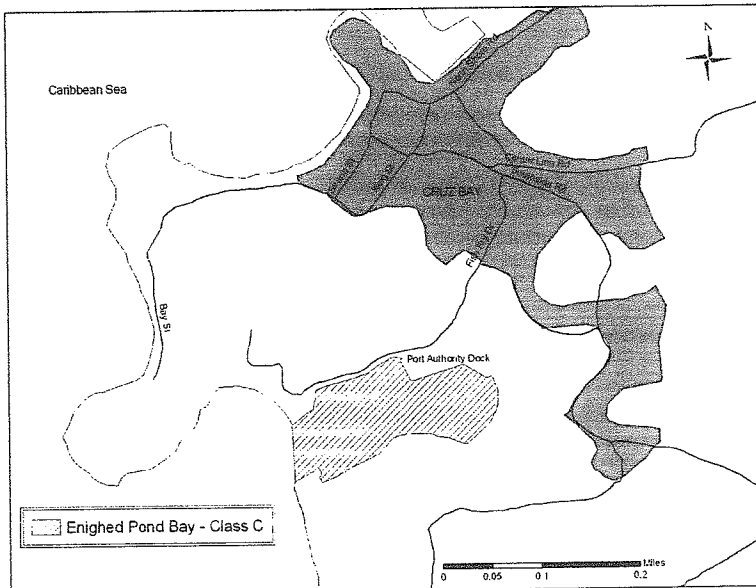
Figure 8. Class C - HOVENSA Harbor and St. Croix Renaissance Group Harbor, St. Croix



(3) St. John:

(A) Enighed Pond Bay

Figure 9. Class C - Enighed Pond, St. John



§ 186 - 4: Classification of Water Designated Uses

The following Territorial Waters classifications specify the designated uses to be protected and the applicable criteria to protect those uses.

(a) Class of Inland Waters - Class I Waters:

- (1) Subclass of Inland Fresh Waters (IF Waters) and Inland Brackish or Saline Waters (IBS Waters):
 - (A) Designated uses: Maintenance and propagation of desirable species of wildlife and aquatic life (including threatened, endangered species listed pursuant to section 4 of the Federal Endangered Species Act and threatened, endangered and indigenous species listed pursuant to Title 12, Chapter 2 of the Virgin Islands Code), and primary contact recreation.
 - (B) Water Quality Criteria: Subclass IF and IBS waters shall remain in their natural state to the maximum extent possible with an absolute minimum of pollution from any human-caused source. To the extent possible, the ecological character of these areas shall be maintained and protected. The following water quality standards apply to the Class I Waters:
 - i. Narrative Criteria: Criteria listed in § 186-5(a)(1) are applicable.
 - ii. Numeric Criteria:
 - (a) Toxic Pollutants: Numeric criteria listed in §186-5(b) including Aquatic Life Criteria in Tables I, 1 and 2 and Human Health Criteria (for the consumption of Organisms) in Table II and Table III are applicable.
 - (b) Bacteria: The 30 day geometric mean for enterococci shall not exceed 30 CFU/100 mL and no more than 10 percent of the samples collected in the same 30 days shall exceed 110 CFU/100 mL.
- (2) Subclass of Inland Groundwaters (IG Waters):
 - (A) Designated usage: For use as a potable water source.
 - (B) Water Quality Criteria: Subclass IG waters shall remain in their natural state to the maximum extent possible with an absolute minimum of pollution from any human-caused source.
 - i. Narrative Criteria: Criteria listed in §186-5(a)(1) are applicable.
 - ii. Numeric Criteria:

- (a) Toxic Pollutants: Numeric criteria listed in § 186-5(b) including Aquatic Life Criteria in Table I, 1 and 2 and Human Health Criteria (for the consumption of Water and Organisms) in Table II and Table III are applicable.
 - (b) Bacteria: The 30 day geometric mean for enterococci shall not exceed 30 CFU/100 mL and no more than 10 percent of the samples collected in the same 30 days shall exceed 110 CFU/100 mL.
- (b) Class of Marine and Coastal Waters
 - (1) Class A Waters:
 - (A) Designated uses: Maintenance and propagation of desirable species of aquatic life (including threatened, endangered species listed pursuant to section 4 of the Federal Endangered Species Act and threatened, endangered and indigenous species listed pursuant Title 12, Chapter 2 of the Virgin Islands Code) and primary contact recreation. Preservation of the unique characteristics of the waters designated as Outstanding Natural Resource Waters (e.g., Natural Barrier Reef at Buck Island, St. Croix and the Under Water Trail at Trunk Bay, St. John), waters of exceptional recreational, environmental, or ecological significance. The quality of these waters cannot be altered except towards natural conditions. No new or increased dischargers shall be permitted.
 - (B) Water Quality Criteria: Natural conditions shall not be altered.
 - (i) Narrative Criteria: Criteria listed in § 186-5(a)(1) and § 186-5(a)(2) are applicable. The biological condition shall be similar or equivalent to reference condition established for biological integrity within Class A waters.
 - (ii) Numeric Criteria:
 - (a) Toxic Pollutants: Numeric criteria listed in § 186-5(b) including Aquatic Life Criteria in Table I, 1 and 2 and Human Health Criteria (for the consumption of Organisms) in Table II and Table III are applicable.
 - (iii) In no case shall Class B water quality standards be exceeded; except for the following quality criteria that must be maintained in

the area of coral reef systems:

- (a) Temperature: Not to exceed 25-29°C at any time, nor as a result of waste discharge to be greater than 1.0°C above natural. Thermal policies (Section 186-6) shall also apply.
 - (b) Turbidity: For areas where coral reef ecosystems are located, a maximum nephelometric turbidity unit reading of one (1) shall be permissible
- (c) Class B Waters:
- (1) Designated uses: Maintenance and propagation of desirable species of aquatic life (including threatened, endangered species listed pursuant to section 4 of the Federal Endangered Species Act and threatened, endangered and indigenous species listed pursuant Title 12, Chapter 2 of the Virgin Islands Code) and primary contact recreation (swimming, water skiing, etc.). This Class allows minimal changes in structure of the biotic community and minimal changes in ecosystem function. Virtually all native taxa are maintained with some changes in biomass and/or abundance; ecosystem functions are fully maintained within the range of natural variability.
 - (2) Water Quality Criteria: The biological condition shall reflect no more than a minimal departure from reference condition for biological integrity.
 - (A) Narrative Criteria: Criteria listed in § 186-5(a)(1) and § 186-5(a)(2) are applicable. The biological condition shall be similar or equivalent to reference condition established for biological integrity within Class B waters.
 - (B) Numerical Criteria: The following criteria apply at and beyond the boundary of the applicable mixing zone as specified in section 186-7 or section 186-14, as the case may be.
 - (i) Toxic Pollutants: Numeric criteria listed in § 186-5(b) including Aquatic Life Criteria in Table I, 1 and 2 and Human Health Criteria (for the consumption of Organisms) in Table II and Table III are applicable
 - (ii) Dissolved oxygen: Not less than 5.5 mg/l except when due to natural causes.
 - (iii) pH: Normal range of pH must not be extended at any location by more than ±0.1 pH unit. At no time shall the pH be less than 7.0 or

greater than 8.3.

(iv) Temperature:

- (a) Not to exceed 32°C at any time, nor as a result of waste discharge to be greater than 1.0°C above natural. Thermal policies (Section 186-6) shall also apply.
- (b) Areas where coral reef ecosystems are located shall not exceed 25-29°C at any time, nor as a result of waste discharge to be greater than 1.0°C above natural. Thermal policies (Section 186-6) shall also apply.

(v) Bacteria:

- (a) The 30 day geometric mean for enterococci shall not exceed 30 CFU/100 mL and no more than 10 percent of the samples collected in the same 30 days shall exceed 110 CFU/100 mL.

(vi) Phosphorus: Phosphorus as total P shall not exceed 50 µg/l in marine and coastal waters.

(vii) Radioactivity:

- (a) Gross beta: 1000 picocuries per liter, in the absence of Sr 90 and alpha emitters.
- (b) Radium-226: 3 picocuries per liter.
- (c) Strontium-90: 10 picocuries per liter.

(viii) Clarity: A Secchi disc shall be visible at a minimum depth of one (1) meter. For waters where the depth does not exceed one (1) meter, the bottom must be visible.

(ix) Turbidity: The following turbidity criteria are applicable to all Class B waters, except for those Class B Waters listed below in §186-4 (c)(2)(B)(ix)(c).

- (a) A maximum nephelometric turbidity unit reading of three (3) shall be permissible.

- (b) For areas where coral reef ecosystems are located, a maximum nephelometric turbidity unit reading of one (1) shall be permissible.
- (c) The following Class B waters, based on § 186-11 (Natural Conditions), are not covered by the above turbidity and color criteria and therefore shall be excluded from those requirements:
 - (1) St. Thomas waters-Mandahl Bay (Marina), Vessup Bay, Water Bay, Benner Bay, and the Mangrove Lagoon.
 - (2) St. Croix waters-Carlton Beach, Good Hope Beach, Salt River Lagoon (Marina), Salt River Lagoon (Sugar Bay), Estate Anguilla Beach, Buccaneer Beach, Tamarind Reef Lagoon, Green Cay Beach and Enfield Green Beach.
 - (3) All non-marine waters defined as Waters of the United States Virgin Islands shoreward of the mean high-tide line.
- (d) Class C Waters
 - (1) Designated uses: Maintenance and propagation of desirable species of aquatic life (including threatened and endangered species listed pursuant to section 4 of the Federal Endangered Species Act and threatened, endangered and indigenous species listed pursuant Title 12, Chapter 2 of the Virgin Islands Code), primary contact recreation (swimming, water skiing, etc.), industrial water supplies, and shipping, and navigation. This Class allows for evident changes in structure of the biotic community and minimal changes in ecosystem function. Evident changes in structure due to loss of some rare native taxa; shifts in relative abundance of taxa (community structure) are allowed but sensitive-ubiquitous taxa remain common and abundant; ecosystem functions are fully maintained through redundant attributes of the system.
 - (2) Water Quality Criteria: The biological condition shall reflect no more than a minimal departure from reference condition as observed at the least disturbed reference site(s) within Class C waters.
 - (A) Narrative Criteria: Criteria listed in § 186-5(a) (1) and § 186-5(a)(2) are

applicable. The biological condition shall be similar or equivalent to reference condition established for biological integrity within Class C waters.

- (B) Numerical Criteria: The following criteria apply at and beyond the boundary of the applicable mixing zone as specified in section 186-7 or section 186-14.
- (i) Toxic Pollutants: Numeric criteria listed in § 186-5(b) including Aquatic Life Criteria in Table I, and 1 and 2 and Human Health Criteria (for the consumption of Organisms) in Table II and Table III are applicable.
 - (ii) Dissolved Oxygen: Not less than 5.0 mg/l except when due to natural causes.
 - (iii) pH: Normal range of pH must not be extended at any location by more than ± 0.1 pH unit. At no time shall the pH be less than 6.7 or greater than 8.5.
 - (iv) Temperature:
 - (a) Not to exceed 32°C at any time, nor as a result of waste discharge to be greater than 1.0°C above natural. Thermal policies (Section 186-6) shall also apply.
 - (b) Areas where coral reef ecosystems are located shall not exceed 25-29°C at any time, nor as a result of waste discharge to be greater than 1.0°C above natural. Thermal policies (Section 186-6) shall also apply.
 - (v) Bacteria:
 - (a) The 30 day geometric mean for enterococci shall not exceed 30 CFU/100 mL and no more than 10 percent of the samples collected in the same 30 days shall exceed 110 CFU/100 mL.
 - (vi) Phosphorus: Phosphorus as total P shall not exceed 50 µg/l in marine and coastal waters.
 - (vii) Radioactivity:
 - (a) Gross beta: 1000 picocuries per liter, in the absence of Sr

90 and alpha emitters.

- (b) Radium-226: 3 picocuries per liter.
- (c) Strontium-90: 10 picocuries per liter.
- (viii) Clarity: A Secchi disc shall be visible at a minimum depth of one (1) meter. For waters where the depth does not exceed one (1) meter, the bottom must be visible.
- (ix) Turbidity: A maximum nephelometric turbidity unit reading of three (3) shall be permissible.
 - (a) A maximum nephelometric turbidity unit reading of three (3) shall be permissible.
 - (b) For areas where coral reef ecosystems are located, a maximum nephelometric turbidity unit reading of one (1) shall be permissible.

§ 186 - 5: General Water Quality Criteria

The following is the narrative water quality criteria and numeric water quality criteria for toxic pollutants applicable to all Territorial Waters – Inland, Marine and Coastal Waters (unless otherwise stated).

- (a) Narrative Water Quality Criteria: All Territorial Waters shall meet generally accepted aesthetic qualifications and shall be capable of supporting diversified aquatic life. Refer to section 186-3 above for a complete list of these waters.
 - (1) All Territorial Waters shall be free of substances attributable to municipal, industrial, or other discharges or wastes as follows:
 - (A) Deposits - materials that will settle to form objectionable deposits,
 - (B) Matter - floating debris, oils, scum, and other nuisance matter,
 - (C) Turbidity - substances producing objectionable turbidity,
 - (D) Materials - including radionuclides, in concentrations or combinations which are toxic or which produce undesirable physiological responses in human, fish and other animal life, and plants,
 - (E) Color - virtually free from substances producing objectionable color for aesthetic purposes,
 - (F) Suspended, colloidal, or settleable solids - from wastewater sources which will cause disposition or be deleterious for the designated uses,

- (G) Oil and floating substances - residue attributable to wastewater or visible oil film or globules of grease,
 - (H) Taste and odor producing substances - in amounts that will interfere with the use for primary contact recreation, potable water supply or will render any undesirable taste or odor to edible aquatic life,
 - (I) Substances and/or conditions - in concentrations which produce undesirable aquatic life, and
 - (J) Nuisance species - Exotic or aquatic.
- (2) **Biocriteria:** The Territory shall preserve, protect, and restore water resources to their most natural condition. The condition of these waterbodies shall be determined from measures of physical, chemical, and biological characteristics of each waterbody class, according to its designated use. As a component of these measures, the Territory may consider the biological integrity of the benthic communities living within waters. These communities shall be assessed by comparison to reference condition(s) with similar abiotic and biotic environmental settings that represent the optimal or least disturbed condition for that system. Such reference conditions shall be those observed to support the greatest community diversity, and abundance of aquatic life as is expected to be or has been historically found in natural settings essentially undisturbed or minimally disturbed by human impacts, development, or discharges. This condition shall be determined by consistent sampling and reliable measures of selected indicator communities of flora and/or fauna and may be used in conjunction with other measures of water quality. Waters shall be of a sufficient quality to support a resident biological community as defined by metrics based upon reference conditions. These narrative biological criteria shall apply to fresh water, wetlands, estuarine, mangrove, seagrass, coral reef and other marine ecosystems based upon their respective reference conditions and metrics.

In utilizing the following guidelines, the Virgin Islands shall preserve, protect, and restore Territorial Waters, excluding inland waters, to their most natural condition.

- (A) **Determining Conditions**
 - (i) The condition of these waterbodies shall be determined from measures of physical, chemical, and biological characteristics of each waterbody class, according to its designated use.
 - (ii) As a component of these measures, the Virgin Islands may consider the biological integrity of the benthic communities living within waters. These communities shall be assessed by

comparison to reference conditions(s) with similar abiotic and biotic environmental settings that represent the optimal or least disturbed condition for that system. Such reference conditions shall be those observed to support the greatest community diversity, and abundance of aquatic life as is expected to be or has been historically found in natural settings essentially undisturbed or minimally disturbed by human impacts, development, or discharges. This condition shall be determined by consistent sampling and reliable measures of selected indicator communities of flora and/or fauna and may be used in conjunction with other measures of water quality.

(B) Sufficient Quality:

- (i) Waters shall be of a sufficient quality to support a resident biological community as defined by metrics based upon reference conditions. These narrative biological criteria shall apply to all marine and coastal waters of the Virgin Islands to include estuarine, mangrove, seagrass, coral reef and other marine ecosystems based upon their respective reference conditions and metrics.

(b) Numeric Water Quality Criteria for Toxic Pollutants (unless otherwise stated).

- (1) The applicable numeric water quality criteria for the toxic pollutants to protect the designated uses of the Territorial Waters shall be the Environmental Protection Agency's (EPA) national recommended Clean Water Act section 304(a) water quality criteria (published in 2013), EPA's Office of Water, Office of Science and Technology (4304T), adopted for the protection of freshwater and saltwater aquatic life from acute (criterion maximum concentration) and chronic (criterion continuous concentration) effects; and, the protection of human health from the consumption of organisms.

(A) The applicable criteria are as follows:

Table I. Aquatic Life Criteria

Pollutant	CAS Number	Freshwater <i>(apply to IF and IG waters)</i>		Saltwater <i>(apply to IBS, A, B, and C waters)</i>	
		CMC ¹ (acute) (µg/L)	CCC ¹ (chronic) (µg/L)	CMC ¹ (acute) (µg/L)	CCC ¹ (chronic) (µg/L)
<u>Acrolein</u>	107028	3	3		

Pollutant	CAS Number	Freshwater (apply to IF and IG waters)		Saltwater (apply to IBS, A, B, and C waters)	
		CMC ¹ (acute) (µg/L)	CCC ¹ (chronic) (µg/L)	CMC ¹ (acute) (µg/L)	CCC ¹ (chronic) (µg/L)
<u>Aldrin</u>	309002	3.0 <u>F</u>		1.3 <u>F</u>	
<u>Alkalinity</u>	—		20000 B		
<u>alpha-Endosulfan</u>	959988	0.22 F,L	0.056 F,L	0.034 F,L	0.0087 F,L
<u>Aluminum pH 6.5 – 9.0</u>	7429905	750G	87 G		
<u>Ammonia</u>	7664417	Freshwater Criteria Are pH, Temperature and Life-stage Dependent T1 Saltwater Criteria Are pH and Temperature Dependent T 2			
<u>Arsenic</u>	7440382	340 <u>A,C</u>	150 <u>A,C</u>	69 <u>A,C</u>	36 <u>A,C</u>
<u>beta-Endosulfan</u>	33213659	0.22 F,L	0.056 F,L	0.034 F,L	0.0087 F,L
<u>Carbaryl</u>	63252	2.1	2.1	1.6	
<u>Cadmium</u>	7440439	2.0 C,D	0.25 C,D	40 <u>C</u>	8.8 <u>C</u>
<u>Chlordane</u>	57749	2.4 <u>F</u>	0.0043 <u>F</u>	0.09 <u>F</u>	0.004 <u>F</u>
<u>Chloride</u>	16887006	860000	230000		
<u>Chlorine</u>	7782505	19	11	13	7.5
<u>Chloropyrifos</u>	2921882	0.083	0.041	0.011	0.0056
<u>Chromium (III)</u>	16065831	570 C,D	74 C,D		
<u>Chromium (VI)</u>	18540299	16 <u>C</u>	11 <u>C</u>	1,100 <u>C</u>	50 C
<u>Copper</u>	7440508	Freshwater criteria calculated using the BLM R D		4.8 C,-M	3.1 C,-M
<u>Cyanide</u>	57125	22 J	5.2 J	1J	1 J
<u>Demeton</u>	8065483		0.1 <u>B</u>		0.1 <u>B</u>
<u>Diazinon</u>	333415	0.17	0.17	0.82	0.82
<u>Dieldrin</u>	60571	0.24	0.056 J	0.71 <u>F</u>	0.0019 <u>F</u>
<u>Endrin</u>	72208	0.086	0.036 J	0.037 <u>F</u>	0.0023 <u>F</u>
<u>gamma-BHC (Lindane)</u>	58899	0.95		0.16 <u>F</u>	
<u>Gases, Total Dissolved</u>	—	To protect freshwater and marine aquatic life, the total dissolved gas concentrations in water should not exceed 100percent of the saturation value for gases at the existing atmospheric and hydrostatic pressures.			
<u>Guthion</u>	86500		0.01 <u>B</u>		0.01 <u>B</u>

Pollutant	CAS Number	Freshwater (apply to IF and IG waters)		Saltwater (apply to IBS, A, B, and C waters)	
		CMC ¹ (acute) (µg/L)	CCC ¹ (chronic) (µg/L)	CMC ¹ (acute) (µg/L)	CCC ¹ (chronic) (µg/L)
<u>Heptachlor</u>	76448	0.52 <u>F</u>	0.0038 <u>F</u>	0.053 <u>F</u>	0.0036 <u>F</u>
<u>Heptachlor Epoxide</u>	1024573	0.52 F,K	0.0038 F,K	0.053 F,K	0.0036 F,K
<u>Iron</u>	7439896		1000 <u>B</u>		
<u>Lead</u>	7439921	65 C,D	2.5 C,D	210 <u>C</u>	8.1 <u>C</u>
<u>Malathion</u>	121755		0.1 <u>B</u>		0.1 <u>B</u>
<u>Mercury</u>	7439976	1.4 C,P	0.77 C,P	1.8 C,Q,P	0.94 C,O,P
<u>Methylmercury</u>	22967926				
<u>Methoxychlor</u>	72435		0.03 <u>B</u>		0.03 <u>B</u>
<u>Mirex</u>	2385855		0.001 <u>B</u>		0.001 <u>B</u>
<u>Nickel</u>	7440020	470 C,D	52 C,D	74 <u>C</u>	8.2 <u>C</u>
<u>Nonylphenol</u>	84852153	28	6.6	7	1.7
<u>Parathion</u>	56382	0.065 <u>G</u>	0.013 <u>G</u>		
<u>Pentachlorophenol</u>	87865	19 <u>E</u>	15 <u>E</u>	13	7.9
<u>Polychlorinated Biphenyls (PCBs)</u>			0.014 <u>I</u>		0.03 <u>I</u>
<u>Selenium</u>	7782492	S,C	5.0 C	290 C,-N	71 C,-N
<u>Silver</u>	7440224	3.2 C,D,F		1.9 C,F	
<u>Sulfide-Hydrogen Sulfide</u>	7783064		2.0 <u>B</u>		2.0B
<u>Toxaphene</u>	8001352	0.73	0.0002	0.21	0.0002
<u>Tributyltin (TBT)</u>	—	0.46	0.072	0.42	0.0074
<u>Zinc</u>	7440666	120 C,D	120 C,D	90 <u>C</u>	81 <u>C</u>
<u>4,4'-DDT</u>	50293	1.1 F,Q	0.001 F,-Q	0.13 F,Q	0.001 F,Q

Footnotes:

Note: Information on duration and frequency of criteria exceedance for criteria listed in Tables I and II is located below Table II.

A This water quality criterion was derived from data for arsenic (III), but is applied here to total arsenic, which might imply that arsenic (III) and arsenic (V) are equally toxic to aquatic life and that their toxicities are additive. No data are known to be available concerning whether the toxicities of the forms of arsenic to aquatic organisms are additive. Please consult the criteria document for details.

B The derivation of this value is presented in the Red Book (EPA 440/9-76-023, July, 1976). The

CCC of 20mg/L is a minimum value except where alkalinity is naturally lower, in which case the criterion cannot be lower than 25% of the natural level.

C Freshwater and saltwater criteria for metals are expressed in terms of the dissolved metal in the water column. See "Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria (PDF)," (49 pp, 3MB) October 1, 1993, by Martha G. Prothro, Acting Assistant Administrator for Water, available from the Water Resource center and 40CFR§131.36(b)(1). Conversion Factors applied in the table can be found in Table IV below.

D The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. The value given here corresponds to a hardness of 100 mg/L. Criteria values for other hardness may be calculated per the equation presented in Table V below.

E Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH. Values displayed in table correspond to a pH of 7.8.

F This Criterion is based on 304(a) aquatic life criterion issued in 1980, and was issued in one of the following documents: Aldrin/Dieldrin (PDF) (153 pp, 7.3MB) (EPA 440/5-80-019), Chlordane (PDF) (68 pp, 3.1MB) (EPA 440/5-80-027), DDT (PDF) (175 pp, 8.3MB) (EPA 440/5-80-038), Endosulfan (PDF) (155 pp, 7.3MB) (EPA 440/5-80-046), Endrin (PDF) (103 pp, 4.6MB) (EPA 440/5-80-047), Heptachlor (PDF) (114 pp, 5.4MB) (EPA 440/5-80-052), Hexachlorocyclohexane (PDF) (109 pp, 4.8MB) (EPA 440/5-80-054), Silver (EPA 440/5-80-071). The Minimum Data Requirements and derivation procedures were different in the 1980 Guidelines than in the 1985 Guidelines (PDF) (104 pp, 3.3MB). If assessment is to be done using an averaging period, the values given should be divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines.

G This value for aluminum is expressed in terms of total recoverable metal in the water column.

H This criterion applies to total PCBs, (e.g., the sum of all congener or all isomer or homolog or Aroclor analyses.)

I The derivation of the CCC for this pollutant (Endrin) did not consider exposure through the diet, which is probably important for aquatic life occupying upper trophic levels.

J This recommended water quality criterion is expressed as µg free cyanide (as CN)/L.

K This value was derived from data for heptachlor and the criteria document provides insufficient data to estimate the relative toxicities of heptachlor and heptachlor epoxide.

L This value was derived from data for endosulfan and is most appropriately applied to the sum of alpha-endosulfan and beta-endosulfan.

M When the concentration of dissolved organic carbon is elevated, copper is substantially less toxic and use of Water-Effect Ratios might be appropriate.

N The selenium criteria document (EPA 440/5-87-006, September 1987) provides that if selenium is as toxic to saltwater fishes in the field as it is to freshwater fishes in the field, the status of the fish community should be monitored whenever the concentration of selenium exceeds 5.0 µg/L in salt water because the saltwater CCC does not take into account uptake via the food chain.

O This water quality criterion was derived on page 43 of the mercury criteria document (PDF) (144 pp, 6.4MB) (EPA 440/5-84-026, January 1985). The saltwater CCC of 0.025 µg/L given on page 23 of the criteria document is based on the Final Residue Value procedure in the 1985

Guidelines.

P This water quality criterion was derived from data for inorganic mercury (II), but is applied here to total mercury. If a substantial portion of the mercury in the water column is methylmercury, this criterion will probably be under protective. In addition, even though inorganic mercury is converted to methylmercury and methylmercury bioaccumulates to a great extent, this criterion does not account for uptake via the food chain because sufficient data were not available when the criterion was derived.

Q This criterion applies to DDT and its metabolites (i.e., the total concentration of DDT and its metabolites should not exceed this value).

R The available toxicity data, when evaluated using the procedures described in the “Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses” indicate that freshwater aquatic life should be protected if the 24-hour average and four-day average concentrations do not respectively exceed the acute and chronic criteria concentrations calculated by the Biotic Ligand Model.

S The $CMC = 1/[(f1/CMC1) + (f2/CMC2)]$ where $f1$ and $f2$ are the fractions of total selenium that are treated as selenite and selenate, respectively, and $CMC1$ and $CMC2$ are 185.9 µg/l and 12.82 µg/l, respectively.

T. Calculation of Ammonia Criteria

A. Acute Criterion:

The one-hour average concentration of total ammonia nitrogen (in mg TAN/L) is not to exceed, more than once every three years on the average, the CMC (acute criterion magnitude) calculated using the following equation:

$$CMC = MIN \left(\left(\frac{0.275}{1 + 10^{7.204-pH}} + \frac{39.0}{1 + 10^{pH-7.204}} \right), \left(0.7249 \times \left(\frac{0.0114}{1 + 10^{7.204-pH}} + \frac{1.6181}{1 + 10^{pH-7.204}} \right) \times (23.12 \times 10^{0.036 \times (20-T)}) \right) \right)$$

B. Chronic Criterion Calculations

The thirty-day rolling average concentration of total ammonia nitrogen (in mg TAN/L) is not to exceed, more than once every three years on the average, the chronic criterion magnitude (CCC) calculated using the following equation:

$$CCC = 0.8876 \times \left(\frac{0.0278}{1 + 10^{7.688-pH}} + \frac{1.1994}{1 + 10^{pH-7.688}} \right) \times (2.126 \times 10^{0.028 \times (20-MAX(T,7))})$$

In addition, the highest four-day average within the 30-day averaging period should not be more than 2.5 times the CCC (e.g., 2.5×1.9 mg TAN/L at pH 7 and 20°C or 4.8 mg TAN/L) more than once in three years on average.

T.2 Calculation of Saltwater Ammonia Criteria (for Class A, B, C, and IBS Waters):

Concentrations based on total ammonia for the pH range of 7.0 to 9.0, temperature range of 0 to 35°C, and salinities of 10, 20 and 30 g/kg are provided in Tables 1 and 2 below:

Table 1. Water quality criteria for saltwater aquatic life based on total ammonia (mg/L) –
 Criteria Maximum Concentrations.

Temperature (C deg)						
	10	15	20	25	30	35
pH	Salinity = 10 g/kg					
7.0	131	92	62	44	29	21
7.2	83	58	40	27	19	13
7.4	52	35	25	17	12	8.3
7.6	33	23	16	11	7.7	5.6
7.8	21	15	10	7.1	5.0	3.5
8.0	13	9.4	6.4	4.6	3.1	2.3
8.2	8.5	5.8	4.2	2.9	2.1	1.5
8.4	5.4	3.7	2.7	1.9	1.4	1.0
8.6	3.5	2.5	1.8	1.3	0.98	0.75
8.8	2.3	1.7	1.2	0.92	0.71	0.56
9.0	1.5	1.1	0.85	0.67	0.52	0.44
pH	Salinity = 20 g/kg					
7.0	137	96	64	44	31	21
7.2	87	60	42	29	20	14
7.4	54	37	27	18	12	8.7
7.6	35	23	17	11	7.9	5.6
7.8	23	15	11	7.5	5.2	3.5
8.0	14	9.8	6.7	4.8	3.3	2.3
8.2	8.9	6.2	4.4	3.1	2.1	1.6
8.4	5.6	4.0	2.9	2.0	1.5	1.1
8.6	3.7	2.7	1.9	1.4	1.0	0.77
8.8	2.5	1.7	1.3	0.94	0.73	0.56
9.0	1.6	1.2	0.87	0.69	0.54	0.44
pH	Salinity = 30 g/kg					
7.0	148	102	71	48	33	23
7.2	94	64	44	31	21	15
7.4	58	40	27	19	13	9.4
7.6	37	25	21	12	8.5	6.0
7.8	23	16	11	7.9	5.4	3.7
8.0	15	10	7.3	5.0	3.5	2.5
8.2	9.6	6.7	4.6	3.3	2.3	1.7
8.4	6.0	4.2	2.9	2.1	1.6	1.1
8.6	4.0	2.7	2.0	1.4	1.1	0.81
8.8	2.5	1.8	1.3	1.0	0.75	0.58
9.0	1.7	1.2	0.94	0.71	0.56	0.46

Table 2. Water quality criteria for saltwater aquatic life based on total ammonia (mg/L) –
 Criteria Continuous Concentrations.

Temperature (C deg)						
	10	15	20	25	30	35
pH	Salinity = 10 g/kg					
7.0	20	14	9.4	6.6	4.4	3.1
7.2	12	8.7	5.9	4.1	2.8	2.0
7.4	7.8	5.3	3.7	2.6	1.8	1.2
7.6	5.0	3.4	2.4	1.7	1.2	0.84
7.8	3.1	2.2	1.5	1.1	0.75	0.53
8.0	2.0	1.4	0.97	0.69	0.47	0.34
8.2	1.3	0.87	0.62	0.44	0.31	0.23
8.4	0.81	0.56	0.41	0.29	0.21	0.16
8.6	0.53	0.37	0.27	0.2	0.15	0.11
8.8	0.34	0.25	0.18	0.14	0.11	0.08
9.0	0.23	0.17	0.13	0.1	0.08	0.07
pH	Salinity = 20 g/kg					
7.0	21	14	9.7	6.6	4.7	3.1
7.2	13	9.0	6.2	4.4	3.0	2.1
7.4	8.1	5.6	4.1	2.7	1.9	1.3
7.6	5.3	3.4	2.5	1.7	1.2	0.84
7.8	3.4	2.3	1.6	1.1	0.78	0.53
8.0	2.1	1.5	1.0	0.72	0.5	0.34
8.2	1.3	0.94	0.66	0.47	0.31	0.24
8.4	0.84	0.59	0.44	0.3	0.22	0.16
8.6	0.56	0.41	0.28	0.2	0.15	0.12
8.8	0.37	0.26	0.19	0.14	0.11	0.08
9.0	0.24	0.18	0.13	0.1	0.08	0.07
pH	Salinity = 30 g/kg					
7.0	22	15	11	7.2	5.0	3.4
7.2	14	9.7	6.6	4.7	3.1	2.2
7.4	8.7	5.9	4.1	2.9	2.0	1.4
7.6	5.6	3.7	3.1	1.8	1.3	0.9
7.8	3.4	2.4	1.7	1.2	0.81	0.56
8.0	2.2	1.6	1.1	0.75	0.53	0.37
8.2	1.4	1.0	0.69	0.5	0.34	0.25
8.4	0.9	0.62	0.44	0.31	0.23	0.17
8.6	0.59	0.41	0.3	0.22	0.16	0.12
8.8	0.37	0.27	0.2	0.15	0.11	0.09
9.0	0.26	0.19	0.14	0.11	0.08	0.07

Table II. Human Health Criteria

Pollutant	CAS Number	Human Health for the consumption of	
		Water + Organism (µg/L) <i>(apply to IG waters only)</i>	Organism Only (µg/L) <i>(apply to IF, IBS and A,B,C waters)</i>
<u>Acenaphthene</u>	83329	670 A,G	990 A,G
<u>Acrolein</u>	107028	6 K	9 K
<u>Acrylonitrile</u>	107131	0.051 A,B	0.25 A,B
<u>Aldrin</u>	309002	0.000049 A,B	0.000050 A,B
<u>alpha-BHC</u>	319846	0.0026 A,B	0.0049 A,B
<u>alpha-Endosulfan</u>	959988	62 A	89 A
<u>Anthracene</u>	120127	8,300 A	40,000 A
<u>Antimony</u>	7440360	5.6 A	640 A
<u>Arsenic</u>	7440382	0.018 B,F	0.14 B,F
<u>Asbestos</u>	1332214	7 million fibers/L C	
<u>Barium</u>	7440393	1,000	
<u>Benzene</u>	71432	2.2 A,B	51 A,B
<u>Benzidine</u>	92875	0.000086 A,B	0.00020 A,B
<u>Benzo(a) Anthracene</u>	56553	0.0038 A,B	0.018 A,B
<u>Benzo(a) Pyrene</u>	50328	0.0038 A,B	0.018 A,B
<u>Benzo(b) Fluoranthene</u>	205992	0.0038 A,B	0.018 A,B
<u>Benzo(k) Fluoranthene</u>	207089	0.0038 A,B	0.018 A,B
<u>beta-BHC</u>	319857	0.0091 A,B	0.017 A,B
<u>beta-Endosulfan</u>	33213659	62 A	89 A
<u>Bis(2-Chloroethyl) Ether</u>	111444	0.030 A,B	0.53 A,B
<u>Bis(2-Chloroisopropyl) Ether</u>	108601	1,400 A	65,000 A
<u>Bis(2-Ethylhexyl) Phthalate^X</u>	117817	1.2 A,B	2.2 A,B
<u>Bromoform</u>	75252	4.3 A,B	140 A,B
<u>Butylbenzyl Phthalate^W</u>	85687	1,500 A	1,900 A
<u>Carbon Tetrachloride</u>	56235	0.23 A,B	1.6 A,B
<u>Chlordane</u>	57749	0.00080 A,B	0.00081 A,B
<u>Chlorobenzene</u>	108907	130 S,G	1,600 G
<u>Chlorodibromomethane</u>	124481	0.40 A,B	13 A,B
<u>Chloroform</u>	67663	5.7 B,	470 B,
<u>Chlorophenoxy Herbicide (2,4-D)</u>	94757	100 H	

Pollutant	CAS Number	Human Health for the consumption of	
		Water + Organism (µg/L) <i>(apply to IG waters only)</i>	Organism Only (µg/L) <i>(apply to IF, IBS and A,B,C waters)</i>
<u>Chrysene</u>	218019	0.0038 A,B	0.018 A,B
<u>Copper</u>	7440508	1,300 J,G	
<u>Cyanide</u>	57125	140 I	140 I
<u>Dibenzo(a,h)Anthracene</u>	53703	0.0038 A,B	0.018 A,B
<u>Dichlorobromomethane</u>	75274	0.55 A,B	17 A,B
<u>Diieldrin</u>	60571	0.000052 A,B	0.000054 A,B
<u>Diethyl Phthalate^W</u>	84662	17,000 A	44,000 A
<u>Dimethyl Phthalate^W</u>	131113	270,000	1,100,000
<u>Di-n-Butyl Phthalate^W</u>	84742	2,000 A	4,500 A
<u>Dinitrophenols</u>	25550587	69	5300
<u>Endosulfan Sulfate</u>	1031078	62 A	89 A
<u>Endrin</u>	72208	0.059	0.060
<u>Endrin Aldehyde</u>	7421934	0.29 A	0.30 A,
<u>Ether, Bis(Chloromethyl)</u>	542881	0.00010 B	0.00029 B
<u>Ethylbenzene</u>	100414	530	2,100
<u>Fluoranthene</u>	206440	130 A	140 A
<u>Fluorene</u>	86737	1,100 A	5,300 A
<u>gamma-BHC (Lindane)</u>	58899	0.98	1.8
<u>Heptachlor</u>	76448	0.000079 A,B	0.000079 A,B
<u>Heptachlor Epoxide</u>	1024573	0.000039 A,B	0.000039 A,B
<u>Hexachlorobenzene</u>	118741	0.00028 A,B	0.00029 A,B
<u>Hexachlorobutadiene</u>	87683	0.44 A,B	18 A,B
<u>Hexachlorocyclo-hexane- Technical</u>	608731	0.0123	0.0414
<u>Hexachlorocyclopentadiene</u>	77474	40 G	1,100 G
<u>Hexachloroethane</u>	67721	1.4 A,B	3.3 A,B
<u>Ideno(1,2,3-cd)Pyrene</u>	193395	0.0038 A,B	0.018 A,B
<u>Isophorone</u>	78591	35 A,B	960 A,B
<u>Manganese</u>	7439965	50 E	100
<u>Mercury □Methylmercury</u>	7439976 □2296792 6		0.3 mg/kg D
<u>Methoxychlor</u>	72435	100 H	

Pollutant	CAS Number	Human Health for the consumption of	
		Water + Organism (µg/L) <i>(apply to IG waters only)</i>	Organism Only (µg/L) <i>(apply to IF, IBS and A,B,C waters)</i>
<u>Methyl Bromide</u>	74839	47 A	1,500 A
<u>Methylene Chloride</u>	75092	4.6 A,B	590 A,B
<u>Nickel</u>	7440020	610 A	4,600 A
<u>Nitrates</u>	14797558	10,000	
<u>Nitrobenzene</u>	98953	17 A,G	690 A,G
<u>Nitrosamines</u>	—	0.0008	1.24
<u>Nitrosodibutylamine, T</u>	924163	0.0063 B	0.22 B
<u>Nitrosodiethylamine, T</u>	55185	0.0008 B	1.24 B
<u>Nitrosopyrrolidine, T</u>	930552	0.016 B	34 B
<u>N-Nitrosodimethylamine</u>	62759	0.00069 A,B	3.0 A,B
<u>N-Nitrosodi-n-Propylamine</u>	621647	0.0050 A,B	0.51 A,B
<u>N-Nitrosodiphenylamine</u>	86306	3.3 A,B	6.0 A,B
<u>Pentachlorobenzene</u>	608935	1.4	1.5
<u>Pentachlorophenol</u>	87865	0.27 A,B,G	3.0 A,B,G
<u>Phenol</u>	108952	10,000 K,G	860,000 K,G
<u>Polychlorinated Biphenyls (PCBs)</u>		0.000064 A,B , L	0.000064 A,B ,L
<u>Pyrene</u>	129000	830 A	4,000 A
<u>Selenium</u>	7782492	170 H	4200
<u>Solids Dissolved and Salinity</u>	—	250,000	
<u>Tetrachlorobenzene,1,2,4,5-</u>	95943	0.97 A	1.1 A
<u>Tetrachloroethylene</u>	127184	0.69 B	3.3 B
<u>Thallium</u>	7440280	0.24	0.47
<u>Toluene</u>	108883	1,300 H	15,000
<u>Toxaphene</u>	8001352	0.00028 A,B	0.00028 A,B
<u>Trichloroethylene</u>	79016	2.5 B	30 B
<u>Trichlorophenol,2,4,5-</u>	95954	1,800 A,G	3,600 A,G
<u>Vinyl Chloride</u>	75014	0.025 B,J	2.4 B,J
<u>Zinc</u>	7440666	7,400 G	26,000 G
<u>1,1,2,2-Tetrachloroethane</u>	79345	0.17 A,B	4.0 A,B
<u>1,1,2-Trichloroethane</u>	79005	0.59 A,B	16 A,B
<u>1,1-Dichloroethylene</u>	75354	330	7,100
<u>1,2,4-Trichlorobenzene</u>	120821	35	70

Pollutant	CAS Number	Human Health for the consumption of	
		Water + Organism (µg/L) (<i>apply to IG waters only</i>)	Organism Only (µg/L) (<i>apply to IF, IBS and A,B,C waters</i>)
<u>1,2-Dichlorobenzene</u>	95501	420	1,300
<u>1,2-Dichloroethane</u>	107062	0.38 A,B	37 A,B
<u>1,2-Dichloropropane</u>	78875	0.50 A,B	15 A,B
<u>1,2-Diphenylhydrazine</u>	122667	0.036 A,B	0.20 A,B
<u>1,2-Trans-Dichloroethylene</u>	156605	140 H	10,000
<u>1,3-Dichlorobenzene</u>	541731	320	960
<u>1,3-Dichloropropene</u>	542756	0.34 B	21 B
<u>1,4-Dichlorobenzene</u>	106467	63	190
<u>2,3,7,8-TCDD (Dioxin)</u>	1746016	5.0E-9 B	5.1E-9 B
<u>2,4,6-Trichlorophenol</u>	88062	1.4 A,B,G	2.4 A,B,G
<u>2,4-Dichlorophenol</u>	120832	77 A,G	290 A,G
<u>2,4-Dimethylphenol</u>	105679	380 A	850 A,G
<u>2,4-Dinitrophenol</u>	51285	69 A	5,300 A
<u>2,4-Dinitrotoluene</u>	121142	0.11 B	3.4 B
<u>2-Chloronaphthalene</u>	91587	1,000 A	1,600 A
<u>2-Chlorophenol</u>	95578	81 A,G	150 A,G
<u>2-Methyl-4,6-Dinitrophenol</u>	534521	13	280
<u>3,3'-Dichlorobenzidine</u>	91941	0.021 A,B	0.028 A,B
<u>4,4'-DDD</u>	72548	0.00031A,B	0.00031 A,B
<u>4,4'-DDE</u>	72559	0.00022 A,B	0.00022 A,B
<u>4,4'-DDT</u>	50293	0.00022 A,B	0.00022 A,B

Footnotes

A This criterion has been revised to reflect The Environmental Protection Agency's q1* or RfD, as contained in the Integrated Risk Information System (IRIS) as of May 17, 2002. The fish tissue bioconcentration factor (BCF) from the 1980 Ambient Water Quality Criteria document used to derive the original criterion was retained in each case.

B This criterion is based on carcinogenicity of 10⁻⁶ risk.

C This criterion for asbestos is the Maximum Contaminant Level (MCL) developed under the Safe Drinking Water Act (SDWA).

D This fish tissue residue criterion for methylmercury is based on a total fish consumption rate of 0.0175 kg/day.

E This criterion for manganese is not based on toxic effects, but rather is intended to minimize objectionable qualities such as laundry stains and objectionable tastes in beverages.

F This recommended water quality criterion for arsenic refers to the inorganic form only.

G The organoleptic effect criterion is more stringent than the value for priority toxic pollutants. The organoleptic criteria can be found in Table III below.

H A more stringent Maximum Contaminant Level (MCL) has been issued by EPA under the Safe Drinking Water Act. Refer to drinking water regulations 40CFR141 or Safe Drinking Water Hotline (1-800-426-4791) for values.

I This recommended water quality criterion is expressed as total cyanide, even though the IRIS RFD we used to derive the criterion is based on free cyanide. The multiple forms of cyanide that are present in ambient water have significant differences in toxicity due to their differing abilities to liberate the CN-moiety. Some complex cyanides require even more extreme conditions than refluxing with sulfuric acid to liberate the CN-moiety. Thus, these complex cyanides are expected to have little or no 'bioavailability' to humans. If a substantial fraction of the cyanide present in a water body is present in a complexed form (e.g., $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$), this criterion may be over conservative.

J This recommended water quality criterion was derived using the cancer slope factor of 1.4 (LMS exposure from birth).

K This criterion has been revised to reflect the Environmental Protection Agency's cancer slope factor (CSF) or reference dose (RfD), as contained in the Integrated Risk Information System (IRIS) as of (date of publication of Final FR Notice). The fish tissue bioconcentration factor (BCF) from the 1980 Ambient Water Quality Criteria document was retained in each case.

L This criterion applies to total PCBs, (e.g., the sum of all congener or all isomer or homolog or Aroclor analyses.)

Frequency and Duration of Criteria Exceedance for the Criteria in Tables I and II:

1. Acute aquatic life protection criteria are expressed as one-hour average not to be exceeded more than once over a three year period.
2. Chronic aquatic life protection criteria are expressed as four-day average not to be exceeded more than once over a three year period.
3. Human health noncarcinogenic effect-based criteria are expressed as a 30-day average with no frequency of exceedance.
4. Human health carcinogenic effect-based criteria are expressed as a 70-year average with no frequency of exceedance.
5. For ammonia, the highest four-day average within the 30-day period should not exceed 2.5 times the CCC.

Table III - Organoleptic Effects (e.g., taste and odor)

Pollutant	CAS Number	Organoleptic Effect Criteria (µg/L)
Acenaphthene	83329	20
Monochlorobenzene	108907	20
3-Chlorophenol	—	0.1
4-Chlorophenol	106489	0.1
2,3-Dichlorophenol	—	0.04
2,5-Dichlorophenol	—	0.5
2,6-Dichlorophenol	—	0.2
3,4-Dichlorophenol	—	0.3
2,4,5-Trichlorophenol	95954	1
2,4,6-Trichlorophenol	88062	2
2,3,4,6-Tetrachlorophenol	—	1
2-Methyl-4-Chlorophenol	—	1800
3-Methyl-4-Chlorophenol	59507	3000
3-Methyl-6-Chlorophenol	—	20
2-Chlorophenol	95578	0.1
Copper	7440508	1000
2,4-Dichlorophenol	120832	0.3
2,4-Dimethylphenol	105679	400
Hexachlorocyclopentadiene	77474	1
Nitrobenzene	98953	30
Pentachlorophenol	87865	30
Phenol	108952	300
Zinc	7440666	5000

Table IV - Conversion Factors for Dissolved Metals

Metal	Conversion Factor			
	freshwater CMC	freshwater CCC	saltwater CMC	saltwater CCC ¹
Arsenic	1.000	1.000	1.000	1.000
Cadmium	1.136672-[ln hardness)(0.041838)]	1.101672-[ln hardness)(0.041838)]	0.994	0.994
Chromium III	0.316	0.860	—	—
Chromium VI	0.982	0.962	0.993	0.993
Copper	0.960	0.960	0.83	0.83
Lead	1.46203-[ln hardness)(0.145712)]	1.46203-[ln hardness)(0.145712)]	0.951	0.951
Mercury	0.85	0.85	0.85	0.85
Nickel	0.998	0.997	0.990	0.990
Selenium	—	—	0.998	0.998
Silver	0.85	—	0.85	—
Zinc	0.978	0.986	0.946	0.946

Table V - Parameters for Calculating Freshwater Dissolved Metals Criteria That Are Hardness-Dependent

Chemical	m _a	b _a	m _c	b _c	Freshwater Conversion Factors (CF)	
					CMC	CCC
Cadmium	1.0166	-3.924	0.7409	-4.719	1.136672- [(Inhardness)(0.041838)]	1.101672- [(Inhardness)(0.041838)]
Chromium III	0.8190	3.7256	0.8190	0.6848	0.316	0.860
Copper	0.9422	-1.700	0.8545	-1.702	0.960	0.960
Lead	1.273	-1.460	1.273	-4.705	1.46203- [(Inhardness)(0.145712)]	1.46203- [(Inhardness)(0.145712)]
Nickel	0.8460	2.255	0.8460	0.0584	0.998	0.997
Silver	1.72	-6.59	—	—	0.85	—
Zinc	0.8473	0.884	0.8473	0.884	0.978	0.986

Hardness-dependant metals' criteria may be calculated from the following:

$$CMC \text{ (dissolved)} = \exp\{m_a [\ln(\text{hardness})] + b_a\} \text{ (CF)}$$

$$CCC \text{ (dissolved)} = \exp\{m_c [\ln(\text{hardness})] + b_c\} \text{ (CF)}$$

§ 186 - 6: Thermal Policy

Thermal pollution is the change in the water temperature of the Territorial Waters caused by man-made practices that may adversely affect fish, aquatic life, animals, and human health.

- (a) In order to protect the Territorial Waters from thermal pollution, the following criteria shall apply:
1. Fish and other aquatic life shall be protected from thermal blocks, providing for a minimum of seventy-five percent (75%) stream or estuarine cross-section and/or volumetric passageway, including a minimum of one half of the surface as measured from water edge to water edge at any stage of tide.
 2. In non-passageway the surface water temperature shall not exceed 32°C.
 3. No heat may be added except in designated mixing zones which would cause temperatures to exceed 32°C, or which would cause the monthly mean of the maximum daily temperature at any site, prior to the addition of any heat, to be exceeded by more than 1.0°C.
 4. No discharge or combination of discharges shall be injurious to aquatic life (including threatened and endangered species listed pursuant to section 4 of the federal Endangered Species Act and Title 12, Chapter 2 of the Virgin Islands Code) or the culture or propagation of a balanced indigenous population thereof.
 5. Mixing zones proposed for areas with coral reef ecosystems will have to meet the required water quality standards for temperature and turbidity.
 6. Rate of temperature change outside the mixing zone shall not be more than 0.5°C per hour nor to exceed 3°C in any 24-hour period except when natural phenomena cause these limits to be exceeded.
 7. Unless specific conditions, such as spawning ground, migratory routes, or other sections of conditions from these regulations are applicable, the mixing zone should be defined by a sphere with a specified point as the center (not necessarily the outfall but limited to one point for each installation) and a radius equal to the square root of the volume of discharge (A) expressed as millions of gallons per day, times 200 feet; and in no case exceed 3/8 mile. The formula is:
Radius (mixing zone) = $(\sqrt{A}) * 200 \text{ feet} \leq 3/8 \text{ mile}$.

§ 186 - 7: Mixing Zones

DPNR-DEP may establish mixing zones that apply to the discharge of treated wastewater to surface waters of the Territorial Waters.

- (a) DPNR-DEP, in determining whether to establish/grant a mixing zone, shall apply the following criteria:
1. Mixing zones shall be limited to an area or volume as small as feasible;
 2. There shall be prompt mixing of the discharge with receiving waters;
 3. Mixing zones shall not be used for, or considered as a substitute for, minimum treatment technology;
 4. There shall be no lethality to organisms passing through the mixing zone;
 5. There shall be safe and adequate passage for swimming and drifting organisms;
 6. The location, design, and operation of the discharge shall minimize impacts on aquatic life, and shall not interfere with biological communities, including spawning areas, nursery areas, and fish migration routes to a degree that is damaging to the ecosystem;
 7. Mixing zones shall not encroach upon areas used for harvesting of stationary species such as shellfish;
 8. Mixing zones shall not encroach upon intakes for potable water supplies;
 9. Mixing zones shall not create nuisance conditions, accumulate pollutants in sediments or biota in toxic amounts, or diminish existing or best usages of surface waters disproportionately;
 10. There shall be no mixing zones for pathogens or indicators of pathogens; and
 11. There shall be no mixing zones for discharges that would likely jeopardize the continued existence of any threatened or endangered species listed pursuant to section 4 of the Federal Endangered Species Act and threatened, endangered and indigenous species listed pursuant Title 12, Chapter 2 of the Virgin Islands Code, or result in the destruction or adverse modification of such species' critical habitat.

186 - 8: Anti-degradation Policy and Implementation Procedures

DPNR-DEP shall maintain and protect existing in stream water uses, including those that protect threatened and endangered species listed pursuant to section 4 of the Federal Endangered Species Act and Title 12, Chapter 2 of the Virgin Islands Code, as well as the level of water quality necessary to protect existing uses.

(a) Anti-degradation Policy

- (1) In those water bodies where the quality exceeds levels necessary to

support propagation of fish, wildlife, desirable species, including threatened or endangered species and recreation in and on the water, that quality shall be maintained and protected.

- (2) A lower water quality may be allowed when the DPNR's Water Quality Management Program and the Environmental Protection Agency determines, after full satisfaction, and in accordance with the public review process (§ 186- 15 herein), that allowing lower water quality is necessary to accommodate important economic or social development and will not interfere with or become injurious to any assigned uses made of, or presently possible in such waters. In allowing such lower water quality, the Territory's Water Quality Management Program and the Environmental Protection Agency shall require a water quality level adequate to fully protect existing and designated uses. Further, the Territory's Water Quality Management Program and the Environmental Protection Agency will require that:
 - (A) The highest statutory and regulatory requirements for all new and/or existing point sources be achieved, and
 - (B) The cost-effective and reasonable best management practices for non-point sources control be implemented.
- (3) Where high quality waters constitute an outstanding national resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, the water quality shall be maintained and protected.
- (4) Where potential water quality impairment is associated with a thermal discharge this thermal discharge must comply with Section 316 of the Clean Water Act, as amended, 33 U.S.C. §1326.

(b) Antidegradation Implementation Procedures

- (1) General: In conducting an antidegradation review, the DPNR-DEP will sequentially apply the following steps:
 - (A) Determine which level of antidegradation applies:
 - (i) Tier 1 – Protection of Existing and Designated Uses
 - (ii) Tier 2 – Protection of High Quality Waters
 - (iii) Tier 3 – Protection of ONRWs

- (B) Review existing water quality data and other information submitted by the applicant. The applicant shall provide to the DPNR the information regarding the discharge required by the WQS including, but not limited to the following:
- (i) Description of the nature of the pollutants to be discharged,
 - (ii) Treatment technologies applied to the pollutants to be discharged,
 - (iii) Nature of the petitioner's business,
 - (iv) Daily maximum and average flow to be discharged,
 - (v) Effluent characterization,
 - (vi) Effluent limitations requested to be applied to the discharge according to the TPDES regulations,
 - (vii) Location of the point of discharge,
 - (viii) Receiving water body name,
 - (ix) Water quality data of the receiving water body,
 - (x) Receiving water body minimum flow for stream waters,
 - (xi) Location of water intakes within the water body, and
 - (xii) In the event that the proposed discharge will result in the lowering of water quality, data and information demonstrating that the discharge is necessary to accommodate important economic or social development in the area where the receiving waters are located
- (C) Determine if additional information or assessment is necessary to make the decision.
- (D) Prepare an intent to issue or deny the request for an increased loading and publish a notice in a newspaper of wide circulation in the island where the water body is located informing the public of DPNR's preliminary decision and granting a public participation period of at least thirty (30) days.
- (E) Address the comments received from the interested parties and consider such comments as part of the decision making process.
- (F) Make the final determination to approve or deny the request for an increased loading.
- (2) Tier 1 - Existing uses protection: All existing uses and the water quality necessary to protect the existing uses shall be maintained and protected.
- (A) Tier 1 waters are:
- (i) Those Waters of the US Virgin Islands identified as impaired and

that have been included in the list required by Section 303(d) of the CWA; and

- (ii) Those Territorial Waters for which attainment of applicable water quality standards has been or is expected to be, achieved through implementation of effluent limitations more stringent than technology-based controls.
- (B) To implement Tier 1 anti-degradation, DPNR must determine if a discharge would lower the water quality to the extent that it would no longer be sufficient to protect and maintain the existing and designated uses of that water body.
 - (C) When a water body has been affected by a parameter of concern causing it to be included on the 303(d) List, then the DPNR will not allow an increase of the concentration of the parameter of concern or pollutants affecting the parameter of concern in the water body. This “no increase” will be achieved by meeting the applicable water quality standards at the end of the pipe. Until such time that a Total Maximum Daily Load (TMDL) is developed for the parameter of concern for the water body, no discharge will be allowed to cause or contribute to further degradation of the water body.
 - (D) When the assimilative capacity of a water body is not sufficient to ensure maintenance of the water quality standard for a parameter of concern with an additional load to the water body, then the DPNR will not allow an increase of the concentration of the parameter of concern or pollutants affecting the parameter of concern in the water body. This “no increase” will be achieved by meeting the applicable water quality standards at the end of the pipe. Until such time that a TMDL is developed for the parameter of concern for the water body, no discharge will be allowed to cause or contribute to further degradation of the water body.
- (3) Tier 2 - High quality water protection:
 - (A) Identification of high quality water shall be performed on a parameter-by-parameter basis. Waters shall not be excluded from Tier 2 protection based solely on the impairment of a single parameter or group of parameters if any of the uses specified in CWA section 101(a)(2) is attained.
 - (B) To verify that a water body is a high quality water for a parameter of concern, which initiates a Tier 2 antidegradation review, the DPNR must evaluate and determine:

- (i) The existing water quality of the water body,
 - (ii) The projected water quality of the water body, and
 - (iii) If the existing and designated uses of the water body will be fully maintained and protected in the event of a lowering of water quality.

- (C) In multiple discharge situations, the effects of all discharges shall be evaluated.

- (D) Alternative analysis and social/economic analysis shall be conducted to determine if the lowering of the water quality that would result from a proposed activity, is necessary to accommodate important economic or social development in the area in which the waters are located.

- (E) An antidegradation demonstration submittal is required for any person seeking to lower the water quality in a High Quality Water. The antidegradation demonstration submittal to DPNR must include the following:
 - (i) Pollution Prevention Alternatives Analysis: Identify any cost-effective pollution prevention alternatives and techniques that are available to person that would eliminate or significantly reduce the extent to which the increased loading results in a lowering of the water quality.
 - (ii) Alternative or Enhanced Treatment Analysis: Identify alternative or enhanced treatment techniques that are available to the person that would eliminate the lowering of the water quality and their costs relative to the cost of treatment necessary to achieve applicable effluent limitations.
 - (iii) Important Social or Economic Development Analysis: Identify the social or economic development and the benefits to the area in which the waters are located that will be foregone if the lowering of water quality is not allowed.

- (F) In order to allow the lowering of water quality in high quality waters, the applicant must show and justify the necessity for such lowering of the water quality. DPNR will not allow the entire assimilative capacity of a water body for a parameter of concern to be allocated to a discharger, if the necessity of the requested effluent limitation for the parameter of

- concern is not demonstrated to the full satisfaction of DPNR.
- (G) The public review process in § 186-15 shall be fully satisfied in any finding that will allow a lower water quality.
 - (H) Requirements for point and nonpoint sources when allowing a lowering of water quality shall be 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 control.
 - (I) DPNR's Antidegradation decision process is as follows:
 - (i) Once DPNR determines that the information provided by the person proposing to increase loadings is administratively complete, DPNR shall use that information to determine whether or not the lowering of the water quality is necessary.
 - (ii) If DPNR determines that the lowering of the water quality is necessary, DPNR must then determine whether or not the lowering of the water quality will support important social and economic development in the area.
 - (iii) If the proposed lowering of water quality is either not necessary, or will not support important social and economic development, DPNR shall deny the request to lower the water quality.
 - (iv) If the lowering of the water quality is necessary, and will support important social and economic development, DPNR may allow all or part of the proposed lowering to occur as necessary.
- (4) Tier III - ONRW Protection: Waters identified as ONRWs shall be maintained and protected.
- (A) The DPNR may designate a specific water as Class A.
 - (B) Any interested party may nominate a specific water to be classified as an ONRW and the DPNR will make the final determination.
 - (C) The natural conditions of Class A waters shall not be changed. No new or increased point source dischargers will be permitted in ONRWs.
- (5) Thermal Discharges: Consistency with Section 316 of the CWA shall be ensured in cases that involve potential water quality impairment associated with thermal discharges.

§ 186 - 9: Analytical Procedure

- (a) The analytical procedures used as methods of analysis to determine the chemical, bacteriological, biological, and radiological quality of waters sampled shall be in accordance with those specified in or approved under Title 40 of the Code of Federal Regulations (CFR) Part 136 or other methods approved by the DPNR and the EPA.

§ 186 - 10: Applicability of Standards

- (a) If a requirement established by any provision of this Regulation is either more restrictive or less restrictive than a requirement established by any other provision of this Regulation, or by any other law, regulation, standard, or limit established by any duly constituted governmental authority having jurisdiction, the requirement which is more restrictive shall apply.

§186 - 11: Natural Conditions

- (a) Natural waters may have characteristics outside of the limits prescribed by these regulations. The criteria contained herein do not relate to violations of standards resulting from natural forces.

§ 186 - 12: Compliance Schedules

- (a) Persons, who are authorized to discharge pollutants into the Waters of the United States Virgin Islands at the time these WQS are amended to add or make more stringent any water quality standards, shall meet such newly adopted or more stringent water quality standards within three (3) years of the effective date of the amendment.
- (b) The Commissioner shall upon the expiration of the three (3) years revoke or modify any discharge permit previously issued which result in reducing the quality of such waters below the newly established standards.
- (c) Nothing in this Section shall limit any authority of the Commissioner to set or revise schedules of compliance pursuant to the statues and regulations referred to herein.

§ 186 - 13: Site-specific Criteria

DPNR may allow site-specific modifications to criteria on a site-specific basis in order to reflect

local environmental conditions.

- (a) Requirements for Site-specific Modifications to Criteria: Any modification must comply with the following:
- (1) Modifications must be protective of designated uses and aquatic life, wildlife or human health.
 - (2) Modifications that result in less stringent criteria must be based on a sound scientific rationale and shall not be likely to jeopardize the continued existence of endangered or threatened species listed or proposed under section 4 of the Federal Endangered Species Act (ESA) and Title 12, Chapter 2 of the Virgin Islands Code or result in the destruction or adverse modification of such species' critical habitat.
 - (3) More stringent modifications shall be developed to protect endangered or threatened species listed or proposed under section 4 of the federal ESA and Title 12, Chapter 2 of the Virgin Islands Code, where such modifications are necessary to ensure that water quality is not likely to jeopardize the continued existence of such species or result in the destruction or adverse modification of such species' critical habitat.
 - (4) Modification that result in less stringent criteria must comply with the public review process in § 186 – 15 herein.
 - (5) Modifications must be submitted by DPNR to EPA for approval.
- (b) Aquatic Life Criteria:
- (1) Aquatic life criteria may be modified on a site- specific basis to provide an additional level of protection.
 - (2) Less stringent site-specific modifications to chronic or acute aquatic life criteria may be developed when:
 - (A) The local water quality characteristics such as pH, hardness, temperature, color, etc., alter the biological availability or toxicity of a pollutant; or
 - (b) The sensitivity of the aquatic organism species that “occur at the site” differs from the species actually tested in developing the criteria. The phrase “occur at the site” includes the species, genera, families, orders, classes, and phyla that: are usually present at the site; are present at the site only seasonally due to migration; are present intermittently because they periodically return to or extend their ranges into the site; were present

at the site in the past, are not currently present at the site due to degraded conditions, and are expected to return to the site when conditions improve; are present in nearby bodies of water, are not currently present at the site due to degraded conditions, and are expected to be present at the site when conditions improve. The taxa that “occur at the site” cannot be determined merely by sampling downstream and/or upstream of the site at one point in time. “Occur at the site” does not include taxa that were once present at the site but cannot exist at the site now due to permanent physical alteration of the habitat at the site resulting, for example, from dams, etc.

- (3) Less stringent modifications also may be developed to acute and chronic aquatic life criteria to reflect local physical and hydrological conditions.

(c) Human Health Criteria:

- (1) Human health criteria may be modified on a site-specific basis to provide and additional level of protection. Human health criteria shall be modified on a site-specific basis to provide additional protection appropriate for highly exposed subpopulations.
- (2) Less stringent site-specific modifications to human health criteria may be developed when: i. local fish consumption rates are lower than the rate used in deriving the human health criteria in 186-5(c) and/or ii. a site-specific bioaccumulation factor is derived which is lower than that used in deriving human health criteria in 186-5(c).

§ 186 - 14: Variances

It is DPNR’s policy that a variance is only appropriate when a designated use is not attainable in the short-term but might be attainable in the long-term. DPNR-DEP may consider a temporary modification to a designated use and associated water quality criteria that would otherwise apply.

- (a) Applicability: A variance from any WQS that is the basis of a water quality-based effluent limitation included in a TPDES Permit is based on the following:
 - (1) A variance from WQS applies only to the permittee requesting the variance and only to the pollutant or pollutants specified in the variance.
 - (2) A variance does not affect, or require DPNR to modify, the corresponding water quality standard for the waterbody as a whole.
 - (3) A variance from a water quality standard shall not be granted that would likely

jeopardize the continued existence of any endangered or threatened species listed under Section 4 of the Federal Endangered Species Act (ESA) Act and Title 12, Chapter 2 of the Virgin Islands Code or result in the destruction or adverse modification of such species' critical habitat.

- (4) A variance from WQS shall not be granted if standards will be attained by implementing effluent limits required under sections 301(b) and 306 of the Clean Water Act (CWA) and by the permittee implementing cost-effective and reasonable best management practices for nonpoint source control.
- (b) The maximum timeframe: A variance from the WQS shall not exceed five (5) years or the term of the TPDES permit, whichever is less. DPNR will review, and modify as necessary, variances from WQS as part of each water quality standards review pursuant to section 303(c) of the CWA.
- (c) Conditions to grant: A variance from the WQS may be granted if:
 - (1) The permittee demonstrates to DPNR that attaining the WQS is not feasible because:
 - (A) Naturally occurring pollutant concentrations prevent the attainment of the WQS;
 - (B) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the WQS, unless these conditions may be compensated for by the discharge of sufficient volume of effluent to enable WQS to be met without violating State or Tribal water conservation requirements;
 - (C) Human-caused conditions or sources of pollution prevent the attainment of the WQS and cannot be remedied, or would cause more environmental damage to correct than to leave in place;
 - (D) Dams, diversions or other types of hydrologic modifications preclude the attainment of the WQS, and it is not feasible to restore the waterbody to its original condition or to operate such modification in a way that would result in the attainment of the WQS;
 - (E) Physical conditions related to the natural features of the waterbody, such as the lack of a proper substrate cover, flow, depth, pools, riffles, and the like, unrelated to chemical water quality, preclude attainment of WQS; or
 - (F) Controls more stringent than those required by sections 301(b) and 306 of

the CWA would result in substantial and widespread economic and social impact.

- (2) The permittee shall also:
 - (A) Show that the variance requested conforms to the requirements of the antidegradation procedures in §186-8; and
 - (B) Characterize the extent of any increased risk to human health and the environment associated with granting the variance compared with compliance with WQS absent the variance, such that DPNR is able to conclude that any such increased risk is consistent with the protection of the public health, safety and welfare.
- (d) Application: The permittee shall submit to DPNR-DEP an application for a variance from the WQS and the application shall include:
 - (1) All relevant information demonstrating that attaining the WQS is not feasible based on one or more of the conditions in §186-14 (c)(1) herein; and
 - (2) All relevant information demonstrating compliance with the conditions in §186-14 (c)(2) herein.
- (e) Public notice of preliminary decision: Upon receipt of a complete application for a variance from the WQS, and upon making a preliminary decision regarding the variance, DPNR-DEP shall public notice the request and preliminary decision for public comment. This public notice will be satisfied by including the supporting information for the variance from the WQS and the preliminary decision in the public notice of a draft TPDES permit.
- (f) Final decision: DPNR-DEP will issue a final decision on a variance request within 90 days of the expiration of the public comment period required in accordance with the TPDES permit. If DPNR-DEP approves all or part of the variance from the WQS, the decision shall include all permit conditions needed to implement those parts of the variance as approved. Such permit conditions shall, at a minimum, require:
 - (1) Compliance with an initial effluent limitation which, at the time the variance from the WQS is granted, represents the level currently achievable by the permittee, and which is no less stringent than that achieved under the previous permit;
 - (2) Achieving reasonable progress toward attaining the water quality standards for the waterbody as a whole through appropriate conditions;

- (3) When the duration of a variance from the WQS is shorter than the duration of a permit, compliance with an effluent limitation sufficient to meet the underlying water quality standard, upon the expiration of said variance; and
 - (4) A provision that allows DPNR to reopen and modify or revoke any condition granted in a variance due to the permittee not providing relevant information that reasonable would affect the decision process.
- (g) Incorporating the variance: DPNR-DEP will establish and incorporate into the permittee's TPDES permit all conditions needed to implement the variance from the WQS as determined in §186-14 (f) herein.
- (h) Renewal of variance: A variance may be renewed, subject to the requirements of §186-14 (a) through §186-14 (g) herein. As part of any renewal application, the permittee shall again demonstrate that attaining the WQS is not feasible based on the requirements of §186-14 (c). The permittee's application shall also contain information concerning its compliance with the conditions incorporated into its permit as part of the original variance from the WQS pursuant to §186-14 (f) through §186-14 (g) herein. Renewal of a variance may be denied if the permittee did not comply with the conditions of the original variance.
- (i) EPA Approval: DPNR shall submit all variances from the WQS and supporting information to EPA Region 2 for approval. The submittal shall include
- (1) Relevant permittee applications pursuant to §186-14 (d),
 - (2) Public comments and records of any public hearings pursuant to §186-14 (e),
 - (3) The final decision pursuant to §186-14 (f) of this procedure, and
 - (4) TPDES permits issued pursuant to §186-14 (g) of this procedure.

§ 186 - 15: Public Review Process

- (a) Public Notice: Public notice shall be published on each island in one (1) newspaper of wide circulations within that island informing of the DPNR-DEP's intention to amend the VI Water Quality Standards Regulations. Such notice shall also:
- (1) Inform the public and interested parties that comments related to the proposed WQS amendments can be submitted to the DPNR-DEP within sixty (60) days after publication of the notice;

- (2) Include the location and times in which the amended draft of the VI's Water Quality Standards Regulations, "Background and Basis" document and other relevant documents are available for public review; and
 - (3) Include other relevant information determined by the DPNR-DEP.
- (b) Public Hearing: The DPNR-DEP shall hold public hearings, within a reasonable time, after the expiration of the sixty (60) day public comment period described above in Section A. The DPNR-DEP shall publish public notice of the public hearing at least thirty (30) days prior to the set public hearing date, in one (1) newspaper of wide circulation within each island, specifying the following:
- (1) The day(s), the time(s) and the place(s) of the public hearing,
 - (2) The waters for which standards are sought to be amended, and
 - (3) Include any other pertinent information specified by the DPNR-DEP.
- (c) Response to Comments: The DPNR-DEP shall review all public comments submitted during the public review process, including comments received during the public hearings. The DPNR-DEP shall complete and make available to the public the "Response to Comments" document prior to the adoption of proposed amendments into the VIWQS Regulations.

§ 186 - 16: Enforcement

The Commissioner shall enforce these Water Quality Standards Rules and Regulations in accordance with 12 VIC § 186 (d) and as amended."

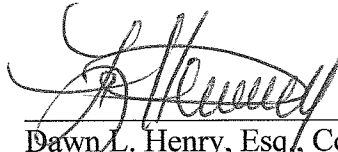
SECTION 2. By her signature hereon, the Commissioner of the Department of Planning and Natural Resources certifies that:

a) Public notice of these Rules and Regulations were advertised on February 3, 2014 in the Virgin Islands Daily News, and March 5, 2014 in the St. Croix Avis pursuant to Title 12, V.I.C. §186(b), and that the public comment period ran from February 3 to April 7, 2014.

SECTION 3. By his signature hereon, the Governor of the U.S. Virgin Islands certifies, in accordance with the provisions of Title 3, Chapter 35, Section 938, Virgin Islands Code, that compelling circumstances and the public interest require the Virgin Islands Rules and Regulations contained in Section 1 above become effective on this ___ day of _____, 2015, without the lengthy delay of prior publication, and on which date they have been submitted to the Legislature pursuant to Title 3, Chapter 35, Section 913, Virgin Islands Code.

Pursuant to the provisions of Title 12, Chapter 7, Section 186(d), the above Rules and Regulations are hereby promulgated.

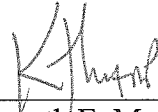
DATED: June 17, 2015



Dawn L. Henry, Esq., Commissioner Nominee
Department of Planning and Natural Resources

Pursuant to the powers vested in me by Section 11 of the Revised Organic Act of 1954, and by Title 3, Virgin Islands Code, the above Rules and Regulations of the Virgin Islands Department of Planning and Natural Resources are hereby approved.

DATED: 08-28-15



Kenneth E. Mapp
Governor of the United States Virgin Islands

I, Osbert E. Potter, Lieutenant Governor of the United States Virgin Islands, have reviewed the foregoing Rules and Regulations, Title 12, Chapter 7, Subchapter 186, and find them to be in compliance with title 3, Chapter 35, Virgin Islands Rules and Regulations, and hereby approve the same in accordance with Title 3, Virgin Islands Code, Section 936.


DATED: 9/9/15



Osbert E. Potter
Lieutenant Governor of the
United States Virgin Islands

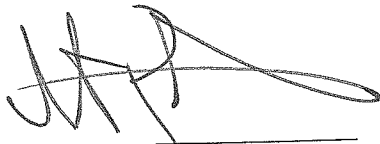
GOVERNOR'S CERTIFICATE

Pursuant to the authority granted under Section 938 of Title 3, Virgin Islands Code, I, Kenneth E. Mapp, Governor of the U.S. Virgin Islands, certify that because of compelling circumstances, including lengthy delay before publication, the public interest requires that the attached rules and regulations that revise and update the Water Quality Standards for the Waters of the U.S. Virgin Islands, become effective prior to publication in the Virgin Islands Rules and Regulations. The compelling circumstances under which this Certificate is issued also include bringing the Territory into compliance with standards set forth in the federal Clean Water Act. The public interest requires prompt promulgation of the attached rules and regulations to implement the revised and updated water quality standards pertaining to Title 12, Chapter 7, Subchapter 186. These Rules and Regulations shall become effective upon this 28th day of August, 2015.



Kenneth E. Mapp
Governor of the U.S. Virgin Islands

Attest:



Osbert E. Potter
Lieutenant Governor
of the U.S. Virgin Islands

Date: 9/9/15