

Chapter 62-302 of the Florida Administrative Code Surface Water Quality Standards

(Current as of March 2011)

62-302.100 Findings, Declaration and Intent. (Repealed)

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804, 403.805 FS. Law Implemented 403.021, 403.061, 403.085, 403.086, 403.087, 403.088, 403.101, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708, 403.802 FS. History - New 5-29-90, Formerly 17-302.100, Repealed 12-26-96.

62-302.200 Definitions.

(1) "Acute Toxicity" shall mean the presence of one or more substances or characteristics or components of substances in amounts which:

(a) Are greater than one-third (1/3) of the amount lethal to 50% of the test organisms in 96 hours (96 hr LC₅₀) where the 96 hr LC₅₀ is the lowest value which has been determined for a species significant to the indigenous aquatic community; or

(b) may reasonably be expected, based upon evaluation by generally accepted scientific methods, to produce effects equal to those of the concentration of the substance specified in (a) above.

(2) "Annual Average Flow" is the long-term harmonic mean flow of the receiving water, or an equivalent flow based on generally accepted scientific procedures in waters for which such a mean cannot be calculated. For waters for which flow records have been kept for at least the last three years, "long-term" shall mean the period of record. For all other waters, "long-term" shall mean three years (unless the Department finds the data from that period not representative of present flow conditions, based on evidence of land use or other changes affecting the flow) or the period of records sufficient to show a variation of flow of at least three orders of magnitude, whichever period is less. For nontidal portions of rivers and streams, the harmonic mean (Q_{hm}) shall be calculated as

$$Q_{hm} = \frac{n}{\frac{1}{Q_1} + \frac{1}{Q_2} + \frac{1}{Q_3} + \frac{1}{Q_4} + \dots + \frac{1}{Q_n}}$$

in which each Q is an individual flow record and n is the total number of records. In lakes and reservoirs, the annual average flow shall be based on the hydraulic residence time, which shall be calculated according to generally accepted scientific procedures, using the harmonic mean flows for the inflow sources. In tidal estuaries and coastal systems or tidal portions of rivers and streams, the annual average flow shall be determined using methods described in EPA publication no. 600/6-85/002b pages 142 - 227, incorporated by reference in 62-4.246(9)(k), or by other generally accepted scientific procedures, using the harmonic mean flow for any freshwater inflow. If there are insufficient data to determine the harmonic mean then the harmonic mean shall be estimated by methods as set forth in the EPA publication Technical Support Document for Water Quality-Based Toxics Control (March 1991), incorporated by reference in 62-4.246(9)(d), or other generally accepted scientific procedures. In situations with seasonably variable effluent discharge rates, hold-and-release treatment systems, and effluent-dominated sites, annual average flow shall mean modeling techniques that calculate long-term average daily concentrations from long-term individual daily flows and concentrations in accordance with generally accepted scientific procedures.

(3) "Background" shall mean the condition of waters in the absence of the activity or discharge under consideration, based on the best scientific information available to the Department.

(4) "Chronic Toxicity" shall mean the presence of one or more substances or characteristics or components of substances in amounts which:

(a) are greater than one-twentieth (1/20) of the amount lethal to 50% of the test organisms in 96 hrs (96 hr LC₅₀) where the 96 hr LC₅₀ is the lowest value which has been determined for a species significant to the indigenous aquatic community; or

(b) may reasonably be expected, based upon evaluation by generally accepted scientific methods, to produce effects equal to those of the concentration of the substance specified in (a) above.

(5) "Commission" shall mean the Environmental Regulation Commission.

(6) "Compensation Point for Photosynthetic Activity" shall mean the depth at which one percent of the light intensity at the surface remains unabsorbed. The light intensities at the surface and subsurface shall be measured simultaneously by irradiance meters such as the Kahlsico Underwater Irradiometer, Model No. 268 WA 310 or other devices having a comparable spectral response.

(7) "Department" shall mean the Department of Environmental Protection.

(8) "Designated Use" shall mean the present and future most beneficial use of a body of water as designated by the Environmental Regulation Commission by means of the classification system contained in this Chapter.

(9) "Dissolved Metal" shall mean the metal fraction that passes through a 0.45 micron filter.

(10) "Effluent Limitation" shall mean any restriction established by the Department on quantities, rates or concentrations of chemical, physical, biological or other constituents which are discharged from sources into waters of the State.

(11) "Exceptional Ecological Significance" shall mean that a water body is a part of an ecosystem of unusual value. The exceptional significance may be in unusual species, productivity, diversity, ecological relationships, ambient water quality, scientific or educational interest, or in other aspects of the ecosystem's setting or processes.

(12) "Exceptional Recreational Significance" shall mean unusual value as a resource for outdoor recreation activities. Outdoor recreation activities include, but are not limited to, fishing, boating, canoeing, water skiing, swimming, scuba diving, or nature observation. The exceptional significance may be in the intensity of present recreational usage, in an unusual quality of recreational experience, or in the potential for unusual future recreational use or experience.

(13) "Existing Uses" shall mean any actual beneficial use of the water body on or after November 28, 1975.

(14) "Man-induced conditions which cannot be controlled or abated" shall mean conditions that have been influenced by human activities, and

(a) would remain after removal of all point sources,

(b) would remain after imposition of best management practices for non-point sources, and

(c) cannot be restored or abated by physical alteration of the water body, or there is no reasonable relationship between the economic, social and environmental costs and the benefits of restoration or physical alteration.

(15) "Natural Background" shall mean the condition of waters in the absence of man-induced alterations based on the best scientific information available to the Department. The establishment of natural background for an altered waterbody may be based upon a similar unaltered waterbody or on historical pre-alteration data.

(16) "Nuisance Species" shall mean species of flora or fauna whose noxious characteristics or presence in sufficient number, biomass, or areal extent may reasonably be expected to prevent, or unreasonably interfere with, a designated use of those waters.

(17) "Nursery Area of Indigenous Aquatic Life" shall mean any bed of the following aquatic plants, either in monoculture or mixed: Halodule wrightii, Halophila spp., Potamogeton spp. (pondweed), Ruppia maritima (widgeon-grass), Sagittaria spp. (arrowhead), Syringodium filiforme (manatee-grass), Thalassia testudinum (turtle grass), or Vallisneria spp. (eel-grass), or any area used by the early-life stages, larvae and post-larvae, of aquatic life during the period of rapid growth and development into the juvenile states.

(18) "Outstanding Florida Waters" shall mean waters designated by the Environmental Regulation Commission as worthy of special protection because of their natural attributes.

(19) "Outstanding National Resource Waters" shall mean waters designated by the Environmental Regulation Commission that are of such exceptional recreational or ecological significance that water quality should be maintained and protected under all circumstances, other than temporary lowering and the lowering allowed under Section 316 of the Federal Clean Water Act.

(20) "Pollution" shall mean the presence in the outdoor atmosphere or waters of the state of any substances, contaminants, noise, or man-made or man-induced alteration of the chemical, physical, biological or radiological integrity of air or water in quantities or levels which are or may be potentially harmful or injurious to human health or welfare, animal or plant life, or property, including outdoor recreation.

(21) "Predominantly Fresh Waters" shall mean surface waters in which the chloride concentration at the surface is less than 1,500 milligrams per liter.

(22) "Predominantly Marine Waters" shall mean surface waters in which the chloride concentration at the surface is greater than or equal to 1,500 milligrams per liter.

(23) "Propagation" shall mean reproduction sufficient to maintain the species' role in its respective ecological community.

(24) "Secretary" shall mean the Secretary of the Department of Environmental Protection.

(25) "Shannon-Weaver Diversity Index" shall mean: negative summation (from $i=1$ to s) of $(n_i/N) \log_2 (n_i/N)$ where s is the number of species in a sample, N is the total number of individuals in a sample, and n_i is the total number of individuals in species i .

(26) "Special Waters" shall mean water bodies designated in accordance with Section 62-302.700, F.A.C., by the Environmental Regulation Commission for inclusion in the Special Waters Category of Outstanding Florida Waters, as contained in Section 62-302.700, F.A.C. A Special Water may include all or part of any water body.

(27) "Surface Water" means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural

springs shall be classified as surface water when it exits from the spring onto the earth's surface.

(28) "Total Recoverable Metal" shall mean the concentration of metal in an unfiltered sample following treatment with hot dilute mineral acid.

(29) "Water quality criteria" shall mean elements of State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports the present and future most beneficial uses.

(30) "Water quality standards" shall mean standards composed of designated present and future most beneficial uses (classification of waters), the numerical and narrative criteria applied to the specific water uses or classification, the Florida antidegradation policy, and the moderating provisions contained in this Rule and in F.A.C. Rule 62-4, adopted pursuant to Chapter 403, F.S.

(31) "Waters" shall be as defined in Section 403.031(13), Florida Statutes.

(32) "Zone of Mixing" or "Mixing Zone" shall mean a volume of surface water containing the point or area of discharge and within which an opportunity for the mixture of wastes with receiving surface waters has been afforded.

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804, 403.805 FS. Law Implemented 403.021, 403.031, 403.061, 403.085, 403.086, 403.087, 403.088, 403.502, 403.802 FS. History - New 05-29-90, Amended 2-13-92, Formerly 17-302.200, Amended 1-23-95, 5-15-02.

62-302.300 Findings, Intent and Antidegradation Policy for Surface Water Quality.

(1) Article II, Section 7 of the Florida Constitution requires abatement of water pollution and conservation and protection of Florida's natural resources and scenic beauty.

(2) Congress, in Section 101(a)(2) of the Federal Water Pollution Control Act, as amended, declares that achievement by July 1, 1983, of water quality sufficient for the protection and propagation of fish, shellfish, and wildlife, as well as for recreation in and on the water, is an interim goal to be sought whenever attainable. Congress further states in Section 101(a)(3), that it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited.

(3) The present and future most beneficial uses of all waters of the State have been designated by the Department by means of the classification system set forth in this Chapter pursuant to Subsection 403.061(10), F.S. Water quality standards are established by the Department to protect these designated uses.

(4) Because activities outside the State sometimes cause pollution of Florida's waters, the Department will make every reasonable effort to have such pollution abated.

(5) Water quality standards apply equally to and shall be uniformly enforced in both the public and private sector.

(6) Public interest shall not be construed to mean only those activities conducted solely to provide facilities or benefits to the general public. Private activities conducted for private purposes may also be in the public interest.

(7) The Commission, recognizing the complexity of water quality management and the necessity to temper regulatory actions with the technological progress and the

social and economic well-being of people, urges, however, that there be no compromise where discharges of pollutants constitute a valid hazard to human health.

(8) The Commission requests that the Secretary seek and use the best environmental information available when making decisions on the effects of chronically and acutely toxic substances and carcinogenic, mutagenic, and teratogenic substances. Additionally, the Secretary is requested to seek and encourage innovative research and developments in waste treatment alternatives that might better preserve environmental quality or at the same time reduce the energy and dollar costs of operation.

(9) The criteria set forth in this Chapter are minimum levels which are necessary to protect the designated uses of a water body. It is the intent of this Commission that permit applicants should not be penalized due to a low detection limit associated with any specific criteria.

(10)(a) The Department's rules that were adopted on March 1, 1979 regarding water quality standards are designed to protect the public health or welfare and to enhance the quality of waters of the State. They have been established taking into consideration the use and value of waters of the State for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation.

(b) Under the approach taken in the formulation of the rules adopted in this proceeding:

1. The Department's rules that were adopted on March 1, 1979 regarding water quality standards are based upon the best scientific knowledge related to the protection of the various designated uses of waters of the State; and

2. The mixing zone, zone of discharge, site specific alternative criteria, exemption, and equitable allocation provisions are designed to provide an opportunity for the future consideration of factors relating to localized situations which could not adequately be addressed in this proceeding, including economic and social consequences, attainability, irretrievable conditions, natural background, and detectability.

(c) This is an even-handed and balanced approach to attainment of water quality objectives. The Commission has specifically recognized that the social, economic and environmental costs may, under certain special circumstances, outweigh the social, economic and environmental benefits if the numerical criteria are enforced statewide. It is for that reason that the Commission has provided for mixing zones, zones of discharge, site specific alternative criteria, exemptions and other provisions in Chapters 62-302, 62-4, 62-600, and 62-660, F.A.C. Furthermore, the continued availability of the moderating provisions is a vital factor providing a basis for the Commission's determination that water quality standards applicable to water classes in the rule are attainable taking into consideration environmental, technological, social, economic and institutional factors. The companion provisions of Chapters 62-4, 62-600, 62-660, F.A.C., approved simultaneously with these Water Quality Standards are incorporated herein by reference as a substantive part of the State's comprehensive program for the control, abatement and prevention of water pollution.

(d) Without the moderating provisions described in (b)2. above, the Commission would not have adopted the revisions described in (b)1. above nor determined that they are attainable as generally applicable water quality standards.

(11) Section 403.021, Florida Statutes, declares that the public policy of the State is to conserve the waters of the State to protect, maintain, and improve the quality thereof for public water supplies, for the propagation of wildlife, fish and other aquatic life, and for domestic, agricultural, industrial, recreational, and other beneficial uses. It also prohibits the discharge of wastes into Florida waters without treatment necessary to protect those beneficial uses of the waters.

(12) The Department shall assure that there shall be achieved 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. For the purposes of this rule, highest statutory and regulatory requirements for new and existing point sources are those which can be achieved through imposition of effluent limits required under Sections 301(b) and 306 of the Federal Clean Water Act (as amended in 1987) and Chapter 403, F.S. For the purposes of this rule, cost-effective and reasonable best management practices for nonpoint source control are those nonpoint source controls authorized under Chapters 373 and 403, F.S., and Department rules.

(13) The Department finds that excessive nutrients (total nitrogen and total phosphorus) constitute one of the most severe water quality problems facing the State. It shall be the Department's policy to limit the introduction of man-induced nutrients into waters of the State. Particular consideration shall be given to the protection from further nutrient enrichment of waters which are presently high in nutrient concentrations or sensitive to further nutrient concentrations and sensitive to further nutrient loadings. Also, particular consideration shall be given to the protection from nutrient enrichment of those presently containing very low nutrient concentrations: less than 0.3 milligrams per liter total nitrogen or less than 0.04 milligrams per liter total phosphorus.

(14) Existing uses and the level of water quality necessary to protect the existing uses shall be fully maintained and protected. Such uses may be different or more extensive than the designated use.

(15) Pollution which causes or contributes to new violations of water quality standards or to continuation of existing violations is harmful to the waters of this State and shall not be allowed. Waters having water quality below the criteria established for them shall be protected and enhanced. However, the Department shall not strive to abate natural conditions.

(16) If the Department finds that a new or existing discharge will reduce the quality of the receiving waters below the classification established for them or violate any Department rule or standard, it shall refuse to permit the discharge.

(17) If the Department finds that a proposed new discharge or expansion of an existing discharge will not reduce the quality of the receiving waters below the classification established for them, it shall permit the discharge if such degradation is necessary or desirable under federal standards and under circumstances which are clearly in the public interest, and if all other Department requirements are met. Projects permitted under Part IV of Chapter 373, F.S., shall be considered in compliance with this subsection if those projects comply with the requirements of subsection 373.414(1), F.S.; also projects permitted under the grandfather provisions of Sections 373.414(11) through (16), F.S., or permitted under Section 373.4145, F.S., shall be considered in

compliance with this subsection if those projects comply with the requirements of Rule 62-312.080(2), F.A.C.

(18)(a) Except as provided in subparagraphs (b) and (c) of this paragraph, an applicant for either a general or generic permit or renewal of an existing permit for which no expansion of the discharge is proposed is not required to show that any degradation from the discharge is necessary or desirable under federal standards and under circumstances which are clearly in the public interest.

(b) If the Department determines that the applicant has caused degradation of water quality over and above that allowed through previous permits issued to the applicant, then the applicant shall demonstrate that this lowering of water quality is necessary or desirable under federal standards and under circumstances which are clearly in the public interest. These circumstances are limited to cases where it has been demonstrated that degradation of water quality is occurring due to the discharge.

(c) If the new or expanded discharge was initially permitted by the Department on or after October 4, 1989, and the Department determines that an antidegradation analysis was not conducted, then the applicant seeking renewal of the existing permit shall demonstrate that degradation from the discharge is necessary or desirable under federal standards and under circumstances which are clearly in the public interest.

Specific Authority 403.061, 403.062, 403.087, 403.088, 403.504, 403.704, 403.804, 403.805 FS. Law Implemented 373.414, 403.021, 403.061, 403.085, 403.086, 403.087, 403.088, 403.101, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708, 403.802 FS. History - Formerly 17-3.041, Amended 1-28-90, Formerly 17-3.042, Formerly 17-302.300, Amended 12-19-94, 1-23-95, 12-26-96, 5-15-02, 12-7-06.

62-302.400 Classification of Surface Waters, Usage, Reclassification, Classified Waters.

(1) All surface waters of the State have been classified according to designated uses as follows:

- CLASS I Potable Water Supplies
- CLASS II Shellfish Propagation or Harvesting
- CLASS III Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife
- CLASS IV Agricultural Water Supplies
- CLASS V Navigation, Utility and Industrial Use

(2) Classification of a water body according to a particular designated use or uses does not preclude use of the water for other purposes.

(3) The specific water quality criteria corresponding to each surface water classification are listed in Rules 62-302.500 and 62-302.530, F.A.C.

(4) Water quality classifications are arranged in order of the degree of protection required, with Class I water having generally the most stringent water quality criteria and Class V the least. However, Class I, II, and III surface waters share water quality criteria established to protect recreation and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife.

(5) Criteria applicable to a classification are designed to maintain the minimum conditions necessary to assure the suitability of water for the designated use

of the classification. In addition, applicable criteria are generally adequate to maintain minimum conditions required for the designated uses of less stringently regulated classifications. Therefore, unless clearly inconsistent with the criteria applicable, the designated uses of less stringently regulated classifications shall be deemed to be included within the designated uses of more stringently regulated classifications.

(6) Any person regulated by the Department or having a substantial interest in this Chapter may seek reclassification of waters of the State by filing a petition with the Secretary in the form required by Section 120.57, F.S.

(7) A petition for reclassification shall reference and be accompanied by the information necessary to support the affirmative finding required in this Section to support the proposed reclassification.

(8) All reclassifications of waters of the State shall be adopted, after public notice and public hearing, only upon an affirmative finding by the Environmental Regulation Commission that:

(a) The proposed reclassification will establish the present and future most beneficial use of the waters; and

(b) Such a reclassification is clearly in the public interest.

(9) Reclassification of waters of the State which establishes more stringent criteria than presently established by this Chapter shall be adopted, only upon additional affirmative finding by the Environmental Regulation Commission that the proposed designated use is attainable, upon consideration of environmental, technological, social, economic, and institutional factors.

(10) The surface waters of the State of Florida are classified as Class III - Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife, except for certain waters which are described in this Rule 62-302.400(12). A water body may be designated as an Outstanding Florida Water or an Outstanding National Resource Water in addition to being classified as Class I, Class II, or Class III. A water body may also have special standards applied to it. Outstanding Florida Waters and Outstanding National Resource Waters are listed in Rule 62-302.700, F.A.C.

(11) Unless otherwise specified, the following shall apply:

(a) The landward extent of a classification shall coincide with the landward extent of waters of the state, as defined in Rule 62-340.600, F.A.C.

(b) Water quality classifications shall be interpreted to include associated water bodies such as tidal creeks, coves, bays and bayous.

(12) Exceptions to Class III:

(a) All secondary and tertiary canals wholly within agricultural areas are classified as Class IV and are not individually listed as exceptions to Class III.

"Secondary and tertiary canals" shall mean any wholly artificial canal or ditch which is behind a control structure and which is part of a water control system that is connected to the works (set forth in Section 373.086, F.S.) of a water management district created under Section 373.069, F.S., and that is permitted by such water management district pursuant to Section 373.103, Section 373.413, or Section 373.416, F.S. Agricultural areas shall generally include lands actively used solely for the production of food and fiber which are zoned for agricultural use where county zoning is in effect. Agricultural

areas exclude lands which are platted and subdivided or in a transition phase to residential use;

(b) The following listed water bodies are classified as Class I, Class II, or Class V:

1. Alachua County - none.
2. Baker County - none.
3. Bay County

Class I

Bayou George and Creek - Impoundment to source.
Bear Creek - Impoundment to source.
Big Cedar Creek - Impoundment to source.
Deer Point Impoundment - Dam to source.
Econfina Creek - Upstream of Deer Point Impoundment.

Class II

- East Bay and Tributaries - East of U.S. Highway 98 to, but excluding Wetappo Creek.
North Bay and Tributaries - North of U.S. Highway 98 to Deer Point Dam excluding Alligator Bayou and Fanning Bayous north of an east-west line through Channel Marker 3.
West Bay and Tributaries - West of North Bay (line from West Bay Point on the north to Shell Point on the South) except West Bay Creek (northwest of Channel Marker 27C off Goose Point), Crooked Creek (north of a line from Crooked Creek Point to Doyle Point), and Burnt Mill Creek (north of a line from Graze Point to Cedar Point).
4. Bradford County - none.
 5. Brevard County

Class I

St. Johns River and Tributaries - Lake Washington Dam south through and including Sawgrass Lake, Lake Hellen Blazes, to Indian River County Line.

Class II

Goat Creek.
Indian River - South from a line due east of Barnes Blvd. (SR 502) to South Section Line of Section 29, T26S, R37E, Palm Shores.
Indian River - From a line from Cape Malabar northeastward through Intracoastal Waterway marker 16, to shore, then southward to S. Brevard county line.
Indian River - N. Brevard County Line south to Florida East Coast Railroad Crossing (vicinity of Jay Jay).
Kid Creek.
Mosquito Lagoon - North Brevard County Line south to Beach Road
Trout Creek.
Indian River - The east side of the Intracoastal Waterway from SR 405 northward, to a line from the southern point of land at the mouth of Brock Creek to Intracoastal Waterway Channel Marker 33.
Indian River - From SR 405 south to SR 528.

6. Broward County – none.
7. Calhoun County
 - Class I
 - Bear Creek
 - Econfina Creek
8. Charlotte County
 - Class I
 - Alligator Creek - North and South Prongs from headwaters to the water control structure downstream of SR 765-A.
 - Port Charlotte Canal System - Surface waters lying upstream of, or directly connected to, Fordham Waterway upstream of Conway Boulevard.
 - Prairie Creek - DeSoto County Line and headwaters to Shell Creek.
 - Shell Creek - Headwaters to Hendrickson Dam (east of Myrtle Slough, in Section 20, T40S, R24E).
 - Class II
 - Lemon Bay, Placida Harbor, and Tributaries - N. Charlotte County Line south to Gasparilla Sound and bounded on the east by SR 775.
 - Charlotte Harbor, Myakka River, and Gasparilla Sound - Waters except Peace River upstream from the northeastern point of Myakka Cutoff to the boat ramp in Ponce de Leon Park in south Punta Gorda, Catfish Creek north of N. Lat. 26° 50'56", and Whidden Creek north of N. Lat 26° 51'15".
9. Citrus County
 - Class II
 - Coastal Waters - From the southern side of the Cross Florida Barge Canal southward to the Hernando County line, with the exception of Crystal River (from the southern shore at the mouth of Cedar Creek to Shell Point to the westernmost tip of Fort Island), Salt River (portion generally east and southward along the eastern edge of the islands bordering the Salt River and Dixie Bay to St. Martins River), and St. Martins River from its mouth to Greenleaf Bay.
10. Clay County - none.
11. Collier County
 - Class II
 - Cocohatchee River.
 - Connecting Waterways - From Wiggins Pass south to Outer Doctors Bay.
 - Dollar Bay.
 - Inner and Outer Clam Bay.
 - Inner and Outer Doctors Bay.
 - Little Hickory Bay.
 - Tidal Bays and Passes - Naples Bay and south and easterly through Rookery Bay and the Ten Thousand Islands to the Monroe County Line.
 - Wiggins Pass.
12. Columbia County - none.
13. Dade County - none.
14. DeSoto County
 - Class I

- Horse Creek - From the northern border of Section 14, T38S, R23E, southward to Peace River.
- Prairie Creek - Headwaters to Charlotte County Line.
15. Dixie County
- Class II
- Coastal Waters - From an east-west line through Stuart Point southward to the County line, excluding the mouth of the Suwannee River and its passes.
16. Duval County
- Class II
- Ft. George River and Simpson Creeks - Ft. George Inlet north to Nassau Sound. Intracoastal Waterway and Tributaries - Confluence of Nassau and Amelia Rivers south to Flashing Marker 73 thence eastward along Ft. George River to Ft. George Inlet and includes Garden Creek.
- Nassau River and Creek - From the mouth of Nassau Sound, (a line connecting the northeastermost point of Little Talbot Island to the southeastermost tip of Amelia Island westerly to a north-south line through Seymore Point.
- Pumpkinhill Creek.
17. Escambia County
- Class II
- Escambia Bay - Louisville and Nashville Railroad Trestle south to Pensacola Bay (Line from Emanuel Point east northeasterly to Garcon Point).
- Pensacola Bay - East of a line connecting Emanuel Point on the north to the south end of the Pensacola Bay Bridge (U.S. Highway 98).
- Santa Rosa Sound - East of a line connecting Gulf Breeze approach to Pensacola Beach (Bascule Bridge), and Sharp Point with exception of the Navarre Beach area from a north-south line through Channel Marker 106 to Navarre Bridge.
18. Flagler County
- Class II
- Matanzas River (Intracoastal Waterway) - N. Flagler County Line south to an east-west line through Fl. Marker 109.
- Pellicer Creek.
19. Franklin County
- Class II
- Alligator Harbor - East from a line from Peninsula Point north to St. James Island to mean high water.
- Apalachicola Bay - with exception of an area encompassed within a 2-mile radius from Apalachicola entrance of John Gorrie Memorial Bridge.
- East Bay and Tributaries - with the exception of area encompassed within 2-mile radius from Apalachicola entrance of John Gorrie Memorial Bridge.
- Gulf of Mexico - North of a line from Peninsula Point on Alligator Point to the southeastern tip of Dog Island and bounded on the east by Alligator Harbor and west by St. George Sound.
- Ochlockonee Bay - From the confluence of Sopchoppy and Ochlockonee Rivers eastward to a line through the two flashing beacons marking the end of

the main channel and south channel, to the shoreline south of Bald Point., north to the county line.

St. George Sound - Gulf of Mexico westerly to Apalachicola Bay.

St. Vincent Sound - Apalachicola Bay to Indian Pass.

20. Gadsden County

Class I

Holman Branch - SR 270-A to source.

Mosquito Creek - U.S. Highway 90 north to Florida State Line.

Quincy Creek - SR 65 to source.

21. Gilchrist County - none.

22. Glades County

Class I

Lake Okeechobee.

23. Gulf County

Class II

Indian Lagoon - West of Indian Pass and St. Vincent Sound.

St. Joseph Bay - South of a line from St. Joseph Point due east, excluding an area that is both within an arc 2.9 miles from the center of the mouth of Gulf County Canal and east of a line from St. Joseph Point to the northwest corner of section 13, T8S, R11W.

24. Hamilton County - none.

25. Hardee County - none.

26. Hendry County

Class I

Lake Okeechobee.

27. Hernando County - none.

28. Highlands County - none.

29. Hillsborough County

Class I

Cow House Creek - Hillsborough River to source.

Hillsborough River - City of Tampa Water Treatment Plant Dam to Flint Creek.

Class II

Old Tampa Bay - Waters within Hillsborough County between SR 60 (Courtney Campbell Parkway), and Interstate 275 (Howard Frankland Bridge), to the line of mean high water.

Old Tampa Bay and Mobbly Bay - Beginning at the intersection of the north shore of SR 60 (Courtney Campbell Parkway) and Longitude 82°35'45" west, thence due north to the line of mean high water, thence westward along the line of mean high water, (except Rocky and Double Branch Creeks which are included only to SR 580), and up Channel A to a line connecting the lines of mean high water on the outer sides of the canal banks, to the county line, thence southerly along the county line to SR 60, thence along the north shore of SR 60 to the point of beginning.

Tampa Bay - Beginning at Gadsden Point, thence along a line connecting Gadsden Point and the intersection of Gadsden Point Cut and Cut "A" to a point one-half nautical mile inside said intersection, thence westward

along a line one-half nautical mile inside and parallel to Gadsden Point Cut, Cut "G", Cut "J", Cut "J2", and Cut "K", to the line of mean high water, thence along the line of mean high water to the point of beginning.

Tampa Bay - Beginning at the intersection of the Hillsborough County Line and the line of mean high water, thence to the rear range marker of Cut "D", thence northerly along the line of Cut "D" range to a point one-half nautical mile inside the southern boundary of Cut "C", thence along a line one-half mile inside and parallel to Cut "C", Cut "D", and Cut "E" to a point with Latitude 27°45'40" north and Longitude 82°30'40" west, thence to a point Latitude 27°47' north and Longitude 82°27' west, thence on a true bearing of 140° to the line of mean high water, thence along the line of mean high water southward to the western tip of Mangrove Point, thence to the northwestern tip of Tropical Island, thence eastward along the line of mean high water to the eastern tip of Goat Island, thence due south to the line of mean high water, thence generally southward along the line of mean high water to the point of beginning.

Tampa Bay - Hillsborough County portion west of the Sunshine Skyway (excluding Tampa Harbor Channel) up to the line of mean high water.

30. Holmes County - none.

31. Indian River County

Class I

St. Johns River and Tributaries - Brevard County Line south through and including Blue Cypress Lake to SR 60.

Class II

Indian River - Indian River County Line south to SR 510 east of the Intracoastal Waterway channel centerline.

Indian River - SR 510 south to an east-west line from the north side of the North Relief Canal.

Indian River - From an east-west line through the northernmost point of Round Island south to county line and east of Intracoastal Waterway centerline.

32. Jackson County

Class I

Econfina Creek - Bay County Line to source.

33. Jefferson County

Class II

Coastal Waters - Within the county, excluding the mouth of Aucilla River.

34. Lafayette County - none.

35. Lake County - none.

36. Lee County

Class I

Caloosahatchee River - E. Lee County Line to South Florida Water Management District Structure 79.

Class II

Charlotte Harbor.

Matanzas Pass, Hurricane Bay, and Hell Peckish (Peckney) Bay - From San Carlos Bay to a line from Estero Island through the southernmost tip of the

unnamed island south of Julies Island, northeastward to the southernmost point of land in section 27, T46S, R24E.

Matlacha Pass - Charlotte Harbor to San Carlos Bay.

Pine Island Sound - Charlotte Harbor to San Carlos Bay.

San Carlos Bay - From a line from point Ybel to Bodwitch Point northward to a line from the eastern point at the mouth of Punta Blanca Creek, southeast through the southern point of Big Shell Island to the mainland and westward to Pine Island Sound.

37. Leon County - none.

38. Levy County

Class II

Coastal Waters and Tidal Creeks - Within the county excluding:

- a) the mouth of the Suwanne River, and its passes;
- b) Alligator Pass to a line connecting the seawardmost points of the islands connecting Alligator Pass with the Gulf;
- c) Cedar Key area - from SR 24 bridge at the northernmost point of Rye Key, southwestward to the northernmost point of Gomez Key, then southward to the westernmost point of Seahorse Key, then along the southern shoreline of Seahorse Key to its easternmost point, then northeastward to the southernmost point of Atsena Otie Key, then northward along the eastern shoreline of Atsena Otie Key to its northeasternmost point, then northward to the southernmost point of Dog Island, northwestward to the westernmost point of Scale Key, northwestward to the boundary marker piling, then northward to the point of beginning;
- d) the mouth of the Withlacoochee River.

39. Liberty County - none.

40. Madison County - none.

41. Manatee County

Class I

Manatee River - From Rye Bridge Road to the sources thereof, including but not limited to the following tributaries: the East Fork of the Manatee River, the North Fork of the Manatee River, Boggy Creek, Gilley Creek, Poley Branch, Corbit Branch, Little Deep Branch, Fisher Branch, Ft. Crawford Creek, Webb Branch, Clearwater Branch, Craig Branch, and Guthrey Branch.

Lake Evers (Ward Lake) and Braden River - City of Bradenton Water Treatment Dam to SR 675, excluding upland cut irrigation or drainage ditches and including the following tributaries:

Tributary	Upstream Limit(s)
a. Rattlesnake Slough	Lockwood Ridge Road in Section 28, Township 35 South, Range 18 East.
b. Cedar Creek West Branch	Whitfield Avenue in Section 27, Township 35 South, Range 18 East.
Central Branch	Country Club Way in Section 34, Township 35 South, Range 18 East.

- | | | |
|----|---|---|
| | East Branch | To a point where an east-west line lying 1200 feet south of the section line between Sections 23 and 26 (Township 35 South, Range 18 East) crosses the tributary. |
| c. | Cooper Creek
West Branch
(Foley Branch) | South Boundary of Section 1, Township 36 South, Range 18 East. |
| | East Branch | East Boundary of Section 31, Township 35 South, Range 19 East. |
| d. | Nonsense Creek | To a point where an east-west line lying 800 feet North of the section line between Sections 14 and 23 (Township 35 South, Range 18 East) crosses the creek. |
| e. | Hickory Hamock | To a point where an east-west line lying 1000 feet South of the section line between Sections 17 and 20 (Township 35 South, Range 19 East) crosses the creek. |
| f. | Wolf Slough | East Boundary of Section 16, Township 35 South, Range 19 East. |
| g. | Unnamed Tributary 1 | To a point where an east-west line lying 2300 feet south of the section line between Sections 21 and 28 (Township 35 South, Range 19 East) crosses the tributary. |
| h. | Unnamed Tributary 2 | East Boundary of Section 14, Township 35 South, Range 19 East. |
| i. | Unnamed Tributary 3 | West Boundary of Section 25, Township 35 South, Range 19 East. |
| j. | Unnamed Tributary 4 | To a point where a north-south line lying 200 feet East of the section line between Sections 23 and 24 (Township 35 South, Range 19 East) crosses the tributary. |

Class II

Gulf and Coastal Waters of Tampa Bay - (Including, but not limited to Terra Ceia Bay, Perico Bayou, Palma Sola Bay, and Sarasota Bay), excluding waters northward of a line from the southern shore of the mouth of Little Redfish Creek northwesterly through the red marker (approximately one nautical mile away) to the county line; Manatee River upstream of a line from Emerson Pt. to Mead Pt.

Gulf Waters - North of 27° 31' N. Lat.

42. Marion County - none

43. Martin County

Class I

Lake Okeechobee.

Class II

Great Pocket - St. Lucie River to Peck's Lake.

- Indian River - N. Martin County Line south to the mouth of St. Lucie Inlet, east of the Intracoastal Waterway Channel centerline.
 Loxahatchee River - West of the Florida East Coast Railroad Bridge including Southwest, Northwest, and North Forks.
44. Monroe County
 Class II
 Monroe County Coastline - From Collier and Dade County Lines southward to and including that part of Florida Bay within Everglades National Park.
45. Nassau County
 Class II
 Alligator Creek.
 Nassau River and Creek - From the mouth of Nassau Sound (a line connecting the northeasternmost point of Little Talbot Island to the southeasternmost point of Amelia Island) westerly to Seymore Point.
 South Amelia River - Nassau River north to a line from the northern shore of the mouth of Alligator Creek to the northernmost shore of Harrison creek.
 Waters between South Amelia River and Alligator Creek.
46. Okaloosa County
 Class II
 Choctahatchee Bay and Tributaries - From a line from White Point southwesterly through Fl. Light Marker 2 of the Intracoastal Waterway, eastward to the county line, including East Pass.
 Rocky Bayou - Choctahatchee Bay (from a line extending due east from Shirk Point) to Rocky Creek.
 Santa Rosa Sound - From a north-south line through Manatee Point west to the Santa Rosa County Line.
47. Okeechobee County
 Class I
 Lake Okeechobee.
48. Orange County - none.
49. Osceola County - none.
50. Palm Beach County
 Class I
 Canal C-18 (freshwater portion).
 City of West Palm Beach Water Catchment Area.
 Clear Lake, Lake Mangonia, and the waterway connecting them.
 Lake Okeechobee.
 M-Canal - L-8 to Lake Mangonia.
 Class II
 Canal C-18 - Salinity barrier to Loxahatchee River.
 Loxahatchee River - Upstream of Florida East Coast railroad bridge including Southwest, Northwest, and North Forks.
51. Pasco County - none.
52. Pinellas County
 Class II

Old Tampa Bay, Mobbly Bay and Tampa Bay - South and westward to Sunshine Skyway (SR 55), except Safety Harbor north of an east-west line through Phillipi Point.

Tampa Bay and Gulf waters - West of Sunshine Skyway (SR 55), excluding waters north of SR 682 and waters that are both west of Pinellas Bayway and north of an east-west line through the southernmost point of Pine Key.

53. Polk County - none.

54. Putnam County - none.

55. St. Johns County

Class II

Guano River and Tributaries - From Guano Lake Dam south to Tolomato River. Matanzas River, Intracoastal Waterway and Tributaries, excluding Treasure Beach Canal System - From Intracoastal Waterway Marker number 29, south to Flagler County Line.

Pellicer Creek.

Salt Run - Waters south of an east-west line connecting Lighthouse Park boat ramp with Conch Island.

Tolomato River (North River) and Tributaries - From a line connecting Spanish Landing to Booth Landing, south to an east-west line through Intracoastal Waterway Marker number 55.

56. St. Lucie County

Class II

Indian River - From Middle Point south to S. St. Lucie County Line, east of Intracoastal Waterway Channel centerline.

Indian River - N. St. Lucie County Line south to an east-west line through the southern point of Fishhouse Cove.

57. Santa Rosa County

Class II

Blackwater Bay - From a line connecting Robinson's Point to Broad River south to East Bay (line due west from Escribao Point).

East Bay and Tributaries - Blackwater Bay (line due west from Escribano Point) southerly to Pensacola Bay (line from Garcon Point on the north to Redfish Point on the south).

Escambia Bay - Louisville and Nashville Railroad Trestle south to Pensacola Bay (Line from Emanuel Point east northeasterly to Garcon Point).

Pensacola Bay - East of a line connecting Emanuel Point on the north to the south end of the Pensacola Bay Bridge (U.S. Highway 98).

Santa Rosa Sound - From a line connecting Gulf Breeze approach to Pensacola Beach, (Bascule Bridge), and Sharp Point, east to Santa Rosa/Okaloosa County line with exception of the Navarre Beach area from a north-south line through Channel Marker 106 eastward to Navarre Beach Toll Road.

58. Sarasota County

Class I

Big Slough Canal - South to U.S. 41.

Cooper Creek (Foley Branch) upstream to the South boundary of Section 1, Township 36 South, Range 18 East.

Myakka River - From the Manatee County line southwesterly through Upper and Lower Myakka Lakes to Manhattan Farms (north line of Section 6 T39S, R20E).

Class II

Lemon Bay - From a line eastward from the northern shore of the mouth of Forked Creek south to Charlotte County Line.

Myakka River - From the western line of section 35, T39S, R20E south to Charlotte County Line.

Sarasota Bay - West of the Intracoastal Waterway Channel centerline.

- 59. Seminole County - none.
- 60. Sumter County - none.
- 61. Suwannee County - none.
- 62. Taylor County

Class V

Fenholloway River. Repealed effective December 31, 1997.

- 63. Union County - none.
- 64. Volusia County

Class II

Indian River North, Indian River Lagoon, and Mosquito Lagoon From an east-west line through Intracoastal Waterway Channel Marker 57 south to S. Volusia County Line.

Indian River - North of County Line.

- 65. Wakulla County

Class II

Coastal Waters and Tributaries - From Jefferson County Line westward with the exception of Spring Creek and the portion of King Bay (Dickerson Bay) west and north of a line from the westernmost tip of Porter Island south to Hungry Point, and Walker Creek north of a line from Live Oak Point southwest across the Creek to the closest tip of Shell Point.

- 66. Walton County

Class II

Choctawhatchee Bay and Tributaries - Except waters north of a line from Alaqua Point to Wheeler Point.

- 67. Washington County

Class I

Econfina Creek.

Specific Authority 403.061, 403.062, 403.087, 403.088, 403.504, 403.704, 403.804 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.182, 403.502, 403.504, 403.702, 403.708 FS. History - Formerly 28-5.06, 17-3.06, Amended and Renumbered 3-1-79, Amended 1-1-83, 2-1-83, Formerly 17-3.081, Amended 4-25-93, Formerly 17-302.400, Amended 12-26-96, 8-24-00, 12-7-06.

62-302.500 Surface Waters: Minimum Criteria, General Criteria.

(1) Minimum Criteria.

All surface waters of the State shall at all places and at all times be free from:

(a) Domestic, industrial, agricultural, or other man-induced non-thermal components of discharges which, alone or in combination with other substances or in combination with other components of discharges (whether thermal or non-thermal):

1. Settle to form putrescent deposits or otherwise create a nuisance; or
2. Float as debris, scum, oil, or other matter in such amounts as to form nuisances; or
3. Produce color, odor, taste, turbidity, or other conditions in such degree as to create a nuisance; or
4. Are acutely toxic; or
5. Are present in concentrations which are carcinogenic, mutagenic, or teratogenic to human beings or to significant, locally occurring, wildlife or aquatic species, unless specific standards are established for such components in Rules 62-302.500(2) or 62-302.530; or
6. Pose a serious danger to the public health, safety, or welfare.

(b) Thermal components of discharges which, alone, or in combination with other discharges or components of discharges (whether thermal or non-thermal):

1. Produce conditions so as to create a nuisance; or
2. Do not comply with applicable provisions of Rule 62-302.520, F.A.C.

(c) Silver in concentrations above 2.3 micrograms/liter in predominately marine waters.

(2) General Criteria.

(a) The criteria of surface water quality provided in Rules 62-302.500(2) and 62-302.530 shall apply to all surface waters outside zones of mixing except:

1. Where inconsistent with the limitations of Section 403.061(7), F.S.; or,
2. Where relief from such criteria has been granted pursuant to other applicable rules of the Department.

(b) The Department may establish a Technical Advisory Committee on request or on its own initiative, to review and advise the Department about the sufficiency and validity of data or methodologies and the need for revision of numerical surface water quality criteria established in this rule chapter. The committee shall be appointed by the Secretary and consist of professionals knowledgeable about the specific criteria to be reviewed. The committee shall be chaired by a representative of the Department and shall meet at the call of the chair. Any findings, conclusions, or recommendations of the committee shall be conveyed to the Secretary and to the chair of the Commission but shall not bind the Department.

(c) Effluent limits may be established for pollutants for which analytical detection limits are higher than the established water quality criteria based upon computation of concentrations in the receiving waters. Effluent limits will be established on site-specific conditions in the context of a Department permit. Monitoring reports and permit applications shall specify the detection limits and indicate non-detectable results in such cases. Unless otherwise specified, such non-detectable results shall be accepted as demonstrating compliance for that pollutant as long as specified effluent limits are met.

(d) Criteria for metals in Rules 62-302.530 and 62-302.500(1)(c), F.A.C., are measured as total recoverable metal. However, cadmium, chromium, copper, lead, nickel, silver, and zinc may be applied as dissolved metals when, as part of a permit

application, a dissolved metals translator has been established according to the procedures described in the document, "Guidance for Establishing a Metals Translator", Florida Department of Environmental Protection December 17, 2001.

(e) A violation of any surface water quality criterion as set forth in this chapter constitutes pollution. For certain pollutants, numeric criteria have been established to protect human health from an unacceptable risk of additional cancer caused by the consumption of water or aquatic organisms. These numeric criteria are based on annual average flow conditions. However, this allowable annual average does not relieve any activity from complying with Rules 62-302.500(1), 62-302.530, or any other provision of water quality standards.

(f) Notwithstanding the specific numerical criteria applicable to individual classes of water, dissolved oxygen levels that are attributable to natural background conditions or man-induced conditions which cannot be controlled or abated may be established as alternative dissolved oxygen criteria for a water body or portion of a water body. Alternative dissolved oxygen criteria may be established by the Secretary or a Director of District Management in conjunction with the issuance of a permit or other Department action only after public notice and opportunity for public hearing. The determination of alternative criteria shall be based on consideration of the factors described in Rule 62-302.800(1)(a)1.-4., F.A.C. Alternative criteria shall not result in a lowering of dissolved oxygen levels in the water body, water body segment or any adjacent waters, and shall not violate the minimum criteria specified in Rule 62-302.500(1), F.A.C. Daily and seasonal fluctuations in dissolved oxygen levels shall be maintained.

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708 FS. History - Formerly 28-5.02, 17-3.02, Amended 10-28-78, Amended and Renumbered 3-1-79, Amended 1-1-83, 10-4-89, Formerly 17-3.051, Amended 4-25-93, Formerly 17-302.500, Amended 1-15-96, 12-26-96, 5-15-02, 12-7-06.

62-302.510 Surface Waters: General Criteria. (Repealed)

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708 FS. History - Formerly 17-3.05(1) and (2), Amended 2-12-75, 8-26-75, 6-10-76, Amended and Renumbered 3-1-79, Amended 10-2-80, 2-1-83, 4-26-87, Formerly 17-3.061, Amended 2-13-92, 6-17-92, 4-25-93, Formerly 17-302.510, Repealed 12-26-96.

62-302.520 Thermal Surface Water Criteria.

All discharges or proposed discharges of heated water into receiving bodies of water (RBW) which are controlled by the State shall be subjected to a thorough study to assess the consequences of the discharge upon the environment. The State shall be divided into two general climatological zones: Peninsular Florida, which varies from tropical in nature to temperate but is modified by the peninsular configuration and is the area south of latitude 30°N (excluding Gulf and Franklin Counties): and Northern Florida

which is temperate and continental and is the area above latitude 30°N plus the portions of Gulf and Franklin Counties which lie below 30°N.

(1) Heated water discharges existing on July 1, 1972:

(a) Shall not increase the temperature of the RBW so as to cause substantial damage or harm to the aquatic life or vegetation therein or interfere with beneficial uses assigned to the RBW.

(b) Shall be monitored by the discharger to ensure compliance with this rule, and

(c) If the Department, pursuant to notice and opportunity for hearing, finds by preponderance of the evidence that a discharge has caused substantial damage, it may require conversion of such discharge to offstream cooling or approved alternate methods. In making determinations regarding such conversions, the Department may consider:

1. The nature and extent of the existing damage;
2. The projected lifetime of the existing discharge;
3. Any adverse economic and environmental (including non-water quality) impacts which would result from such conversion; and

4. Such other factors as may be appropriate.

(2) Heated water sources proposed for future discharges into RBW controlled by the State shall not increase the water temperature by more than the monthly temperature limits prescribed for the particular type and location of the RBW. New sources shall include all expansions, modifications, alterations, replacements, or repairs which result in an increased output of ten percent (10%) or more of the level of energy production which existed on the date this rule became effective. Water temperatures shall be measured by procedures approved by the Florida Department of Environmental Protection (DEP). In all cases where a temperature rise above ambient is allowed and a maximum RBW temperature is also prescribed, the lower of the two limitations shall be the control temperature.

(3) Definitions.

(a) Ambient (natural) temperature of a RBW shall mean the existing temperature of the receiving water at a location which is unaffected by manmade thermal discharges and a location which is also of a depth and exposure to winds and currents which typify the most environmentally stable portions of the RBW.

(b) Coastal waters shall be all waters in the State which are not classified as fresh waters or as open waters.

(c) A cooling pond is a body of water enclosed by natural or constructed restraints which has been approved by the Florida DEP for purposes of controlling heat dissipation from thermal discharges.

(d) An existing heat source is any thermal discharge (a) which is presently taking place, or (b) which is under construction or for which a construction or operation permit has been issued prior to the effective date of this rule.

(e) Fresh waters shall be all waters of the State which are contained in lakes and ponds, or are in flowing streams above the zone in which tidal actions influence the salinity of the water and where the concentration of chloride ions is normally less than 1500 milligrams per liter.

(f) Open waters shall be all waters in the State extending seaward from the most seaward 18-foot depth contour line (three-fathom bottom depth contour) which is offshore from any island; exposed or submerged bar or reef; or mouth of any embayment or estuary which is narrowed by headlands. Contour lines shall be determined from Coast and Geodetic Survey Charts.

(g) The point of discharge (POD) for a heated water discharge shall be primarily that point at which the effluent physically leaves its carrying conduit (open or closed), and discharges into the waters of the state, or, in the event it is not practicable to measure temperature at the end of the discharge conduit, a specific point designated by the Florida DEP for that particular thermal discharge.

(h) Heated water discharges are the effluents from commercial or industrial activities or processes in which water is used for the purpose of transporting waste heat, and which constitute heat sources of one million British Thermal Units per hour (1,000,000 BTU/HR.), or greater.

(i) Blowdown shall mean the minimum discharge of recirculating cooling water for the purpose of discharging materials contained in the water, the further buildup of which could cause concentrations in amounts exceeding limits established by best engineering practice.

(j) Recirculating cooling water shall mean water which is used for the purpose of removing waste heat and then passed through a cooling system for the purpose of removing such heat from the water and then, except for blowdown, is used again to remove waste heat.

(4) Monthly and Maximum Temperature Limits

(a) Fresh Waters - Heated water with a temperature at the POD more than 5°F higher than the ambient (natural) temperature of any stream shall not be discharged into such stream. At all times under all conditions of stream flow the discharge temperature shall be controlled so that at least two-thirds (2/3) of the width of the stream's surface remains at ambient (natural) temperature. Further, no more than one-fourth (1/4) of the cross-section of the stream at a traverse perpendicular to the flow shall be heated by the discharge. Heated water with a temperature at the POD more than 3°F higher than the ambient (natural) temperature of any lake or reservoir shall not be discharged into such lake or reservoir. Further, no heated water with a temperature above 90°F shall be discharged into any fresh waters in Northern Florida regardless of the ambient temperature of the RBW. In Peninsular Florida, heated waters above 92°F shall not be discharged into fresh waters.

(b) Coastal Waters - Heated water with a temperature at the POD more than 2°F higher than the ambient (natural) temperature of the RBW shall not be discharged into coastal waters in any zone during the months of June, July, August, and September. During the remainder of the year, heated water with a temperature at the POD more than 4°F higher than the ambient (natural) temperature of the RBW shall not be discharged into coastal waters in any zone. In addition, during June, July, August, and September, no heated water with a temperature above 92°F shall be discharged into coastal waters. Further, no heated water with a temperature above 90°F shall be discharged into coastal waters during the period October thru May.

(c) Open Waters - Heated water with a temperature at the POD up to 17°F above ambient (natural) temperature of the RBW may be discharged from an open or

closed conduit into open waters under the following restraints: The surface temperature of the RBW shall not be raised to more than 97°F and the POD must be sufficient distance offshore to ensure that the adjacent coastal waters are not heated beyond the temperatures permitted in such waters.

(d) Cooling Ponds - The temperature for heated water discharged from a cooling pond shall be measured at the POD from the pond, and the temperature limitation shall be that specified for the RBW.

(5) General.

(a) Daily and seasonal temperature variations that were normal to the RBW before the addition of heat from other than natural causes shall be maintained.

(b) Recapitulation of temperature limitations prescribed above:

	ZONE STREAMS		LAKES		COASTAL		OPEN	
	SUMMER				REMAINDER			
Max.	90°F	Max. 90°F	Max. 92°F	Max. 90°F	Max. 97°F	Max.	97°F	Max.
AM.	+5°F	AM. +3°F	AM. +2°F	AM. +4°F	AM.	+17°		
PENIN	92°F	Max. 92°F	Max. 92°F	Max. 90°F	Max.	97°F	Max.	
	AM. +5°F	AM. +3°F	AM. +2°F	AM. +4°F	AM.	+17°		

(6) Upon application on a case by case basis, the Department may establish a zone of mixing beyond the POD to afford a reasonable opportunity for dilution and mixture of heated water discharges with the RBW, in the following manner:

(a) Zones of mixing for thermal discharges from non-recirculated cooling water systems and process water systems of new sources shall be allowed if supported by a demonstration, as provided in Section 316(a), Public Law 92-500 and regulations promulgated thereunder, including 40 C.F.R. Part 122, by an applicant that the proposed mixing zone will assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the body of water into which the discharge is to be made and such demonstration has not been rebutted. It is the intent of the Commission that to the extent practicable, proceedings under this provision should be conducted jointly with proceedings before the federal government under Section 316(a), Public Law 92-500.

(b) Zones of mixing for blowdown discharges from recirculated cooling water systems, and for discharges from non-recirculated cooling water systems of existing sources, shall be established on the basis of the physical and biological characteristics of the RBW.

(c) When a zone of mixing is established pursuant to this Rule 62-302.520(6), F.A.C., any otherwise applicable temperature limitations contained in Rule 62-302.520, F.A.C., shall be met at its boundary; however, the Department may also establish maximum numerical temperature limits to be measured at the POD and to be used in lieu of the general temperature limits in Rule 62-3.520, F.A.C., to determine compliance by the discharge with the established mixing zone and the temperature limits in Rule 62-302.520, F.A.C.

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708 FS. History - Formerly 28-5.02, 17-3.02, Amended 10-28-70, Amended and Renumbered 3-1-79, Formerly 17-3.050, Formerly 17-302.520.

62-302.530 Table: Surface Water Quality Criteria.

The following table contains both numeric and narrative surface water quality criteria to be applied except within zones of mixing. The left-hand column of the Table is a list of constituents for which a surface water criterion exists. The headings for the water quality classifications are found at the top of the Table. Applicable criteria lie within the Table. The individual criteria should be read in conjunction with other provisions in water quality standards, including Rule 62-302.500, F.A.C. The criteria contained in Rule 62-302.500, F.A.C. also apply to all waters unless alternative or more stringent criteria are specified in Rule 62-302.530, F.A.C. Unless otherwise stated, all criteria express the maximum not to be exceeded at any time. In some cases, there are separate or additional limits, which apply independently of the maximum not to be exceeded at any time. For example, annual average (denoted as “annual avg.” in the Table) means the maximum concentration at average annual flow conditions (see Rule 62-302.200(2), F.A.C.). In applying the water quality standards, the Department shall take into account the variability occurring in nature and shall recognize the statistical variability inherent in sampling and testing procedures. The Department’s assessment methodology, set forth in Chapter 62-303, F.A.C., accounts for such natural and statistical variability when used to assess ambient waters pursuant to sections 305(b) and 303(d) of the Federal Clean Water Act.

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708 FS. History - New 1-28-90, Formerly 17-3.065, Amended 2-13-92, 6-17-92, 4-25-93, Formerly 17-302.530, Amended 1-23-95, 1-15-96, 5-15-02, 7-19-04, 12-7-06.

62-302.540 Water Quality Standards for Phosphorus Within the Everglades Protection Area.

(1) Purpose and Scope.

(a) The purpose of this rule is to implement the requirements of the Everglades Forever Act by utilizing the powers and duties granted the Department under the Act and other applicable provisions of Chapter 373 and 403, F.S., to establish water quality standards for phosphorus, including a numeric phosphorus criterion, within the EPA.

(b) The water quality standards adopted by this rule include all of the following elements:

1. A numerical interpretation of the Class III narrative nutrient criterion for phosphorus;
2. Establishment of moderating provisions for permits authorizing discharges into the EPA in compliance with water quality standards, including the numeric phosphorus criterion; and

3. A method for determining achievement of the numeric phosphorus criterion, which takes into consideration spatial and temporal variability, natural background conditions and confidence in laboratory results.

(2) Findings.

(a) The Legislature, in adopting the Everglades Forever Act, recognized that the EPA must be restored both in terms of water quantity and water quality.

(b) Best Management Practices (BMPs) have reduced phosphorus loads from the Everglades Agricultural Area to the EPA by more than twice the amount required by existing rules. Stormwater Treatment Areas (STAs) have reduced phosphorus concentrations to less than the goal of 50 ppb established in the Everglades Forever Act.

(c) While a significant percentage of the EPA currently meets the numeric phosphorus criterion, further efforts are required to achieve the criterion in the remaining impacted areas of the EPA.

(d) Even as water quality continues to improve, restoration will be a long-term process because of historic phosphorus accumulations found in sediments within impacted areas. This phosphorus can diffuse back into the water column, a phenomenon the Department recognizes as reflux.

(e) The Basin-Specific Feasibility Studies completed by the District considered environmental factors, implementation cost, scheduling, and technical factors in evaluating measures to reduce phosphorus levels entering the EPA. These studies and other information provided to the Commission show that:

1. At this time, chemical treatment technology is not cost-effective for treating discharges entering the EPA and poses the potential for adverse environmental effects.

2. Optimization of the existing STAs, in combination with BMPs, is currently the most cost-effective and environmentally preferable means to achieve further phosphorus reductions to the EPA, and to restore impacted areas. The effectiveness of such measures should be determined and maximized prior to requiring additional measures. Optimization shall take into consideration viable vegetative technologies, including Periphyton-based STAs that are found to be cost-effective and environmentally acceptable.

(f) The District and the Department recognize that STA and BMP optimization requires a sustained commitment to construct, implement, stabilize and measure phosphorus reduction benefits.

(g) The Comprehensive Everglades Restoration Plan (CERP) contains projects that will affect the flows and phosphorus levels entering the EPA. Achievement of water quality standards for water quality projects required under the Everglades Forever Act can be most effectively and efficiently attained when integrated with CERP projects.

(h) The Long-Term Plan constitutes a comprehensive program to optimize the STAs and BMPs to achieve further phosphorus reductions and thereby accomplish implementation of Best Available Phosphorus Reduction Technology (BAPRT).

(i) It is the intent of the Commission that implementation of this rule will fulfill commitments made by the State of Florida to restore and maintain water quality in the EPA, while, at the same time, fulfill the States obligations under the Settlement Agreement to achieve the long-term phosphorus concentration levels and discharge

limits established in that Agreement for the Loxahatchee National Wildlife Refuge (Refuge) and the Everglades National Park (Park).

(j) Establishment of the numeric phosphorus criterion, based upon analyses conducted primarily in freshwater open water slough systems, assumed that preservation of the balance of the native flora and fauna in these open water slough systems would protect other communities of native vegetation in the EPA. Further research should be conducted in other habitat types to further evaluate the natural variability in those habitat types.

(k) The Commission has received substantial testimony regarding mercury and its impact on the EPA. The Commission encourages all interested parties to continue research efforts on the effects of mercury.

(l) The Commission finds that this rule must incorporate a flexible approach towards the application of the numeric phosphorus criterion for phosphorus in order to guide the implementation of phosphorus reductions in the Everglades Protection Area. Chapter 403, F.S., the Everglades Forever Act and U.S. Environmental Protection Agency regulations set forth at 40 CFR Part 131 include general policies that authorize such flexibility under appropriate circumstances, including those described in subparagraphs (c) through (h) and (k) above. The Commission has exercised this authority by including in this rule both a numeric interpretation of the phosphorus criterion and the various other standard setting provisions of this rule, including the permitting and moderating provisions.

(3) Definitions.

(a) “Best Available Phosphorus Reduction Technology” (BAPRT) shall be as defined by s. 373.4592(2)(a), F.S. BMPs shall maintain and, where practicable, improve upon the performance of urban and agricultural source controls in reducing overall phosphorus levels. Agricultural BMPs within the Everglades Agricultural Area and the C-139 Basin shall be in accordance with Rules 40E-61 and 40E-63, F.A.C. STA phosphorus reductions shall be improved through implementation of optimization measures as defined by s. 373.4592(2)(l), F.S. BAPRT may include measures intended to reduce phosphorus levels in discharges from a single basin or sub-basin, or a program designed to address discharges from multiple basins.

(b) “Long-Term Plan” shall be as defined by Section 373.4592(2)(j), F.S.

(c) The “Everglades Protection Area” or “EPA” shall mean Water Conservation Areas 1 (Refuge), 2A, 2B, 3A and 3B, and the Everglades National Park.

(d) “Impacted Areas” shall mean areas of the EPA where total phosphorus concentrations in the upper 10 centimeters of the soils are greater than 500 mg/kg.

(e) “District” shall mean the South Florida Water Management District.

(f) “Optimization” shall be as defined by Section 373.4592(2)(l), F.S.

(g) “Settlement Agreement” shall mean the Settlement Agreement entered in Case No. 88-1886-Civ-Hoeveler, United States District Court for the Southern District of Florida, as modified by the Omnibus Order entered in the case on April 27, 2001.

(h) “Technology-based effluent limitation” or “TBEL” shall be defined in Section 373.4592(2)(p), F.S.

(i) “Unimpacted Areas” shall mean those areas which are not “Impacted Areas”.

(4) Phosphorus Criterion.

(a) The numeric phosphorus criterion for Class III waters in the EPA shall be a long-term geometric mean of 10 ppb, but shall not be lower than the natural conditions of the EPA, and shall take into account spatial and temporal variability. Achievement of the criterion shall be determined by the methods in this subsection. Exceedences of the provisions of the subsection shall not be considered deviations from the criterion if they are attributable to the full range of natural spatial and temporal variability, statistical variability inherent in sampling and testing procedures or higher natural background conditions.

(b) Water Bodies.

Achievement of the phosphorus criterion for waters in the EPA shall be determined separately in impacted and unimpacted areas in each of the following water bodies: Water Conservation Areas 1, 2 and 3, and the Everglades National Park.

(c) Achievement of Criterion in Everglades National Park.

Achievement of the phosphorus criterion in the Park shall be based on the methods as set forth in Appendix A of the Settlement Agreement unless the Settlement Agreement is rescinded or terminated. If the Settlement Agreement is no longer in force, achievement of the criterion shall be determined based on the method provided for the remaining EPA.

For the Park, the Department shall review data from inflows into the park at locations established pursuant to Appendix A of the Settlement Agreement and shall determine that compliance is achieved if the Department concludes that phosphorus concentration limits for inflows into the Park do not result in a violation of the limits established in Appendix A.

(d) Achievement of the Criterion in WCA-1, WCA-2 and WCA-3.

1. Achievement of the criterion in unimpacted areas in each WCA shall be determined based upon data from stations that are evenly distributed and located in freshwater open water sloughs similar to the areas from which data were obtained to derive the phosphorus criterion. Achievement of the criterion shall be determined based on data collected monthly from the network of monitoring stations in the unimpacted area. The water body will have achieved the criterion if the five year geometric mean averaged across all stations is less than or equal to 10 ppb. In order to provide protection against imbalances of aquatic flora or fauna, the following provisions must also be met:

- a. The annual geometric mean average across all stations is less than or equal to 10 ppb for three of five years; and
- b. The annual geometric mean averaged across all stations is less than or equal to 11 ppb; and
- c. The annual geometric mean at all individual stations is less than or equal to 15 ppb. Individual station analyses are representative of only that station.

2. Achievement of the criterion shall be determined based on data collected monthly from the network of monitoring stations in the impacted area. Impacted Areas of the water body will have achieved the criterion if the five year geometric mean averaged across all stations is less than or equal to 10 ppb. In order to provide protection against imbalances of aquatic flora or fauna, the following provisions must also be met:

- a. The annual geometric mean averaged across all stations is less than or equal to 10 ppb for three of five years; and
- b. The annual geometric mean averaged across all stations is less than or equal to 11 ppb; and
- c. The annual geometric mean at all individual stations is less than or equal to 15 ppb. Individual station analyses are representative of only that station.

If these limits are not met, no action shall be required, provided that the net improvement or hydropattern restoration provisions of subsection (6) below are met. Notwithstanding the definition of Impacted Area in subsection (3), individual stations in the network shall be deemed to be unimpacted for purposes of this rule if the five-year geometric mean is less than or equal to 10 ppb and the annual geometric mean is less than or equal to 15 ppb.

(e) Adjustment of Achievement Methods.

The Department shall complete a technical review of the achievement methods set forth in this subsection at a minimum of five year intervals and will report to the ERC on changes as needed. Data will be collected as necessary at stations that are evenly distributed and representative of major natural habitat types to further define the natural spatial and temporal variability and natural background of phosphorus concentrations in the EPA. As a part of the review, the Department may propose amendments to the achievement method provisions of this rule to include: (1) a hydrologic variability algorithm in a manner similar to the Settlement Agreement; and (2) implementing adjustment factors that take into account water body specific variability, including the effect of habitat types. The hydrologic variability evaluation shall be based on data from at least one climatic drought cycle and data reflecting the average interior stage of the water body on the dates of sample collection.

(f) Data Screening. Data from each monitoring station shall be evaluated prior to being used for the purposes of determining achievement of the criterion. Data shall be excluded from calculations for the purpose of determining achievement of the criterion if such data:

1. Do not comply with the requirements of Chapter 62-160, F.A.C.; or
2. Are excluded through the screening protocol set forth in the *Data Quality Screening Protocol*; or
3. Were collected from sites affected by extreme events such as fire, flood, drought or hurricanes, until normal conditions are restored; or
4. Where affected by localized activities caused by temporary human or natural disturbances such as airboat traffic, authorized (permitted or exempt) restoration activities, alligator holes, or bird rookeries.
5. Were sampled in years where hydrologic conditions (e.g. rainfall amount, water levels and water deliveries) were outside the range that occurred during the period (calendar years 1978-2001) used to set the phosphorus criterion.

(5) Long-Term Compliance Permit Requirements for Phosphorus Discharges into the EPA.

(a) In addition to meeting all other applicable permitting criteria, an applicant must provide reasonable assurance that the discharge will comply with state water quality standards as set forth in this section.

(b) Discharges into the EPA shall be deemed in compliance with state water quality standards upon a demonstration that:

1. Phosphorus levels in the discharges will be at or below the phosphorus criterion set forth in this rule; or
2. Discharges will not cause or contribute to exceedences of the phosphorus criterion in the receiving waters, the determination of which will take into account the phosphorus in the water column that is due to reflux; or
3. Discharges will comply with moderating provisions as provided in this rule.

(c) Discharges into the Park must not result in a violation of the concentration limits established for the Park in Appendix A of the Settlement Agreement as determined through the methodology set forth in paragraph (4).

(d) Discharge limits for permits allowing discharges into the EPA shall be based upon TBELs established through BAPRT and shall not require water quality based effluent limitations through 2016. Such TBELs shall be applied as effluent limitations as defined in Rule 62-302.200(10), F.A.C.

(6) Moderating Provisions. The following moderating provisions are established for discharges into or within the EPA as a part of state water quality standards applicable to the phosphorus criterion set forth in this rule:

(a) Net Improvement in Impacted Areas.

1. Until December 31, 2016, discharges into or within the EPA shall be permitted using net improvement as a moderating provision upon a demonstration by the applicant that:

a. The permittee will implement, or cause to be implemented, BAPRT, as defined by s. 373.4592(2)(a), F.S., and further provided in this section, which shall include a continued research and monitoring program designed to reduce outflow concentrations of phosphorus; and

b. The discharge is into or within an impacted area.

2. BAPRT shall use an adaptive management approach based on the best available information and data to develop and implement incremental phosphorus reduction measures with the goal of achieving the phosphorus criterion. BAPRT shall also include projects and strategies to accelerate restoration of natural conditions with regard to populations of native flora or fauna.

3. For purposes of this rule, the Long-Term Plan shall constitute BAPRT. The planning goal of the Long-Term Plan is to achieve compliance with the criterion set forth in subsection (4) of this rule. Implementation of BAPRT will result in net improvement in impacted areas of the EPA. The Initial Phase of the Long-Term Plan shall be implemented through 2016. Revisions to the Long-Term Plan shall be incorporated through an adaptive management approach including a Process Development and Engineering component to identify and implement incremental optimization measures for further phosphorus reductions.

4. The Department and the District shall propose amendments to the Long-Term Plan as science and environmental conditions warrant. The Department shall approve all amendments to the Long-Term Plan.

5. As part of the review of permit applications, the Department shall review proposed changes to the Long-Term Plan identified through the Process Development and Engineering component of the Long-Term Plan to evaluate changes necessary to

comply with this rule, including the numeric phosphorus criterion. Those changes which the department deems necessary to comply with this rule, including the numeric phosphorus criterion, shall be included as conditions of the respective permit or permits for the structures associated with the particular basin or basins involved. Until December 31, 2016, such permits shall include technology-based effluent limitations consistent with the Long-Term Plan.

(b) Hydropattern Restoration. Discharges into or within unimpacted areas of the EPA shall be permitted for hydropattern restoration purposes upon a demonstration by the applicant that:

1. The discharge will be able to achieve compliance with the requirements of paragraph (6)(a)1.a. above;

2. The environmental benefits of establishing the discharge clearly outweigh the potential adverse impacts that may result in the event that phosphorus levels in the discharge exceed the criterion; and

3. The discharge complies with antidegradation requirements.

(c) Existing Moderating Provisions. Nothing in this rule shall eliminate the availability of moderating provisions that may otherwise exist as a matter of law, rule or regulation.

(7) Document Incorporated By Reference. The following document is referenced elsewhere in this Section and is hereby incorporated by reference:

Data Quality Screening Protocol, dated July 15, 2004.

(8) Contingencies. In the event any provision of this rule is challenged in any proceeding, the Commission shall immediately be notified. In the event any provision of this rule: (a) is determined to be invalid under applicable law; or (b) is disapproved by the U.S. Environmental Protection Agency under the Clean Water Act, the Department shall bring the matter back before the Commission at the earliest practicable date for reconsideration.

Specific Authority 373.043, 373.4592, 403.061 FS. Law Implemented 373.016, 373.026, 373.4592, 403.021(11), 403.061, 403.201 FS. History – New 7-15-04, Amended 5-25-05.

62-302.600 Classified Waters. (Repealed)

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708 FS. History - New 3-21-68; Formerly 28-5.21; Amended 3-4-71, 7-13-78, 3-5-80, 7-26-81, 1-1-83, 2-1-83, 4-1-84, 9-12-85, 4-26-87, 4-26-89, 1-28-90; Formerly 17-3.161; Amended 3-31-91, 9-26-91, 4-25-93; Formerly 17-302.600; Amended 1-23-95, 2-27-95, Repealed 12-26-96.

62-302.700 Special Protection, Outstanding Florida Waters, Outstanding National Resource Waters.

(1) It shall be the Department policy to afford the highest protection to Outstanding Florida Waters and Outstanding National Resource Waters. No degradation of water quality, other than that allowed in Rule 62-4.242(2) and (3), F.A.C., is to be permitted in Outstanding Florida Waters and Outstanding National Resource

Waters, respectively, notwithstanding any other Department rules that allow water quality lowering.

(2) A complete listing of Outstanding Florida Waters and Outstanding National Resources Waters is provided in subsections (9) and (10). Outstanding Florida Waters generally include the following surface waters (unless named as Outstanding National Resource Waters):

(a) Waters in National Parks, Preserves, Memorials, Wildlife Refuges and Wilderness Areas;

(b) Waters in the State Park System and Wilderness Areas;

(c) Waters within areas acquired through donation, trade, or purchase under the Environmentally Endangered Lands Bond Program, Conservation and Recreation Lands Program, Land Acquisition Trust Fund Program, and Save Our Coast Program;

(d) Rivers designated under the Florida Scenic and Wild Rivers Program, federal Wild and Scenic Rivers Act of 1968 as amended, and Myakka River Wild and Scenic Designation and preservation Act;

(e) Waters within National Seashores, National Marine Sanctuaries, National Estuarine Research Reserves, and certain National Monuments;

(f) Waters in Aquatic Preserves created under the provisions of Chapter 258, Florida Statutes;

(g) Waters within the Big Cypress National Preserve;

(h) Special Waters as listed in Rule 62-302.700(9)(i); and

(i) Certain Waters within the Boundaries of the National Forests.

(3) Each water body demonstrated to be of exceptional recreational or ecological significance may be designated as a Special Water.

(4) The following procedure shall be used in designating an Outstanding National Resource Water as well as any Special Water:

(a) Rulemaking procedures pursuant to Chapter 120, F.S. shall be followed;

(b) At least one fact-finding workshop shall be held in the affected area;

(c) All local county or municipal governments and state legislators whose districts or jurisdictions include all or part of the water shall be notified at least 60 days prior to the workshop in writing by the Secretary;

(d) A prominent public notice shall be placed in a newspaper of general circulation in the area of the proposed water at least 60 days prior to the workshop; and

(e) An economic impact analysis, consistent with Chapter 120, shall be prepared which provides a general analysis of the impact on growth and development including such factors as impacts on planned or potential industrial, agricultural, or other development or expansion.

(5) The Commission may designate a water of the State as a Special Water after making a finding that the waters are of exceptional recreational or ecological significance and a finding that the environmental, social, and economic benefits of the designation outweigh the environmental, social, and economic costs.

(6) The Commission may designate a water as an Outstanding National Resource Water after making all of the following findings:

(a) That the waters are of such exceptional recreational or ecological significance that water quality should and can be maintained and protected under all

circumstances other than temporary degradation and the lowering allowed by Section 316 of the Federal Clean Water Act; and,

(b) That the level of protection afforded by the designation as Outstanding National Resource Waters is clearly necessary to preserve the exceptional ecological or recreational significance of the waters; and

(c) That the environmental, social, and economic benefits of the designation outweigh the environmental, social, and economic costs.

(7) The policy of this section shall be implemented through the permitting process pursuant to Section 62-4.242, F.A.C.

(8) For each Outstanding Florida Water listed under Rule 62-302.700(9), the last day of the baseline year for defining the existing ambient water quality (Rule 62-4.242 (2)(c)) is March 1, 1979, unless otherwise indicated. Where applicable, Outstanding Florida Water boundary expansions are indicated by date(s) following "as mod." under Rule 62-302.700(9). For each Outstanding Florida Water boundary which expanded subsequent to the original date of designation, the baseline year for the entire Outstanding Florida Water, including the expansion, remains March 1, 1979, unless otherwise indicated.

(9) Outstanding Florida Waters:

(a) Waters within National Parks and National Memorials

National Park or National Memorial

	<u>County</u>
1. Biscayne National Park (as mod. 5-14-86; 8-8-94)	Dade
2. Dry Tortugas National Park (10-4-90)	Monroe
3. Everglades National Park (as mod. 8-8-94)	Monroe/Dade/ Collier
4. Fort Caroline National Memorial (8-8-94)	Duval

(b) Waters within National Wildlife Refuges

Wildlife Refuge

	<u>County</u>
1. Archie Carr (8-8-94) Indian River/	Brevard
2. Caloosahatchee	Lee
3. Cedar Keys (as mod. 5-14-86, 4-19-88)	Levy
4. Chassahowitzka (as mod. 5-14-86, 4-19-88)	Citrus/Hernando
5. Chinsegut	Hernando
6. Crocodile Lake (12-1-82; as mod. 5-14-86, 4-19-88; 8-8-94)	Monroe
7. Crystal River (5-14-86; as mod. 10-4-90)	Citrus
8. Egmont Key	Hillsborough
9. Florida Panther (10-4-90; as mod. 8-8-94)	Collier
10. Great White Heron (as mod. 5-14-86, 4-19-88)	Monroe
11. Hobe Sound (as mod. 5-14-86,4-19-88; 8-8-94)	Martin
12. Island Bay	Charlotte
13. J. N. "Ding" Darling (as mod. 5-14-86, 4-19-88; 8-8-94)	Lee
14. Key West	Monroe
15. Lake Woodruff (as mod. 8-8-94)	Volusia/Lake
16. Lower Suwannee (12-1-82; as mod. 8-8-94)	Dixie/Levy
17. Loxahatchee	Palm Beach

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| 18. | Matlacha Pass (as mod. 8-8-94) | Lee |
| 19. | Merritt Island | Volusia/Brevard |
| 20. | National Key Deer (as mod. 5-14-86, 4-19-88, 10-4-90; 8-8-94) | Monroe |
| 21. | Okefenokee (Florida Portion) | Baker |
| 22. | Passage Key | Manatee |
| 23. | Pelican Island (as mod. 8-8-94) | Indian River |
| 24. | Pine Island (as mod. 8-8-94) | Lee |
| 25. | Pinellas | Pinellas |
| 26. | St. Johns (including Bee Line Unit) (as mod. 5-14-86, 4-19-88) | Brevard |
| 27. | St. Marks (as mod. 10-4-90; 8-8-94) | Jefferson/
Wakulla/Taylor |
| 28. | St. Vincent (including Pig Island Unit) | Franklin/Gulf |
| (c) | Waters within State Parks, State Wildlife Parks, and State Recreation | |

Areas

<u>State Park or State Recreation Area</u>	<u>County</u>
1. Amelia Island State Recreation Area (5-14-86)	Nassau
2. Anastasia State Recreation Area (as mod. 4-19-88)	St. Johns
3. Avalon State Recreation Area (4-19-88; as mod. 8-8-94)	St. Lucie
4. Bahia Honda State Park (as mod. 5-14-86)	Monroe
5. Bear Creek State Recreation Area (12-1-82)	Gadsden
6. Big Lagoon State Recreation Area (12-1-82; as mod. 5-14-86, 8-8-94)	Escambia
7. Big Talbot Island State Park (5-14-86; as mod. 4-19-88, 8-8-94)	Duval
8. Bill Baggs Cape Florida State Recreation Area	Dade
9. Blackwater River State Park	Santa Rosa
10. Blue Spring State Park	Volusia
11. Bulow Creek State Park (5-14-86; as mod. 4-19-88)	Flagler/Volusia
12. Caladesi Island State Park	Pinellas
13. Cayo Costa State Park (12-1-82; as mod. 5-14-86, 4-19-88, 10-4-90, 8-8-94)	Lee
14. Collier-Seminole State Park	Collier
15. Dead Lakes State Recreation Area	Gulf
16. DeLeon Springs State Recreation Area (5-14-86); as mod. 10-4-90)	Volusia
17. Delnor-Wiggins Pass State Recreation Area (12-1-82)	Collier
18. Don Pedro Island State Recreation Area (5-14-86); as mod. 4-19-88)	Charlotte
19. Dr. Julian G. Bruce St. George Island State Park (12-1-82)	Franklin
20. Edward Ball Wakulla Springs State Park (4-19-88)	Wakulla

21.	Falling Waters State Recreation Area	Washington
22.	Faver-Dykes State Park	St. Johns
23.	Florida Caverns State Park (as mod. 8-8-94)	Jackson
24.	Fort Clinch State Park(as mod. 4-19-88; 8-8-94)	Nassau
25.	Fort Cooper State Park (12-1-82)	Citrus
26.	Fort Pierce Inlet State Recreation Area (12-1-82; as mod. 5-14-86)	St. Lucie
27.	Fred Gannon Rocky Bayou State Recreation Area	Okaloosa
28.	Gamble Rogers Memorial State Recreation Area at Flagler Beach	Flagler
29.	Gasparilla Island State Recreation Area (5-14-86; as mod. 4-19-88, 10-4-90)	Lee
30.	Grayton Beach State Recreation Area (as mod. 4-19-88)	Walton
31.	Guana River State Park (5-14-86; as mod. 4-19-88)	St. Johns
32.	Henderson Beach State Recreation Area (5-14-86)	Okaloosa
33.	Highlands Hammock State Park (as mod. 8-8-94)	Highlands/Hardee
34.	Hillsborough River State Park	Hillsborough
35.	Homosassa Springs State Wildlife Park (10-4-90)	Citrus
36.	Honeymoon Island State Recreation Area (12-1-82; as mod. 5-14-86)	Pinellas
37.	Hontoon Island State Park	Volusia/Lake
38.	Hugh Taylor Birch State Recreation Area	Broward
39.	Ichetucknee Springs State Park	Columbia/Suwannee
40.	John D. McArthur Beach State Park (12-1-82)	Palm Beach
41.	John Pennekamp Coral Reef State Park (as mod. 5-14-86, 4-19-88)	Monroe
42.	John U. Lloyd Beach State Recreation Area	Broward
43.	Jonathan Dickinson State Park	Martin
44.	Lake Arbuckle State Park (5-14-86)	Polk
45.	Lake Griffin State Recreation Area	Lake
46.	Lake Kissimmee State Park	Polk
47.	Lake Louisa State Park (12-1-82)	Lake
48.	Lake Manatee State Recreation Area (12-1-82)	Manatee
49.	Lake Rousseau State Recreation Area (12-1-82)	Citrus/Levy/ Marion
50.	Lake Talquin State Recreation Area (12-1-82; as mod.5-14-86)	Leon
51.	Little Manatee River State Recreation Area (12-1-82)	Hillsborough
52.	Little Talbot Island State Park	Duval
53.	Long Key State Recreation Area	Monroe
54.	Lovers Key State Recreation Area (5-14-86)	Lee
55.	Manatee Springs State Park (as mod. 10-4-90)	Levy
56.	Mike Roess Gold Head Branch State Park (as mod. 5-14-86, 4-19-88; 8-8-94)	Clay
57.	Myakka River State Park	Manatee/Sarasota

58.	North Peninsula State Recreation Area (5-14-86; as mod. 4-19-88, 10-4-90)		Volusia
59.	Ochlockonee River State Park		Wakulla
60.	O'Leno State Park (as mod. 5-14-86)		Alachua/Columbia
61.	Oleta River State Recreation Area (12-1-82)		Dade
62.	Oscar Scherer State Park (as mod. 8-8-94)		Sarasota
63.	Peacock Springs State Recreation Area (4-19-88)		Suwannee
64.	Perdido Key State Recreation Area (12-1-82)		Escambia
65.	Ponce de Leon Springs State Recreation Area		Holmes/Walton
66.	Port Charlotte Beach State Recreation Area (12-1-82)		Charlotte
67.	Rose Sink (addition to Ichetucknee Springs State Park) (1-9-06)		Columbia
68.	St. Andrews State Recreation Area (as mod. 5-14-86, 4-19-88)	Bay	
69.	Sebastian Inlet State Recreation Area		Indian River/ Brevard
70.	Silver River State Park (4-19-88; as mod. 10-4-90; 8-8-94)		Marion
71.	Suwannee River State Park (as mod. 10-4-90)		Hamilton/ Madison/Suwannee
72.	Three Rivers State Recreation Area		Jackson
73.	T. H. Stone Memorial St. Joseph Peninsula State Park		Gulf
74.	Tomoka State Park		Volusia
75.	Torrey State Park		Liberty
76.	Wekiwa Springs State Park (as mod. 4-19-88)		Orange/Seminole
(d)	Waters within State Ornamental Gardens, State Botanical Sites, State Historic Sites, and State Geological Sites		
	<u>State Ornamental Gardens, State Botanical Site, State Historic Site, or State Geological Site</u>		<u>County</u>
1.	Alfred B. Maclay State Gardens		Leon
2.	Devils Millhopper State Geological Site (10-4-90)		Alachua
3.	Eden State Gardens		Walton
4.	Fort Zachary Taylor State Historic Site (10-4-90)		Monroe
5.	Indian Key State Historic Site (10-4-90)		Monroe
6.	Key Largo Hammock State Botanical Site (5-14-86)		Monroe
7.	Koreshan State Historic Site (10-4-90)		Lee
8.	Lignumvitae Key State Botanical Site (5-14-86)		Monroe
9.	Marjorie Kinnan Rawlings State Historic Site (10-4-90)		Alachua
10.	Natural Bridge Battlefield State Historic Site (10-4-90)		Leon
11.	Paynes Creek State Historic Site (10-4-90)		Hardee
12.	Ravine State Gardens		Putnam
13.	San Marcos de Apalachee State Historic		

	Site (10-4-90)	Wakulla
14.	Washington Oaks State Gardens (as mod. 5-14-86)	Flagler
15.	Windley Key Fossil Reef State Geological Site (10-4-90)	Monroe
(e)	Waters within State Preserves, State Underwater Archaeological Preserves, and State Reserves	
	<u>State Preserve or State Reserve</u>	<u>County</u>
1.	Anclote Key State Preserve (12-1-82)	Pasco/Pinellas
2.	Cape St. George State Reserve (12-1-82)	Franklin
3.	Cedar Key Scrub State Reserve (12-1-82; as mod. 4-19-88)	Levy
4.	Charlotte Harbor State Reserve (as mod. 4-19-88)	Charlotte
5.	Crystal River State Reserve (5-14-86; as mod. 4-19-88)	Citrus
6.	Fakahatchee Strand State Preserve (12-1-82; as mod. 5-14-86, 4-19-88, 10-4-90, 8-8-94)	Collier
7.	Haw Creek State Preserve (12-1-82)	Flagler/Putnam/Volusia
8.	Lower Wekiva River State Reserve (12-1-82)	Lake/Seminole
9.	Nassau Valley State Reserve (12-1-82)	Duval/Nassau
10.	Paynes Prairie State Preserve (as mod. 10-4-90, 8-8-94)	Alachua
11.	Prairie-Lakes State Preserve	Osceola
12.	River Rise State Preserve (12-1-82; as mod. 8-8-94)	Alachua/Columbia
13.	Rock Springs Run State Reserve (5-14-86; as mod. 4-19-88)	Orange
14.	San Felasco Hammock State Preserve (12-1-82; as mod. 5-14-86; 4-19-88)	Alachua
15.	San Pedro State Underwater Archaeological Preserve (10-4-90)	Monroe
16.	Savannas State Reserve (12-1-82; as mod. 5-14-86, 10-4-90, 8-8-94)	Martin/St. Lucie
17.	St. Lucie Inlet State Preserve (12-1-82)	Martin
18.	Waccasassa Bay State Preserve (12-1-82; as mod. 4-19-88)	Levy
19.	Weedon Island State Preserve (12-1-82)	Pinellas
20.	William Beardall Tosohatchee State Reserve (12-1-82)	Orange
(f)	Waters within Areas Acquired through Donation, Trade, or Purchase Under the Environmentally Endangered Lands Bond Program, Conservation and Recreation Lands Program, Land Acquisition Trust Fund Program, and Save Our Coast Program	
	<u>Program Area</u>	<u>County</u>
1.	Andrews Tract (5-14-86; as mod. 4-19-88; 8-8-94)	Levy
2.	Apalachicola Bay (8-8-94)	Franklin

3.	Barefoot Beach (12-1-82)	Collier
4.	Beker Tracts (10-4-90)	Manatee
5.	Big Bend Coastal Tract (4-19-88; as mod. 10-4-90)	Dixie/Taylor
6.	Big Shoals (4-19-88)	Hamilton
7.	B.M.K. Ranch (8-8-94)	Lake/Orange
8.	Bower Tract (5-14-86; as mod. 4-19-88)	Hillsborough
9.	Caravelle Ranch (8-8-94)	Putnam
10.	Carlton Half-Moon Ranch (8-8-94)	Sumter
11.	Catfish Creek (8-8-94)	Polk
12.	Chassahowitzka Swamp (5-14-86; as mod. 4-19-88, 8-8-94)	Hernando/Citrus
13.	Coupon Bight (10-4-90; as mod. 8-8-94)	Monroe
14.	Crystal River (10-4-90)	Citrus
15.	Curry Hammock (8-8-94)	Monroe
16.	Deering Hammock/Estate (5-14-86); as mod. 4-19-88, 8-8-94)	Dade
17.	East Everglades (5-14-86)	Dade
18.	Econfina River (8-8-94)	Taylor
19.	Emerson Point (8-8-94)	Manatee
20.	Escambia Bay Bluffs (5-14-86)	Escambia
21.	Estero Bay (8-8-94)	Lee
22.	Florida First Magnitude Springs (8-8-94)	Levy
23.	Ft. George Island (10-4-90)	Duval
24.	Ft. Mose (8-8-94)	St. Johns
25.	Ft. San Luis (5-14-86; as mod. 8-8-94)	Leon
26.	Gateway (5-14-86)	Pinellas
27.	Gills Tract (8-8-94)	Pasco
28.	Green Turtle Beach (4-19-88)	St. Lucie
29.	Guana River (5-14-86; as mod. 4-19-88)	St. Johns
30.	Homosassa Reserve/Walker Tract (8-8-94)	Citrus
31.	Indian River North Beach (5-14-86)	Indian River
32.	ITT/Hammock (5-14-86)	Dade
33.	Josslyn Island (10-4-90)	Lee
34.	Levy County Forest/Sandhills (8-8-94)	Levy
35.	Letchworth Mounds (8-8-94)	Jefferson
36.	Lower Econlockhatchee (8-8-94)	Seminole
37.	Martin County Tracts (5-14-86)	Martin
38.	Mashes Sands (5-14-86)	Wakulla
39.	Miami Rockridge Pinelands (8-8-94)	Dade
40.	Milton to Whiting Field (8-8-94)	Santa Rosa
41.	North Beach (5-14-86)	Broward
42.	North Key Largo Hammock (5-14-86; as mod. 4-19-88, 10-4-90, 8-8-94)	Monroe
43.	Placid Lakes (8-8-94)	Highlands
44.	Point Washington (8-8-94)	Walton

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| 45. Port Bougainville (10-4-90) | Monroe |
| 46. Rainbow River/Springs (8-8-94) | Marion |
| 47. Rookery Bay (10-4-90; as mod. 8-8-94) | Collier |
| 48. Rotenberger (as mod. 4-19-88; 8-8-94) | Palm Beach |
| 49. Saddle Blanket Lakes Scrub (8-8-94) | Polk |
| 50. Save Our Everglades (10-4-90; as mod. 8-8-94) | Collier |
| 51. Sea Branch (8-8-94) | Martin |
| 52. Seminole Springs/Woods (8-8-94) | Lake |
| 53. Snake Warrior Island (Oaks of Miramar) (8-8-94) | Broward |
| 54. Spring Hammock (4-19-88; as mod. 10-4-90) | Seminole |
| 55. Spruce Creek (4-19-88; as mod. 8-8-94) | Volusia |
| 56. St. Martins River (8-8-94) | Citrus |
| 57. Stark Tract (10-4-90) | Volusia |
| 58. Stoney-Lane (10-4-90) | Citrus |
| 59. Surfside Additions (5-14-86) | St. Lucie |
| 60. Three Lakes/Prairie Lakes (as mod. 8-8-94) | Osceola |
| 61. Topsail Hill (8-8-94) | Walton |
| 62. Upper Black Creek (8-8-94) | Clay |
| 63. Volusia Water Recharge Area | Volusia |
| 64. Wacissa/Aucilla Rivers (10-4-90) | Jefferson/Taylor |
| 65. Wekiva River Buffers (8-8-94) | Seminole |
| 66. Westlake (5-14-86; as mod. 4-19-88) | Broward |
| 67. Wetstone/Berkovitz (8-8-94) | Pasco |
| 68. Withlacoochee Tracts (12-1-82) | Sumter |
| (g) Waters within National Seashores | |

National Seashores

1. Canaveral
2. Gulf Islands

County

- Brevard/Volusia
Escambia/Santa Rosa

(h) Waters within State Aquatic Preserves

Aquatic Preserves

1. Alligator Harbor
2. Apalachicola Bay
3. Banana River (as mod. 8-8-94)
4. Big Bend Seagrasses

County

- Franklin
Franklin
Brevard
Wakulla/Taylor/
Jefferson/Dixie/
Levy

except for the following areas;

- a. Keaton Beach, Taylor County - Begin at 29°49'50" N. Lat., 83°35'24"W. Long. then west to 29°49'45", 83°35'50"; then south to 29°49'04", 83°35'48"; then east to 29°49'04", 83°35'24"; then north to the point of beginning.
- b. Steinhatchee, Taylor County - Begin at 29°40'35", 83°22'10"; then west to 29°40'35", 83°23'10"; then north to 29°41', 83°23'10"; then west to 29°41', 83°24'10"; then south to the Taylor County-Dixie County boundary; then eastward along the boundary to 29°39'55", 83°22'10"; then north to the point of beginning.

- c. Suwannee, Dixie County - Begin at 29°20'30", 83°08'10"; then west to 29°20'30", 83°08'25"; then south to 29°20'05", 83°08'25"; then southwesterly along SR 349 to 29°19'51", 83°08'35"; then west to 29°19'51", 83°08'45"; then southwesterly to 29°19'40", 83°09'12"; then south to 29°19'30", 83°09'12"; then northeasterly to 29°19'39", 83°08'53"; then southeasterly to 29°19'25", 83°08'41"; then southwesterly to 29°19'20", 83°08'49"; then southeasterly to 29°19'14", 83°08'41"; then northeasterly along the bank of the Suwannee River to and along the bank of Demory Creek to 29°19'45", 83°08'10"; then north to the point of beginning.
 - d. Cedar Key unincorporated airport area, Levy County - Begin at 29°08'26", 83°03'17"; then south to 29°07'34", 83°03'17", then northeasterly to 29°07'48", 83°02'33"; beginning northerly and tracing the corporate limit of Cedar Key to the point of beginning.
 - e. Cedar Key unincorporated causeway area, Levy County - That portion of Section 20 lying within 1000 feet of the centerline of SR 24 and lying north of a line 500 feet northeast of and parallel to the northern corporate limit of Cedar Key.
 - f. Cedar Key channel, Levy County - Begin at 29°08'58", 83°01'17"; then west to 29°08'58", 83°01'24"; then south to 29°08'05", 83°01'26"; then northeasterly to 29°08'08", 83°01'17"; then northerly to the point of beginning.
 - g. Keaton Beach navigation channel, Taylor County - Begin at 29°49'02", 83°35'30"; then west to 29°49'02", 83°37'58"; then south to 29°48'45", 83°37'58"; then east to 29°48'45", 83°35'30"; then north to the point of beginning.
 - h. Keaton Beach local channels, Taylor County - Begin at 29°49'01", 83°35'38"; then southeast to 29°48'55", 83°35'15"; then northeast to 29°48'59", 83°35'13"; then northwest to 29°49'06", 83°35'36"; then southwest to the point of beginning. (10-29-86)
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| 5. | Biscayne Bay (Cape Florida) | Dade/Monroe |
| 6. | Biscayne Bay (Card Sound) (12-1-82) | Dade/Monroe |
| 7. | Boca Ciega Bay | Pinellas |
| 8. | Cape Haze | Charlotte/Lee |
| 9. | Cape Romano-Ten Thousand Islands | Collier |
| 10. | Cockroach Bay | Hillsborough |
| 11. | Coupon Bight | Monroe |
| 12. | Estero Bay (as mod. 4-19-88) | Lee |
| 13. | Fort Clinch State Park | Nassau |
| 14. | Fort Pickens State Park | Santa Rosa/Escambia |
| 15. | Gasparilla Sound-Charlotte Harbor (as mod. 10-4-90) | Charlotte/Lee |
| 16. | Guana River Marsh (8-8-94) | St. Johns |
| 17. | Indian River Malabar to Vero | Brevard/ Beach
Indian River |
| 18. | Indian River Malabar to Vero | Brevard/Beach |

(additions), except Indian River those Indian River portions of Sebastian Creek and Turkey Creek upstream of U.S. Highway 1 (1/26/88)

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| 19. | Indian River Vero Beach to Ft. Pierce (as mod. 10-4-90) | Indian River/
St. Lucie |
| 20. | Jensen Beach to Jupiter Inlet (as mod. 10-4-90) | Martin/Palm
Beach/St. Lucie |
| 21. | Lake Jackson | Leon |
| 22. | Lemon Bay (4-19-88; as mod. 10-4-90) | Charlotte/Sarasota |
| 23. | Lignumvitae Key | Monroe |
| 24. | Loxahatchee River-Lake Worth Creek (as mod. 8-8-94) | Martin/
Palm Beach |
| 25. | Matlacha Pass | Lee |
| 26. | Mosquito Lagoon | Volusia/Brevard |
| 27. | Nassau River-St. Johns River Marshes | Nassau/Duval |
| 28. | North Fork, St. Lucie | St. Lucie/Martin |
| 29. | Oklawaha River (10-4-90) | Marion |
| 30. | Pellicer Creek | St. Johns/Flagler |
| 31. | Pine Island Sound | Lee |
| 32. | Pinellas County | Pinellas |
| 33. | Rainbow Springs (4-19-88) | Marion |
| 34. | Rocky Bayou State Park | Okaloosa |
| 35. | Rookery Bay (12-1-82; as mod. 11-24-87, 7-11-91) | Collier |
| 36. | St. Andrews State Park | Bay |
| 37. | St. Joseph Bay | Gulf |
| 38. | St. Martins Marsh (as mod. 8-8-94) | Citrus |
| 39. | Terra Ceia (5-22-86) | Manatee |
| 40. | Tomoka Marsh | Volusia/Flagler |
| 41. | Wekiva River (12-1-82) | Lake/Orange/Seminole |
| 42. | Wekiva River Addition, except that portion of the St. Johns River between Interstate Highway 4 and the Wekiva River confluence (12-28-88). | Lake/Seminole/
Volusia |
| 43. | Yellow River Marsh | Santa Rosa |
| (i) | Special Waters | |
| 1. | Apalachicola River except for the following areas: | |
| a. | From a point 50 feet north of the northern boundary of the Jackson County Port Authority Slip, and including the slip itself, downstream to a point about four-tenths of a mile downstream, and specifically identified by navigation mile 103 on the 1982 U.S. Geological Survey Quadrangle Map of Sneads, Florida; and | |
| b. | From 850 feet downstream of the U.S. Army Corps of Engineers Blountstown Navigation Gage in Calhoun County, north to a point approximately 2,700 feet upstream of the Gage, and specifically | |

identified by the line passing through 30°25'45" N. Lat. and 85°1'35" W. Long.; and 30°25'38" N. Lat. and 85°1'20" W. Long. (12-11-84).

2. Aucilla River
3. Blackwater River
4. Butler Chain of Lakes - consisting of Lake Butler, Lake Down, Wauseon Bay, Lake Louise, Lake Palmer (also known as Lake Isleworth), Lake Chase, Lake Tibet, Lake Sheen, Pocket Lake, Fish Lake, and the waterways which connect these lakes (3-1-84), and Lake Blanche and its connecting waterway (2-18-87).
5. Chassahowitzka River System including: Potter, Salt, Baird, Johnson, Crawford, Ryle, and Stevenson Creeks, and other tributaries to the Chassahowitzka River; but excluding artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in Rule 62-312.020(3), F.A.C. (1-5-93).
6. Chipola River
7. Choctawhatchee River
8. Clermont Chain of Lakes - consisting of Lake Louisa (also known as Lake Louise), Lake Susan, Lake Crescent, Lake Minnehaha, Lake Winona, Lake Palatlahaha, Lake Hiawatha, Lake Minneola, Lake Wilson, Lake Cook, Cherry Lake, Lake Hunt, Lake Stewart, Lake Lucy, Lake Emma, and the waterways that interconnect Clermont Chain of Lakes (5-28-86).
9. Crooked Lake in Polk County including the area known as Little Crooked Lake and the connecting waterway between these waterbodies; less however, artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in Section 62-312.020(3), F.A.C. (4-9-87).
10. Crystal River, including Kings Bay (2-1-83).
11. Econlockhatchee River System - consisting of the Econlockhatchee River and the following tributaries:
 - a. Little Econlockhatchee River upstream to Michaels Dam in Jay Blanchard Park; and
 - b. Mills Creek upstream to Mills Lake; and
 - c. Southerly branch of Mills Creek upstream to Fort Christmas Road in Section 2, Township 22 South, Range 32 East; and
 - d. Silcox Branch (branch of Mills Creek) upstream to Lake Pickett; and
 - e. Long Branch upstream to the eastern section line of Section 34, Township 22 South, Range 32 East; and
 - f. Hart Branch upstream to the Old Railroad Grade in Section 18, Township 23 South, Range 32 East; and
 - g. Cowpen Branch upstream to the southernmost bifurcation of the creek in Section 20, Township 23 South, Range 32 East; and
 - h. Green Branch upstream to the western section line of Section 29, Township 23 South, Range 32 East; and
 - i. Turkey Creek upstream to Weewahootee Road in Section 5, Township 24 South, Range 32 East, and to the west section lines of

- Section 5, Township 24 South, Range 32 East, and Section 32, Township 23 South, Range 32 East; and
- j. Little Creek upstream to the eastern section line of Section 22, Township 24 South, Range 32 East; and
 - k. Fourmile Creek upstream to the southern line of the NE1/4 of Section 28, Township 24 South, Range 32 East; and
 - l. Econlockhatchee River Swamp upstream to State Road 532;
 - m. but excluding all other tributaries and artificial water bodies, defined as any water body created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in Rule 62-312.020(3), F.A.C. (6-18-92).
12. Estero Bay Tributaries including: Hendry Creek to State Road 865, Big Bayou, Mullock Creek to U.S. 41 (State Road 45); Mud Creek; Estero River (north and south branches) to I-75 Halfway Creek to State Road 41; Spring Creek to Business Route 41 (State Road 887, old State Road 41), and the unnamed south branch of Spring Creek in Sections 20 and 29; Imperial River to the eastern line of Section 31, Range 26 East, Township 47 South, Oak Creek, and Leitner Creek; except for Tenmile Canal and any artificial water bodies, defined as any water body created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in Rule 62-312.020(3), F.A.C. (10-4-90).
13. Florida Keys, including channels as defined in Rule 62-312.020(4), F.A.C., and described as follows: Commence at the northeasterly most point of Palo Alto Key and run due north to a point at the center of the channel of Broad Creek as the point of beginning, thence due east to the eastern boundary of the jurisdictional waters of the State of Florida, thence meander southerly along said eastern boundary to a point due south of the westernmost point of the island of Key West; thence westerly, northerly and easterly along the arc of a curve three leagues distant from the westernmost point of the island of Key West to a point due north of the island of Key West; thence northeasterly three leagues distant from the most northerly land of the Florida Keys to the intersection with the boundary of the Everglades National Park; thence southeasterly, northeasterly and northwesterly along the boundary of the Everglades National Park to the intersection with the Dade County - Monroe County line; thence northeasterly and easterly along the Dade County - Monroe County line to the point of beginning; less however, three areas:
- a. Key West Sewage Outfall, being a circle 150 feet in radius from the point of discharge located at approximately 24°32'13" N. Latitude and 81°48'55" W. Longitude; and
 - b. Stock Island Power Plant Mixing Zone; being a circle 150 feet in radius from the end of the power plant discharge canal; and
 - c. Artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in Rule 62-312.020(3), F.A.C. (5-8-85).

14. Hillsborough River from Fletcher Avenue (State Road 582A) in Hillsborough County upstream to the Withlacoochee River Overflow in Pasco County, and the following tributaries:
 - a. Crystal Springs; and
 - b. Blackwater Creek westward of the Hillsborough - Polk County line; and
 - c. Cypress Creek, Thirteenmile Run eastward of Livingston Avenue, and Big Cypress Swamp upstream to and including the Cypress Creek Wellfield, as delineated in the maps entitled "Cypress Creek OFW Boundary Maps," incorporated herein by reference; and
 - d. Trout Creek upstream to Bruce B. Downs Boulevard (State Road 581);
 - e. but excluding all other tributaries as well as the proposed transportation corridor, which crosses Cypress Creek in Section 21, Township 27 South, Range 19 East, as identified in the Adopted 2010 Long Range Transportation Plan of the Metropolitan Planning Organization, dated May 26, 1993.
 - f. A copy of the maps referenced in subparagraph c. above may be obtained from the Department of Environmental Protection, Bureau of Surface Water Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 (4-12-95).
15. Homosassa River System including: Halls River, Turtle, Otter, Battle, and Price Creeks, and other tributaries to the Homosassa River; but excluding artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in Rule 62-312.020(3), F.A.C. (1-5-93).
16. Kingsley Lake and Black Creek (North Fork) downstream to the northern line of Section 23, Township 5 South, Range 23 East, including all tributaries along this segment of Black Creek (11-8-90).
17. Lake Disston – Specifically including Lake Disston plus contiguous wetlands within the following areas: Township 14 South, Range 29 East, Sections 21, 20, 19, 18, 17, 16, 9, 8 and 7 in Flagler County; and Township 14 South, Range 28 East, Sections 13 and 24 in Volusia County except:
 - a. artificial water bodies defined as any water body created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in Rule 62-312.020(3), F.A.C.; and
 - b. any natural water bodies connected by artificial water bodies to the above-described system (4-4-01).
18. Lake Powell, Phillips Inlet, and all tributaries to Lake Powell as bounded by the following described line: Begin at the Northwest corner of Section 26, Township 2 South, Range 18 West; thence East to the Northwest corner of Section 29, Township 2 South, Range 17 West; thence South to the Northwest corner of the SW1/4 of Section 29, Township 2 South, Range 17 West; thence East to the West line of Section 27, Township 2 South, Range 17 West, thence South to the mean high water line of the

- Gulf of Mexico; thence meander Northwest along the mean high water line to the West line of Section 35, Township 2 South, Range 18 West; thence North to the point of beginning (8-18-91).
19. Lemon Bay Estuarine System - from Boca Grande Causeway northward to approximately two thousand feet northwest of the mouth of Alligator Creek, specifically identified as the East line of Section 31, Township 39 South, Range 19 East, including Placida Harbor, Gasparilla Pass, Kettle Harbor, Bocilla Lagoon, Bocilla Pass, Knight Pass, Stump Pass, Lemon Bay, Buck Creek upstream to County Road 775, Oyster Creek upstream to County Road 775, Ainger (Rock) Creek upstream to County Road 775, and Godfrey (Godfried, Gottfried) Creek upstream to County Road 775; but excluding:
 - a. Alligator Creek, Forked Creek, Lemon Creek, and all other tributaries; and
 - b. Artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in Section 62-312.020(3), F.A.C. (4-29-86).
 20. Little Manatee River - from its mouth to the western crossing of the river by S.R. 674, including Hayes, Mill and Bolster Bayous, but excluding South Fork, Ruskin Inlet and all other tributaries (10-1-82).
 21. Lochloosa Lake (including Little Lochloosa Lake, Lochloosa Lake Right Arm, and Lochloosa Creek upstream to County Road 20A) (12-15-87).
 22. Myakka River between State Road 771 (El Jobean Bridge) and the Charlotte - Sarasota County line, except for artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in Rule 62-312.020(3), F.A.C. (4-19-88).
 23. Ochlockonee River
 24. Oklawaha River between the eastern line of Section 36, Township 15 South, Range 23 East, and Eureka Lock and Dam, including Turkey Creek, Strouds Creek, Dead River (the water body so named near Gores Landing), Cedar Creek, and Fish Creek, but excluding Marshall Swamp, the Dead River (the water body so named exiting Marshall Swamp), and all other tributaries (12-20-89).
 25. Orange Lake up to the U.S. Highway 301 bridge, the River Styx up to Camps Canal, and Cross Creek (4-9-87).
 26. Perdido River
 27. Rainbow River, including Indian Creek, but excluding all other tributaries (1-17-85).
 28. Santa Fe River System - consisting of the Santa Fe River, Lake Santa Fe, Little Lake Santa Fe, Santa Fe Swamp, Olustee Creek, and the Ichetucknee River below S.R. 27, but excluding all other tributaries (8-16-84).
 29. Sarasota Bay estuarine system - generally extending from Venice north to the Hillsborough - Manatee County line and specifically described as

follows: Commence at the northern tip of Anna Maria Island and follow a line running to the southern tip of Egmont Key until intersecting the boundary between Hillsborough and Manatee Counties; thence run easterly and northeasterly along the county boundary until intersecting the Intracoastal Waterway; thence proceed southerly until intersecting a line between the southern tip of Mullet Key and the western tip of Snead Island; thence proceed southeasterly along said line to the western tip of Snead Island; thence to De Soto Point; and thence westerly and southerly including all of the Sarasota Bay estuarine system southward to the northernmost U.S. Highway Business Route 41 bridge over the Intracoastal Waterway in Venice, including Anna Maria Sound, Passage Key Inlet, Perico Bayou, Palma Sola Bay, Longboat Pass, Sarasota Bay, New Pass, Big Sarasota Pass, Roberts Bay, Little Sarasota Bay, Dryman Bay, Blackburn Bay, Lyons Bay, Venice Inlet, Dona Bay upstream to the U.S. Highway 41 bridge, and Roberts Bay upstream to the U.S. Highway 41 bridge; less however, the following areas:

- a. All tributaries, including Palma Sola Creek, Bowlees Creek, Whitaker Bayou, Hudson Bayou, Phillippi Creek, Catfish Creek, North Creek, South Creek, Shakett Creek, Curry Creek; and
 - b. A circle 1500 feet in radius from the mouth of Whitaker Bayou; and
 - c. A circle 1500 feet in radius from the mouth of Phillippi Creek; and
 - d. Artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in Rule 62-312.020(3), F.A.C. (4-29-86).
 - e. The designation shall not affect the consideration by the Department of an application for Site Specific Alternative Criteria for the discharge of the City of Bradenton's Municipal Sewage Treatment Plant being built under Department of Environmental Protection Construction Permit No. DC41-81224. The application will be processed under the regulations of the Department existing on February 18, 1986.
30. St. Marks River - except that part between Rattlesnake Branch and the confluence of the St. Marks and Wakulla Rivers.
 31. Shoal River
 32. Silver River (Marion County) (4-9-87)
 33. Spruce Creek upstream to State Road 40A, and the following tributaries:
 - a. Unnamed tributary upstream to the Southern section line of Section 4, Township 17 South, Range 33 East; and
 - b. Unnamed tributary upstream to the Northern section line of Section 20, Township 16 South, Range 33 East; and
 - c. Unnamed tributary upstream to the Northern section line of Section 23, Township 16 South, Range 32 East (right fork), and to the Western line of the NE 1/4 of Section 27, Township 16 South, Range 32 East; and

- d. Unnamed tributary upstream to the Western section line Section 35, Township 16 South, Range 32 East; and
 - e. Strickland Bay; and Turnbull Bay and Turnbull Creek upstream to the Northwestern section line of Section 43, Township 17 South, Range 33 East;
 - f. and Murray Creek upstream to the Town of Ponce Inlet municipal limits; and
 - g. waters east from U.S. Highway 1 following the northerly and southerly municipal limits of the Town of Ponce Inlet to its intersection with the western boundary of the Intracoastal Waterway and including Rose Bay upstream to Nova Road (State Road 5A);
 - h. but excluding all other tributaries (7-11-91).
34. Suwannee River
35. Tomoka River upstream to Interstate Highway 4; and the following tributaries:
- a. Priest Branch upstream to the Western and Southern section lines of Section 6, Township 15 South, Range 32 East; and
 - b. Little Tomoka River and its tributaries as bounded by the following described line: Begin at the Southwestern point of confluence between the Tomoka River and the Little Tomoka River; thence meander upstream along the Little Tomoka River to the Western section line of Section 25, Township 14 South, Range 31 East; thence South to the Southwest corner of Section 25, Township 14 South, Range 31 East; thence West to the Southwest corner of Section 28, Township 14 South, Range 31 East; thence North to the Northwest corner of Section 28, Township 14 South, Range 31 East; thence East to the West section line of Section 25, Township 14 South, Range 31 East; thence South to the Northern shore of the Little Tomoka River; thence meander easterly to the confluence with the Tomoka River; thence South to the point of beginning; and
 - c. Groover Branch upstream to the Northern section line of Section 24, Township 14 South, Range 31 East; and
 - d. Misner's Branch upstream to the Northern section line of Section 29, Township 14 South, Range 32 East; and
 - e. Thompson Creek and Strickland Creek upstream to the Northern section line of Section 40, Township 14 South, Range 32 East;
 - f. but excluding all other tributaries (7-11-91).
36. Wacissa River
37. Wakulla River
38. Weekiwachee Riverine and Spring System – consisting of the Weekiwachee Springs and River, Mud Springs and River, Jenkins Creek, Salt Spring and Creek, the Weekiwachee Swamp, and all tributaries and contiguous wetlands within the following sections: Township 23 South, Range 17 East, Sections 2-9; Township 22 South, Range 17 East, Sections 20, 21, and 27-35, together with that portion of Section 19 that is

southerly of CR 550 (Cortez Blvd.); Township 22 South, Range 16 East, Sections 25 and 36; including any and all waters, and wetlands contiguous to the tributaries located southerly of the north line of Section 25, Township 22 South, Range 16 East and westerly projection thereof and easterly of the west line of Section 36, Township 22 South, Range 16 East and northerly projection thereof, and easterly of a line through latitude 28° 32' 52" North, longitude 82° 39' 23" West, and through latitude 28° 31' 47" North, longitude 82° 39' 52" West (North American Datum of 1983). This OFW excludes artificial waters defined as any water body created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C. (12-11-03).

39. Wekiva River System - consisting of the Wekiva River, Rock Springs Run and its tributary Sulphur Spring, the Little Wekiva River south to its confluence with the southernmost run of Sanlando Springs, Black Water Creek and Swamp (up to Lake Dorr), Lake Norris, Seminole Springs and Creek, Seminole Swamp, Sulphur Spring and Run, and Messant Spring and Creek, but excluding all other tributaries (12-28-88).
40. Wiggins Pass Estuarine Area and the Cocohatchee River System - the estuarine and marine waters from the Lee/Collier County line southward through and including Water Turkey Bay to 50 feet north of S.R. 846 (Bluebill Ave.) 1995 right-of-way; the Cocohatchee River downstream from 50 feet West of U.S. 41 1995 right-of-way; and Wiggins Pass; but excluding maintenance dredging as authorized by Section 403.813(2)(f), F.S., in the following areas:
 - a) Wiggins Pass from the Gulf of Mexico eastward for 200 linear feet (as measured from the southwestern point of Little Hickory Island);
 - b) the channel (South Channel, Vanderbilt Channel), that connects Wiggins Pass with Vanderbilt Lagoon through Water Turkey Bay; and
 - c) East Channel (for purposes of this designation described as the East Channel from its confluence with South Channel to Vanderbilt Drive, including all waters surrounding the spoil islands know as Conklin Point and Island Marina) (7-16-96).
41. Withlacoochee Riverine and Lake System, including:
 - a. The Withlacoochee River downstream of State Road 33 in Lake County to eastern section line of Section 33, Township 16 South, Range 18 East; and
 - b. The lower Withlacoochee River, from the Gulf of Mexico to the Cross Florida Barge Canal By-Pass Spillway, but not including that portion of the river between Lake Rousseau and the Cross Florida Barge Canal; and
 - c. The Little Withlacoochee River; and
 - d. Jumper Creek downstream of State Road 35, including Jumper Creek Swamp; and
 - e. Gum Springs, Gum Slough (Dead River), and Gum Swamp; and

- f. Lake Panasoffkee, Outlet River, Little Jones Creek, Big Jones Creek, and Rutland Creek; and
- g. Shady (Brook, Panasoffkee) Creek downstream of State Road 468, including Warm Spring Hammock; and
- h. Lake Tsala Apopka;
- i. but excluding all other tributaries and artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in Rule 62-312.020(3), F.A.C. (4-10-89).

(j) Waters within Rivers Designated Under the Florida Scenic and Wild Rivers Program, federal Wild and Scenic Rivers Act of 1968 as amended, and Myakka River Wild and Scenic Designation and Preservation Act

<u>River Segment</u>	<u>County</u>
1. Loxahatchee National Wild and Scenic River Segment (5-14-86)	Martin/ Palm Beach
2. Myakka Florida Wild and Scenic River Segment (5-14-86)	Sarasota
3. Wekiva Florida Scenic and Wild River Segment (12-1-82)	Lake/Seminole

(k) Waters within National Preserves

<u>National Preserve</u>	<u>County</u>
1. Big Cypress National Preserve as mod. 5-14-86, 4-19-88, 8-8-94)	Collier/Dade/ Monroe
2. Timucuan Ecological and Historic Preserve (8-8-94)	Duval

(l) Waters within National Marine Sanctuaries

<u>Marine Sanctuary</u>	<u>County</u>
1. Key Largo	Monroe
2. Looe Key (12-1-82)	Monroe

(m) Waters within National Estuarine Research Reserves

<u>National Estuarine Research Reserve</u>	<u>County</u>
1. Apalachicola (12-1-82; as mod. 5-14-86, 4-19-88)	Franklin/Gulf
2. Rookery Bay (as mod. 5-14-86, 4-19-88)	Collier

(n) Certain Waters within the Boundaries of the National Forests

<u>National Forest</u>	<u>County</u>
1. Apalachicola	Wakulla/Leon/ Franklin
a. Sopchoppy River (9-1-82)	
b. Big Dismal Sink (9-1-82)	
2. Ocala	Putnam/Marion/ Lake
a. Alexander Springs (9-1-82)	
b. Alexander Springs Creek (9-1-82)	
c. Juniper Springs (9-1-82)	
d. Juniper Creek (9-1-82)	
e. Salt Springs (9-1-82)	
f. Salt Springs Run (9-1-82)	
g. Lake Dorr (9-1-82)	

- h. Lake Kerr (9-1-82)
- i. Little Lake Kerr (9-1-82)
- 3. Osceola Baker/Columbia
 - a. Deep Creek (9-1-82)
 - b. Robinson Creek (9-1-82)
 - c. Middle Prong - St. Marys River (9-1-82)
 - d. Ocean Pond (9-1-82)
 - e. Falling Creek (9-1-82)

(10) Outstanding National Resource Waters:

(a) The Commission designates the following waters as Outstanding National Resource Waters:

1. Biscayne National Park, as described in the document entitled "Outstanding National Resource Waters Boundary Description and Map for Biscayne National Park", dated June 15, 1989, herein adopted by reference.

2. Everglades National Park, as described in the document entitled "Outstanding National Resource Waters Boundary Description and Map for Everglades National Park", dated June 15, 1989, herein adopted by reference.

(b) It is the intent of the Commission that water bodies designated as Outstanding National Resource Waters shall be protected and maintained to the extent required by the federal Environmental Protection Agency. Therefore, the designations set forth in Rule 62-302.700(10)(a) shall not be effective until the Florida Legislature enacts legislation specifically authorizing protection and maintenance of Outstanding National Resource Waters to the extent required by the federal Environmental Protection Agency pursuant to 40 CFR 131.12.

(c) It is also the intent of the Commission to utilize the Surface Water Improvement and Management Act planning process, as outlined in Section 373.451, F.S. and Chapter 62-43, F.A.C., to establish the numerical standards for water quality parameters appropriate for Everglades and Biscayne National Parks status as Outstanding National Resource Waters.

(d) The baseline for defining the existing ambient water quality (Rule 62-4.242(2)(c)) in Outstanding National Resource Water is a five year period from March 1, 1976 to March 1, 1981, unless otherwise indicated.

Specific Authority 403.061, 403.087, 403.088, 403.804, 403.805 FS. Law Implemented 403.021, 403.061, 403.062, 403.087, 403.088, 403.101, 403.141, 403.182, 403.502, 403.702, 403.708, 403.918 FS. History - New 3-1-79, Amended 8-10-80, 8-24-82, 9-30-82, 11-30-82, 2-1-83, 6-1-83, 3-1-84, 8-16-84, 12-11-84, 1-17-85, 5-8-85, 4-29-86, 5-14-86, 5-22-86, 5-28-86, 10-29-86, 2-18-87, 4-9-87, 11-24-87, 12-15-87, 1-26-88, 4-19-88, 12-28-88, 4-10-89, 10-4-89, 12-20-89, 1-28-90, Transferred from 17-3.041. Amended 10-4-90, 11-8-90, 7-11-91, 8-18-91, 12-11-91, 6-18-92, 1-5-93, 8-8-94, Formerly 17-302.700, Amended 1-23-95, 4-3-95, 4-12-95, 7-16-96, 4-4-01, 12-11-03, 1-9-06, 12-7-06.

62-302.800 Site Specific Alternative Criteria.

(1) Type I Site Specific Alternative Criteria: A water body, or portion thereof, may not meet a particular ambient water quality criterion specified for its classification, due to natural background conditions or man-induced conditions which cannot be

controlled or abated. In such circumstances, and upon petition by an affected person or upon the initiation by the Department, the Secretary may establish a site specific alternative water quality criterion when an affirmative demonstration is made that an alternative criterion is more appropriate for a specified portion of waters of the state. Public notice and an opportunity for public hearing shall be provided prior to issuing any order establishing alternative criteria.

(a) The affirmative demonstration required by this section shall mean a documented showing that the proposed alternative criteria would exist due to natural background conditions or man-induced conditions which cannot be controlled or abated. Such demonstration shall be based upon relevant factors which include:

1. A description of the physical nature of the specified water body and the water pollution sources affecting the criterion to be altered.

2. A description of the historical and existing water quality of the parameter of concern including, spatial, seasonal, and diurnal variations, and other parameters or conditions which may affect it. Conditions in similar water bodies may be used for comparison.

3. A description of the historical and existing biology, including variations, which may be affected by the parameter of concern. Conditions in similar water bodies may be used for comparison.

4. A discussion of any impacts of the proposed alternative criteria on the designated use of the waters and adjoining waters.

(b) The Secretary shall specify, by order, the site specific criteria for the parameters which the Secretary determines to have been demonstrated by the preponderance of competent substantial evidence to be more appropriate.

(2) Type II Site Specific Alternative Criteria: In accordance with the procedures set forth below, affected persons may petition the Department to adopt an alternative water quality criterion for a specific water body, or portion thereof, on the basis of site-specific reasons other than those set forth above in subsection 62-302.800(1), F.A.C. The Department shall process any such petition as follows:

(a) No later than 60 days after receipt of a petition, the Department shall review the petition and notify the petitioner of whether the petition is sufficiently complete to enable the Department to evaluate the proposed site-specific alternative criterion under subparagraph (c) below. If the petition is not sufficiently complete, the Department shall request the submittal of additional information. The Department shall review any additional information within 60 days of receipt from the applicant and may then request only that information reasonably needed to clarify or answer new questions directly related to the additional information, unless the Department shows good cause for not having requested the information previously.

(b) Petitions deemed complete by the Department shall be processed under subparagraph (c). For any petition not deemed complete, if the petitioner believes that additional information requested by the Department under subparagraph (a) is not necessary to the Department's evaluation, the Department, at the petitioner's request, shall proceed to process the petition under subparagraph (c) below.

(c) The Department shall initiate rulemaking for the Commission to consider approval of the proposed alternative criterion as a rule if the petitioner meets all the requirements of this subparagraph and its subparts. The petitioner must demonstrate

that the proposed criterion would fully maintain and protect human health, existing uses, and the level of water quality necessary to protect human health and existing and designated beneficial uses. If the petition fails to meet any of these requirements (including the required demonstration), the Department shall issue an order denying the petition. In deciding whether to initiate rulemaking or deny the petition, the Department shall evaluate the petition and other relevant information according to the following criteria and procedures:

1. The petition shall include all the information required under subparagraphs (1)(a)1.-4. above.

2. In making the demonstration required by this paragraph (c), the petition shall include an assessment of aquatic toxicity, except on a showing that no such assessment is relevant to the particular criterion. The assessment of aquatic toxicity shall show that physical and chemical conditions at the site alter the toxicity or bioavailability of the compound in question and shall meet the requirements and follow the Indicator Species procedure set forth in *Water Quality Standards Handbook* (December 1983), a publication of the United States Environmental Protection Agency, incorporated here by reference. If, however, the Indicator Species Procedure is not applicable to the proposed site-specific alternative criterion, the petitioner may propose another generally accepted scientific method or procedure to demonstrate with equal assurance that the alternative criterion will protect the aquatic life designated use of the water body.

3. The demonstration shall also include a risk assessment that determines the human exposure and health risk associated with the proposed alternative criterion, except on a showing that no such assessment is relevant to the particular criterion. The risk assessment shall include all factors and follow all procedures required by generally accepted scientific principles for such an assessment, such as analysis of existing water and sediment quality, potential transformation pathways, the chemical form of the compound in question, indigenous species, bioaccumulation and bioconcentration rates, and existing and potential rates of human consumption of fish, shellfish, and water. If the results of the assessments of health risks and aquatic toxicity differ, the more stringent result shall govern.

4. The demonstration shall include information indicating that one or more assumptions used in the risk assessment on which the existing criterion is based are inappropriate at the site in question and that the proposed assumptions are more appropriate or that physical or chemical characteristics of the site alter the toxicity or bioavailability of the compound. Such a variance of assumptions, however, shall not be a ground for a proposed alternative criterion unless the assumptions characterize a factor specific to the site, such as bioaccumulation rates, rather than a generic factor, such as the cancer potency and reference dose of the compound. Man-induced pollution that can be controlled or abated shall not be deemed a ground for a proposed alternative criterion.

5. The petition shall include all information required for the Department to complete its economic impact statement for the proposed criterion.

6. For any alternative criterion more stringent than the existing criterion, the petition shall include an analysis of the attainability of the alternative criterion.

7. No later than 180 days after receipt of a complete petition or after a petitioner requests processing of a petition not found to be complete, the Department shall notify the petitioner of its decision on the petition. The Department shall publish in the Florida Administrative Weekly either a notice of rulemaking for the proposed alternative criterion or a notice of the denial of the petition, as appropriate, within 30 days after notifying the petitioner of the decision. A denial of the petition shall become final within 14 days unless timely challenged under Section 120.57, F.S.

(d) The provisions of this subsection do not apply to criteria contained in Rule 62-302.500, F.A.C., or criteria that apply to:

1. Biological Integrity.
2. B.O.D.
3. Nutrients.
4. Odor.
5. Oils and Greases.
6. Radioactive Substances.
7. Substances in concentrations that injure, are chronically toxic to, or produce adverse physiological or behavioral response in humans, animals, or plants.
8. Substances in concentrations that result in the dominance of nuisance species.
9. Total Dissolved Gases.
10. Any criterion or maximum concentration based on or set forth in paragraph 62-4.244(3)(b), F.A.C.

(e) Despite any failure of the Department to meet a deadline set forth in this subsection (2), the grant of an alternative criterion shall not become effective unless approved as a rule by the Commission.

(f) Nothing in this rule shall alter the rights afforded to affected persons by Chapter 120, F.S.

(3) The Department shall modify permits of existing sources affected in a manner consistent with the Secretary's Order.

(4) Additional relief from criteria established by this Chapter may be provided through exemption pursuant to Rule 62-4.243, F.A.C., or variances as provided for by Rule 62-110.104, F.A.C.

(5) Site specific alternative criteria apply to the water bodies, or portions of the water bodies, listed below. For dissolved oxygen site specific alternative criteria, normal daily and seasonal fluctuations above the levels listed in the table below shall be maintained.

Water Body	Site Specific Alternative Criteria	County(s)
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and Class		
(a) Marine portions of the lower St. Johns River and its tributaries between Julington Creek and the mouth of the river. Class III.	<p>Dissolved Oxygen not less than a minimum concentration of 4.0 mg/L, and a Total Fractional Exposure not greater than 1.0 over an annual evaluation period as defined by the following equation:</p> $\left(\text{Total Fractional Exposure} \right) = \frac{\text{Days between } 4.0 - < 4.2 \text{ mg/L}}{16 \text{ day Max}} + \frac{\text{Days between } 4.2 - < 4.4 \text{ mg/L}}{21 \text{ day Max}} + \frac{\text{Days between } 4.4 - < 4.6 \text{ mg/L}}{30 \text{ day Max}} + \frac{\text{Days between } 4.6 - < 4.8 \text{ mg/L}}{47 \text{ day Max}} + \frac{\text{Days between } 4.8 - < 5.0 \text{ mg/L}}{55 \text{ day Max}}$ <p>where the number of days in an interval is based on the daily average Dissolved Oxygen concentration.</p>	Duval/Clay/St. Johns
(b) Discharge wetlands at the Orange County Eastern Water Reclamation Facility. Class III.	pH of not greater than 8.5 standard units.	Orange

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804, 403.805 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.201, 403.502 FS. History—Formerly 17-3.05(4), Amended 3-1-79, 10-2-80, 2-1-83, Formerly 17-3.031, Amended 6-17-92, Formerly 17-302.800, Amended 5-15-02, 1-9-06, 6-28-06, 12-7-06, 8-5-07.

Chapter 62-302.530 of the Florida Administrative Code, Criteria for Surface Water Quality Classifications

(Current as of March 2011)

62-302.530, Criteria for Surface Water Quality Classifications

Parameter	Units	Class I: Potable Water Supply	Class II: Shellfish Propagation or Harvesting	Class III: Recreation, Propagation and Maintenance of a Healthy, Well- Balanced Population of Fish and Wildlife		Class IV: Agricul- tural Water Sup- plies	Class V: Naviga- tion, Utility, and Industrial Use
				Predominantly Fresh Waters	Predominantly Marine Waters		
(1) Alkalinity	Milligrams/L as CaCO ₃	Shall not be depressed below 20		Shall not be depressed below 20		≤ 600	
(2) Aluminum	Milligrams/L		≤ 1.5		≤ 1.5		
(3) Ammonia (un-ionized)	Milligrams/L as NH ₃	≤ 0.02		≤ 0.02			
(4) Antimony	Micrograms/L	≤ 14.0	≤ 4,300	≤ 4,300	≤ 4,300		
(5) (a) Arsenic (total)	Micrograms/L	≤ 10	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50
(5) (b) Arsenic (trivalent)	Micrograms/L measured as total recoverable Arsenic		≤ 36		≤ 36		

(6) Bacteriological Quality (Fecal Coliform Bacteria)	Number per 100 ml (Most Probable Number (MPN) or Membrane Filter (MF))	MPN or MF counts shall not exceed a monthly average of 200, nor exceed 400 in 10% of the samples, nor exceed 800 on any one day. Monthly averages shall be expressed as geometric means based on a minimum of 5 samples taken over a 30 day period.	MPN shall not exceed a median value of 14 with not more than 10% of the samples exceeding 43, nor exceed 800 on any one day.	MPN or MF counts shall not exceed a monthly average of 200, nor exceed 400 in 10% of the samples, nor exceed 800 on any one day. Monthly averages shall be expressed as geometric means based on a minimum of 10 samples taken over a 30 day period.	MPN or MF counts shall not exceed a monthly average of 200, nor exceed 400 in 10% of the samples, nor exceed 800 on any one day. Monthly averages shall be expressed as geometric means based on a minimum of 10 samples taken over a 30 day period.		
(7) Barium	Milligrams/L	≤ 1					
(8) Benzene	Micrograms/L	≤ 1.18	≤ 71.28 annual avg.	≤ 71.28 annual avg.	≤ 71.28 annual avg.		
(9) Beryllium	Micrograms/L	≤ 0.0077 annual avg.	≤ 0.13 annual avg.	≤ 0.13 annual avg.	≤ 0.13 annual avg.	≤ 100 in waters with a hardness in mg/L of CaCO_3 of less than 250 and shall not exceed 500 in harder waters	

(10) Biological Integrity	Per cent reduction of Shannon-Weaver Diversity Index	The Index for benthic macroinvertebrates shall not be reduced to less than 75% of background levels as measured using organisms retained by a U. S. Standard No. 30 sieve and collected and composited from a minimum of three Hester-Dendy type artificial substrate samplers of 0.10 to 0.15 m ² area each, incubated for a period of four weeks.	The Index for benthic macroinvertebrates shall not be reduced to less than 75% of established background levels as measured using organisms retained by a U. S. Standard No. 30 sieve and collected and composited from a minimum of three natural substrate samples, taken with Ponar type samplers with minimum sampling area of 225 cm ² .	The Index for benthic macroinvertebrates shall not be reduced to less than 75% of established background levels as measured using organisms retained by a U. S. Standard No. 30 sieve and collected and composited from a minimum of three Hester-Dendy type artificial substrate samplers of 0.10 to 0.15 m ² area each, incubated for a period of four weeks.	The Index for benthic macroinvertebrates shall not be reduced to less than 75% of established background levels as measured using organisms retained by a U. S. Standard No. 30 sieve and collected and composited from a minimum of three natural substrate samples, taken with Ponar type samplers with minimum sampling area of 225 cm ² .		
(11) BOD (Biochemical Oxygen Demand)		Shall not be increased to exceed values which would cause dissolved oxygen to be depressed below the limit established for each class and, in no case, shall it be great enough to produce nuisance conditions.					
(12) Boron	Milligrams/L					≤ 0.75	
(13) Bromates	Milligrams/L		≤ 100		≤ 100		
(14) Bromine (free molecular)	Milligrams/L		≤ 0.1		≤ 0.1		

(15) Cadmium	Micrograms/L See Notes (1) and (3).	$Cd < e^{(0.7409[\ln H]-4.719)}$	< 8.8	$Cd \leq e^{(0.7409[\ln H]-4.719)}$	< 8.8		
(16) Carbon tetra-chloride	Micrograms/L	≤ 0.25 annual avg.; 3.0 max	≤ 4.42 annual avg.	≤ 4.42 annual avg.	≤ 4.42 annual avg.		
(17) Chlorides	Milligrams/L	≤ 250	Not increased more than 10% above normal back-ground. Normal daily and seasonal fluctuations shall be maintained.		Not increased more than 10% above normal back-ground. Normal daily and seasonal fluctuations shall be maintained.		In predominantly marine waters, not increased more than 10% above normal back-ground. Normal daily and seasonal fluctuations shall be maintained.
(18) Chlorine (total residual)	Milligrams/L	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01		
(19) (a) Chromium (trivalent)	Micrograms/L measured as total recoverable Chromium See Notes (1) and (3).	$Cr (III) \leq e^{(0.819[\ln H]+0.6848)}$		$Cr (III) \leq e^{(0.819[\ln H]+0.6848)}$		$Cr (III) \leq e^{(0.819[\ln H]+0.6848)}$	In predominantly fresh waters, $\leq e^{(0.819[\ln H]+0.6848)}$
(19) (b) Chromium (hexavalent)	Micrograms/L See Note (3)	≤ 11	≤ 50	≤ 11	≤ 50	≤ 11	In predominantly fresh waters, ≤ 11 . In predominantly marine waters, ≤ 50

(20) Chronic Toxicity (see definition in Section 62-302.200(4), F.A.C. and also see below, "Substances in concentrations which...")							
(21) Color, etc. (see also Minimum Criteria, Odor, Phenols, etc.)	Color, odor, and taste producing substances and other deleterious substances, including other chemical compounds attributable to domestic wastes, industrial wastes, and other wastes					Only such amounts as will not render the waters unsuitable for agricultural irrigation, livestock watering, industrial cooling, industrial process water supply purposes, or fish survival.	
(22) Conductance, Specific	Micromhos/cm	Shall not be increased more than 50% above background or to 1275, whichever is greater.		Shall not be increased more than 50% above background or to 1275, whichever is greater.		Shall not be increased more than 50% above background or to 1275, whichever is greater.	Shall not exceed 4,000
(23) Copper	Micrograms/L See Notes (1) and (3).	$Cu \leq e^{(0.8545[\ln H]-1.702)}$	≤ 3.7	$Cu \leq e^{(0.8545[\ln H]-1.702)}$	≤ 3.7	≤ 500	≤ 500

(24) Cyanide	Micrograms/L	≤ 5.2	≤ 1.0	≤ 5.2	≤ 1.0	≤ 5.0	≤ 5.0
(25) Definitions (see Section 62-302.200, F.A.C.)							
(26) Detergents	Milligrams/L	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
(27) 1,1-Dichloro-ethylene (1,1-dichloroethene)	Micrograms/L	≤ 0.057 annual avg.; ≤ 7.0 max	≤ 3.2 annual avg.	≤ 3.2 annual avg.	≤ 3.2 annual avg.		
(28) Dichloromethane (methylene chloride)	Micrograms/L	≤ 4.65 annual avg.	≤ 1,580 annual avg.	≤ 1,580 annual avg.	≤ 1,580 annual avg.		
(29) 2,4-Dinitro-toluene	Micrograms/L	≤ 0.11 annual avg.	≤ 9.1 annual avg.	≤ 9.1 annual avg.	≤ 9.1 annual avg.		
(30) Dissolved Oxygen	Milligrams/L	Shall not be less than 5.0. Normal daily and seasonal fluctuations above this level shall be maintained.	Shall not average less than 5.0 in a 24-hour period and shall never be less than 4.0. Normal daily and seasonal fluctuations above these levels shall be maintained.	Shall not be less than 5.0. Normal daily and seasonal fluctuations above these levels shall be maintained.	Shall not average less than 5.0 in a 24-hour period and shall never be less than 4.0. Normal daily and seasonal fluctuations above these levels shall be maintained.	Shall not average less than 4.0 in a 24-hour period and shall never be less than 3.0.	Shall not be less than 0.3, fifty percent of the time on an annual basis for flows greater than or equal to 250 cubic feet per second and shall never be less than 0.1. Normal daily and seasonal fluctuations above these levels shall be maintained.

(31) Dissolved Solids	Milligrams/L	≤ 500 as a monthly avg.; $\leq 1,000$ max					
(32) Fluorides	Milligrams/L	≤ 1.5	≤ 1.5	≤ 10.0	≤ 5.0	≤ 10.0	≤ 10.0
(33) "Free Froms" (see Minimum Criteria in Section 62-302.500, F.A.C.)							
(34) "General Criteria" (see Section 62-302.500, F.A.C. and individual criteria)							
(35) (a) Halomethanes (Total trihalomethanes) (total of bromoform, chlorodibromomethane, dichlorobromomethane, and chloroform). Individual halomethanes shall not exceed (b)1. to (b)5. below.	Micrograms/L	< 80					
(35) (b) 1. Halomethanes (individual): Bromoform	Micrograms/L	≤ 4.3 annual avg.	≤ 360 annual avg.	≤ 360 annual avg.	≤ 360 annual avg.		

(35) (b) 2. Halomethanes (individual): Chlorodibromo- methane	Micrograms/L	≤ 0.41 annual avg.	≤ 34 annual avg.	≤ 34 annual avg.	≤ 34 annual avg.		
(35) (b) 3. Halomethanes (individual): Chloroform	Micrograms/L	≤ 5.67 annual avg.	≤ 470.8 annual avg.	≤ 470.8 annual avg.	≤ 470.8 annual avg.		
(35) (b) 4. Halomethanes (individual): Chloromethane (methyl chloride)	Micrograms/L	≤ 5.67 annual avg.	≤ 470.8 annual avg.	≤ 470.8 annual avg.	≤ 470.8 annual avg.		
(35) (b) 5. Halomethanes (individual): Dichlorobromo- methane	Micrograms/L	≤ 0.27 annual avg.	≤ 22 annual avg.	≤ 22 annual avg.	≤ 22 annual avg.		
(36) Hexachlorobuta- diene	Micrograms/L	≤ 0.45 annual avg.	≤ 49.7 annual avg.	≤ 49.7 annual avg.	≤ 49.7 annual avg.		
(37) Imbalance (see Nutrients)							
(38) Iron	Milligrams/L	< 1.0	≤ 0.3	≤ 1.0	≤ 0.3	≤ 1.0	
(39) Lead	Micrograms/L See Notes (1) and (3).	$Pb \leq e^{(1.273[\ln H] - 4.705)}$;	≤ 8.5	$Pb \leq e^{(1.273 [\ln H] - 4.705)}$;	≤ 8.5	≤ 50	≤ 50

(40) Manganese	Milligrams/L		≤ 0.1				
(41) Mercury	Micrograms/L	0.012	0.025	0.012	0.025	≤ 0.2	≤ 0.2
(42) Minimum Criteria (see Section 62-302.500, F.A.C.)							
(43) Mixing Zones (See Section 62-4.244, F.A.C.)							
(44) Nickel	Micrograms/L See Notes (1) and (3).	$Ni \leq e^{(0.846[\ln H]+0.0584)}$	≤ 8.3	$Ni \leq e^{(0.846[\ln H]+0.0584)}$	≤ 8.3	≤ 100	
(45) Nitrate	Milligrams/L as N	≤ 10 or that concentration that exceeds the nutrient criteria					
(46) Nuisance Species		Substances in concentrations which result in the dominance of nuisance species: none shall be present.					
(47) (a) Nutrients		The discharge of nutrients shall continue to be limited as needed to prevent violations of other standards contained in this chapter. Man-induced nutrient enrichment (total nitrogen or total phosphorus) shall be considered degradation in relation to the provisions of Sections 62-302.300, 62-302.700, and 62-4.242, F.A.C.					
(47) (b) Nutrients		In no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora or fauna.					

(48) Odor (also see Color, Minimum Criteria, Phenolic Compounds, etc.)	Threshold odor number		Shall not exceed 24 at 60 degrees C as a daily average.				Odor producing substances: only in such amounts as will not unreasonably interfere with use of the water for the designated purpose of this classification.
(49) (a) Oils and Greases	Milligrams/L	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 10.0
(49) (b) Oils and Greases		No undissolved oil, or visible oil defined as iridescence, shall be present so as to cause taste or odor, or otherwise interfere with the beneficial use of waters.					
(50) Pesticides and Herbicides							
(50) (a) 2,4,5-TP	Micrograms/L	≤ 10					
(50) (b) 2-4-D	Micrograms/L	≤ 100					
(50) (c) Aldrin	Micrograms/L	≤ .00013 annual avg.; 3.0 max	≤ .00014 annual avg.; 1.3 max	≤ .00014 annual avg.; 3.0 max	≤ .00014 annual avg.; 1.3 max		
(50) (d) Beta-hexachlorocyclohexane (b-BHC)	Micrograms/L	≤ 0.014 annual avg.	≤ 0.046 annual avg.	≤ 0.046 annual avg.	≤ 0.046 annual avg.		

(50) (e) Chlordane	Micrograms/L	≤ 0.00058 annual avg.; 0.0043 max	≤ 0.00059 annual avg.; 0.004 max	≤ 0.00059 annual avg.; 0.0043 max	≤ 0.00059 annual avg.; 0.004 max		
(50) (f) DDT	Micrograms/L	≤ 0.00059 annual avg.; 0.001 max	≤ 0.00059 annual avg.; 0.001 max	≤ 0.00059 annual avg.; 0.001 max	≤ 0.00059 annual avg.; 0.001 max		
(50) (g) Demeton	Micrograms/L	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1		
(50) (h) Dieldrin	Micrograms/L	≤ 0.00014 annual avg.; 0.0019 max	≤ 0.00014 annual avg.; 0.0019 max	≤ 0.00014 annual avg.; 0.0019 max	≤ 0.00014 annual avg.; 0.0019 max		
(50) (i) Endosulfan,	Micrograms/L	≤ 0.056	≤ 0.0087	≤ 0.056	≤ 0.0087		
(50) (j) Endrin	Micrograms/L	≤ 0.0023	≤ 0.0023	≤ 0.0023	≤ 0.0023		
(50) (k) Guthion	Micrograms/L	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01		
(50) (l) Heptachlor	Micrograms/L	≤ 0.00021 annual avg.; 0.0038 max	≤ 0.00021 annual avg.; 0.0036 max	≤ 0.00021 annual avg.; 0.0038 max	≤ 0.00021 annual avg.; 0.0036 max		
(50) (m) Lindane (g-benzene hexachloride)	Micrograms/L	≤ 0.019 annual avg.; 0.08 max	≤ 0.063 annual avg.; 0.16 max	≤ 0.063 annual avg.; 0.08 max	≤ 0.063. annual avg.; 0.16 max		
(50) (n) Malathion	Micrograms/L	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1		
(50) (o) Methoxychlor	Micrograms/L	≤ 0.03	≤ 0.03	≤ 0.03	≤ 0.03		
(50) (p) Mirex	Micrograms/L	≤ 0.001	≤ 0.001	≤ 0.001	≤ 0.001		
(50) (q) Parathion	Micrograms/L	≤ 0.04	≤ 0.04	≤ 0.04	≤ 0.04		
(50) (r) Toxaphene	Micrograms/L	≤ 0.0002	≤ 0.0002	≤ 0.0002	≤ 0.0002		

(51) (a) pH (Class I and Class IV Waters)	Standard Units	Shall not vary more than one unit above or below natural background provided that the pH is not lowered to less than 6 units or raised above 8.5 units. If natural background is less than 6 units, the pH shall not vary below natural background or vary more than one unit above natural background. If natural background is higher than 8.5 units, the pH shall not vary above natural background or vary more than one unit below background.
(51) (b) pH (Class II Waters)	Standard Units	Shall not vary more than one unit above or below natural background of coastal waters as defined in Section 62-302.520(3)(b), F.A.C., or more than two-tenths unit above or below natural background of open waters as defined in Section 62-302.520(3)(f), F.A.C., provided that the pH is not lowered to less than 6.5 units or raised above 8.5 units. If natural background is less than 6.5 units, the pH shall not vary below natural background or vary more than one unit above natural background for coastal waters or more than two-tenths unit above natural background for open waters. If natural background is higher than 8.5 units, the pH shall not vary above natural background or vary more than one unit below natural background of coastal waters or more than two-tenths unit below natural background of open waters.
(51) (c) pH (Class III Waters)	Standard Units	Shall not vary more than one unit above or below natural background of predominantly fresh waters and coastal waters as defined in Section 62-302.520(3)(b), F.A.C. or more than two-tenths unit above or below natural background of open waters as defined in Section 62-302.520(3)(f), F.A.C., provided that the pH is not lowered to less than 6 units in predominantly fresh waters, or less than 6.5 units in predominantly marine waters, or raised above 8.5 units. If natural background is less than 6 units, in predominantly fresh waters or 6.5 units in predominantly marine waters, the pH shall not vary below natural background or vary more than one unit above natural background of predominantly fresh waters and coastal waters, or more than two-tenths unit above natural background of open waters. If natural background is higher than 8.5 units, the pH shall not vary above natural background or vary more than one unit below natural background of predominantly fresh waters and coastal waters, or more than two-tenths unit below natural background of open waters.
(51) (d) pH (Class V Waters)	Standard Units	Not lower than 5.0 nor greater than 9.5 except certain swamp waters which may be as low as 4.5.
(52) (a) Phenolic Compounds: Total		Phenolic compounds other than those produced by the natural decay of plant material, listed or unlisted, shall not taint the flesh of edible fish or shellfish or produce objectionable taste or odor in a drinking water supply.

(52) (b) Total Chlorinated Phenols and Chlorinated Cresols	Micrograms/L	<p>1. The total of all chlorinated phenols, and chlorinated cresols, except as set forth in (c) 1. to (c) 4. below, shall not exceed 1.0 unless higher values are shown not to be chronically toxic. Such higher values shall be approved in writing by the Secretary.</p> <p>2. The compounds listed in (c) 1. to (c) 6. below shall not exceed the limits specified for each compound.</p>					<p>1. The total of the following Phenolic compounds shall not exceed 50:</p> <p>a) Chlorinated phenols;</p> <p>b) Chlorinated cresols; and</p> <p>c) 2,4-dinitrophenol.</p>
(52) (c) 1. Phenolic Compound: 2-chlorophenol	Micrograms/L	≤ 120	< 400 See Note (2).	< 400 See Note (2).	< 400 See Note (2).	< 400 See Note (2).	
(52)(c) 2. Phenolic Compound: 2,4-dichlorophenol	Micrograms/L	< 93 See Note (2).	< 790 See Note (2).	< 790 See Note (2).	< 790 See Note (2).	< 790 See Note (2).	
(52) (c) 3. Phenolic Compound: Penta-chlorophenol	Micrograms/L	≤ 30 max; ≤ 0.28 annual avg; $\leq e^{(1.005[\text{pH}]-5.29)}$	≤ 7.9	≤ 30 max; ≤ 8.2 annual avg; $\leq e^{(1.005[\text{pH}]-5.29)}$	≤ 7.9	≤ 30	
(52)(c) 4. Phenolic Compound: 2,4,6-trichlorophenol	Micrograms/L	≤ 2.1 annual avg.	≤ 6.5 annual avg.	≤ 6.5 annual avg.	≤ 6.5 annual avg.	≤ 6.5 annual avg.	
(52) (c) 5. Phenolic Compound: 2,4-dinitrophenol	Milligrams/L	≤ 0.0697 See Note (2).	≤ 14.26 See Note (2).	≤ 14.26 See Note (2).	≤ 14.26 See Note (2).	≤ 14.26 See Note (2).	

(52) (c) 6. Phenolic Compound: Phenol	Milligrams/L	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3
(53) Phosphorus (Elemental)	Micrograms/L		≤ 0.1		≤ 0.1		
(54) Phthalate Esters	Micrograms/L	≤ 3.0		≤ 3.0			
(55) Polychlorinated Biphenyls (PCBs)	Micrograms/L	≤ 0.000044 annual avg.; 0.014 max	≤ 0.000045 annual avg.; 0.03 max	≤ 0.000045 annual avg.; 0.014 max	≤ 0.000045 annual avg.; 0.03 max		
(56) (a) Polycyclic Aromatic Hydrocarbons (PAHs). Total of: Acenaphthylene; Benzo(a)anthracene; Benzo(a)pyrene; Benzo(b)fluoranthene; Benzo(ghi)perylene; Benzo(k)fluoranthene; Chrysene; Dibenzo(a,h)anthracene; Indeno(1,2,3-cd)pyrene; and Phenanthrene	Micrograms/L	≤ 0.0028 annual avg.	≤ 0.031 annual avg.	≤ 0.031 annual avg.	≤ 0.031 annual avg.		
(56) (b) 1 (Individual PAHs): Acenaphthene	Milligrams/L	< 1.2 See Note (2).	< 2.7 See Note (2).	< 2.7 See Note (2).	< 2.7 See Note (2).		

(56)(b) 2. (Individual PAHs): Anthracene	Milligrams/L	< 9.6 See Note (2).	< 110 See Note (2).	< 110 See Note (2).	< 110 See Note (2).		
(56) (b) 3. (Individual PAHs): Fluoranthene	Milligrams/L	< 0.3 See Note (2).	< 0.370 See Note (2).	< 0.370 See Note (2).	< 0.370 See Note (2).		
(56) (b) 4. (Individual PAHs): Fluorene	Milligrams/L	< 1.3 See Note (2).	< 14 See Note (2).	< 14 See Note (2).	< 14 See Note (2).		
(56) (b) 5. (Individual PAHs): Pyrene	Milligrams/L	< 0.96 See Note (2).	< 11 See Note (2).	< 11 See Note (2).	< 11 See Note (2).		
(57)(a) Radioactive substances (Combined radium 226 and 228)	Picocuries/L	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
(57) (b) Radioactive substances (Gross alpha particle activity including radium 226, but excluding radon and uranium)	Picocuries/L	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15
(58) Selenium	Micrograms/L	≤ 5.0	≤ 71	≤ 5.0	≤ 71		
(59) Silver	Micrograms/L See Note (3).	≤ 0.07	See Minimum criteria in Section 62-302.500(1)(c)	≤ 0.07	See Minimum criteria in Section 62-302.500(1)(c)		

(60) Specific Conductance (see Conductance, Specific, above)							
(61) Substances in concentrations which injure, are chronically toxic to, or produce adverse physiological or behavioral response in humans, plants, or animals		None shall be present.					
(62) 1,1,2,2-Tetrachloroethane	Micrograms/L	≤ 0.17 annual avg.	≤ 10.8 annual avg.	≤ 10.8 annual avg.	≤ 10.8 annual avg.		
(63) Tetrachloroethylene (1,1,2,2-tetrachloroethene)	Micrograms/L	≤ 0.8 annual avg., ≤ 3.0 max	≤ 8.85 annual avg.	≤ 8.85 annual avg.	≤ 8.85 annual avg.		
(64) Thallium	Micrograms/L	< 1.7	< 6.3	< 6.3	< 6.3		
(65) Thermal Criteria (See Section 62-302.520)							
(66) Total Dissolved Gases	Percent of the saturation value for gases at the existing atmospheric and hydrostatic pressures	≤ 110% of saturation value	≤ 110% of saturation value	≤ 110% of saturation value	≤ 110% of saturation value		

(67) Transparency	Depth of the compensation point for photosynthetic activity	Shall not be reduced by more than 10% as compared to the natural background value.	Shall not be reduced by more than 10% as compared to the natural background value.	Shall not be reduced by more than 10% as compared to the natural background value.	Shall not be reduced by more than 10% as compared to the natural background value.		
(68) Trichloroethylene (trichloroethene)	Micrograms/L	≤ 2.7 annual avg., ≤ 3.0 max	≤ 80.7 annual avg.	≤ 80.7 annual avg.	≤ 80.7 annual avg.		
(69) Turbidity	Nephelometric Turbidity Units (NTU)	≤ 29 above natural background conditions	≤ 29 above natural background conditions	≤ 29 above natural background conditions	≤ 29 above natural background conditions	≤ 29 above natural background conditions	≤ 29 above natural background conditions
(70) Zinc	Micrograms/L See Notes (1) and (3).	$Zn \leq e^{(0.8473[\ln H] + 0.884)}$	≤ 86	$Zn \leq e^{(0.8473[\ln H] + 0.884)}$	≤ 86	≤ 1,000	≤ 1,000

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708 FS. History – New 1-28-90, Formerly 17-3.065, Amended 2-13-92, 6-17-92, Formerly 17-302.540, 17-302.550, 17-302.560, 17-302.570, 17-302.580, Amended 4-25-93, Formerly 17-302.530, Amended 1-23-95, 1-15-96, 5-15-02, 7-19-04, - -06.

EPA Water Quality Standards Academy

Module 24: Ambient Water Quality

Criteria for Bacteria



Module 24 Ambient Water Quality Criteria for Bacteria

- What are EPA's recommended bacteria criteria?
- What is important to know about when adopting & implementing the criteria?
- Is EPA developing new/revised criteria?

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Why Do We Need Bacteria Criteria?

- ❖ Bacteria criteria help protect against disease from recreational exposure to water
- ❖ ~32% of coastal and Great Lakes beaches were closed or had an advisory posted for at least one day in 2006
- ❖ CDC continues to document cases of waterborne disease outbreaks in their 2006 "Surveillance" Report

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- Beach info from eBeaches and data submitted by participants in the BEACH Act grant program.
- Prior to 2004, EPA's Beaches Team surveyed beach managers every year for:
 - Accurate inventory of public beaches
 - Survey methods used by agencies to issue advisories
 - Document information on each advisory or closing
- 2,823 beaches surveyed in 2002
 - 2,445 in 2001
 - 1,021 in 1997
- 709 beaches closed or issued advisories due to bacteria
 - 580 in 2001
- When beaches close, bad things happen:
 - Lost tourism revenue
 - Lost public goodwill – people less likely to come back
 - Bad press
- Centers for Disease Control and Prevention report: "Surveillance for Waterborne Disease Outbreaks 2001-2002"
- 46% (30 outbreaks) of recreational outbreaks were associated with gastroenteritis.
 - 60% (18 outbreaks) of those were in swimming or wading pools.
- 12 outbreaks associated with gastroenteritis and in fresh water
 - No marine outbreaks
- July 2002 outbreak in Wisconsin (norovirus, *Cryptosporidium*, *Shigella*) was the first documented outbreak in the Great Lakes since reporting began in 1978 (44 people affected).

Module 24: Bacteria Criteria

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Fecal Coliform Guidance Toolkit (March 2011)



Overall Objectives

- ❖ To provide an understanding of EPA's current §304(a) water quality criteria (WQC) for bacteria
- ❖ To provide important information regarding the adoption and implementation of the WQC for bacteria
- ❖ To provide an update on EPA's development of new/revised recreational WQC

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3

Indicators

- ❖ EPA's recommended bacteria water quality criteria (WQC) are for indicator organisms
 - ◆ Indicators are not generally pathogenic themselves
- ❖ Pathogens are disease-causing microorganisms that include viruses, protozoa, and bacteria
- ❖ Monitoring for the many illness-causing pathogens is difficult and costly

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- Pathogens: disease causing microorganisms
 - Viruses, protozoa, bacteria
- Substantial cost and difficulty in measuring for individual pathogens
- So EPA's bacteria criteria are for indicators
 - Similar characteristics to pathogens (Life span, similar responses to environmental conditions, come from same species, etc.)
 - Not necessarily pathogenic
- Different concept than other criteria



Criteria History

- ❖ **American Public Health Association's Committee on Bathing Places recommended total coliforms criteria for pools in 1924**
 - ◆ **No recommendations for beaches due to concern over public hysteria**

- ❖ **From 1948 to 1950, the US Public Health Service conducted health studies at beaches on Lake Michigan, the Ohio River, and Long Island Sound.**

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5

- American Public Health Association Committee on Bathing Places recommended total coliforms criteria for swimming pools in 1924
 - No recommendations for beaches due to concern over “public hysteria”

Report of the Joint Committee on Bathing Places of the A. P. H. A. and the Conference of State Sanitary Engineers, presented to the Public Health Engineering Section of the American Public Health Association at the Fifty-fifth Annual Meeting, at Buffalo, N. Y., October 12, 1926.

Can be found at <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1321491>



Criteria History

❖ Federal bacteria criteria recommendations first made in 1968

◆ Fecal coliforms

◆ Based on studies conducted 1948-1950

- Studies measured total coliforms

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- Fecal first proposed by the National Technical Advisory Committee to the Federal Water Pollution Control Administration

(full report at

http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_ERICEExtSearch_SearchValue_0=ED046708&ERICExtSearch_SearchType_0=no&accno=ED046708)

- Included recommendations for primary contact (200/400) and secondary contact (1000)
- Health studies conducted by US Public Health Service
- This is where the fecal coliform value of 200 cfu/100 ml comes from. They converted total coliforms values from the health studies to fecal coliforms using the ratio below.
- Ratio of fecal to total was determined by using ratio at Ohio River study in 1949 – 18%
 - Detectable health effect at 2300-2400/100ml
 - Halve it for safety's sake – 1150-1200/100ml
 - Multiply by 18% - 207-216/100ml
 - Go with 200/100ml
- Criteria almost immediately challenged by National Academy of Science (NAS), citing paucity of data



Epidemiological Studies

❖ In 1972 EPA initiated a series of multiyear, comprehensive epidemiological studies at marine and fresh water bathing beaches

- 1 Are bathers at risk from contaminated waters?
- 2 What indicator has the greatest correlation to swimming-related health effects?

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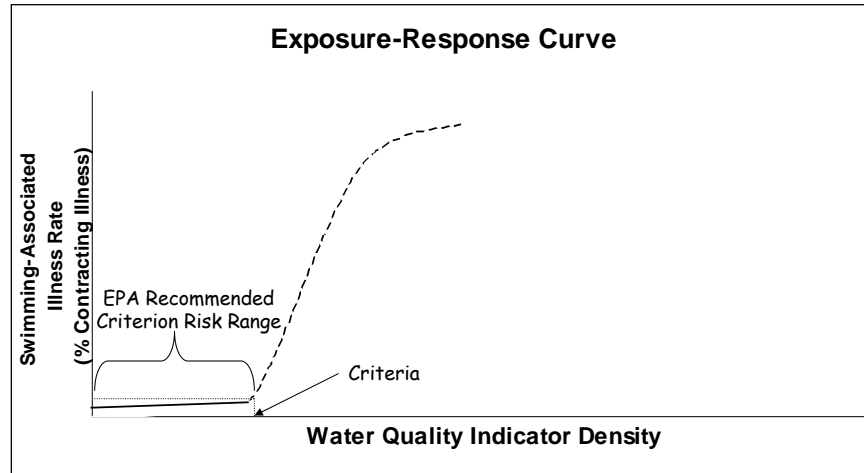
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7

- The studies had several goals:
 - To determine whether swimming in sewage contaminated water carries health risk for bathers
 - To develop quantitative relationship between water quality and health risk was obtained, two additional goals were to determined:
 - To identify bacterial indicator with greatest correlation to swimming-associated health effects
 - To develop criterion if correlation was found to be sufficiently strong

[Studies are described in the 1986 Bacteria Criteria document - <http://www.epa.gov/waterscience/beaches/files/1986crit.pdf>]

Exposure-Response



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Theoretical curve demonstrating that there is some level of indicator density where the risk is “acceptable” with which there are still a low % of illness associated (before some threshold value where the acceptable risk is too high).

Study Results

❖ Of the indicators measured during the studies, *E. coli* and enterococci showed strongest correlation to swimming-associated gastroenteritis

- ◆ *E. coli* and enterococci in fresh waters
- ◆ Enterococci in marine waters

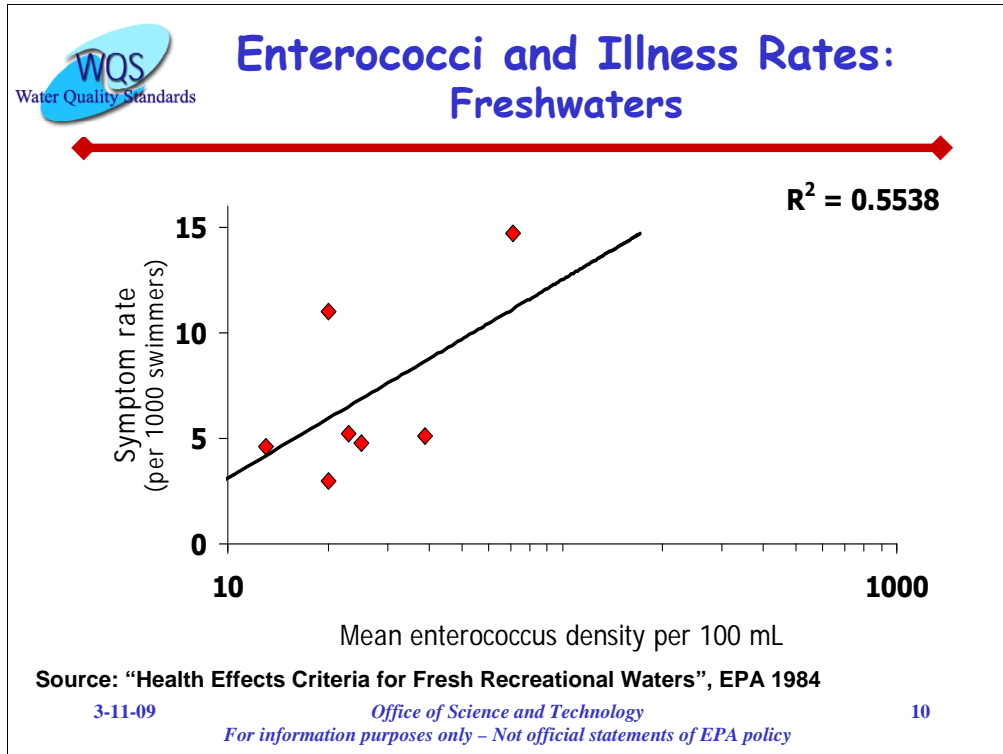
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9

• Multiple indicators of water quality were used to monitor the water. This is done because it was not known which indicator of water quality might show a quantitative relationship with swimming-associated health effects. This unique approach resulted in the selection of the best indicator based on the strength of the statistical relationship between the water quality indicator and a swimming-associated health effect.

- Enterococci
- *E. coli*
- Klebsiella
- Enterobacter-Citrobacter
- Total coliforms
- *Clostridium perfringens*
- Fecal coliforms
- *Aeromonas hydrophila*
- *Vibrio parahaemolyticus*
- Staphylococci



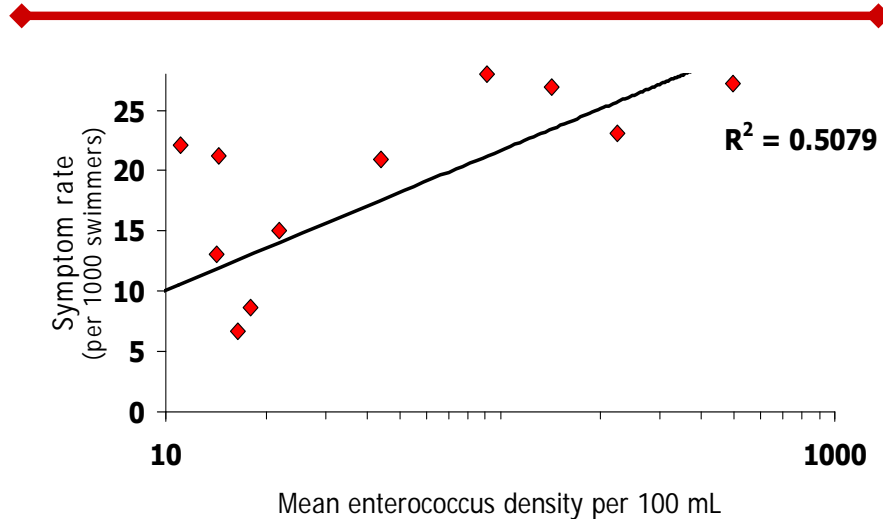
[Don't need to go over these in detail – just a graphic presentation] Take home message of this set of slides: good correlations for Enterococci in fresh and marine waters and for E.coli in fresh water but NOT in marine waters. And very poor correlations for fecal coliform concentrations and illness in fresh or marine waters.

$R^2=0.5538$

Data are grouped by beach and summer.

R^2 of $\geq .5$ is a positive correlation.

Enterococci and Illness Rates: Marine Waters



Source: "Health Effects Criteria for Marine Recreational Waters", EPA 1983

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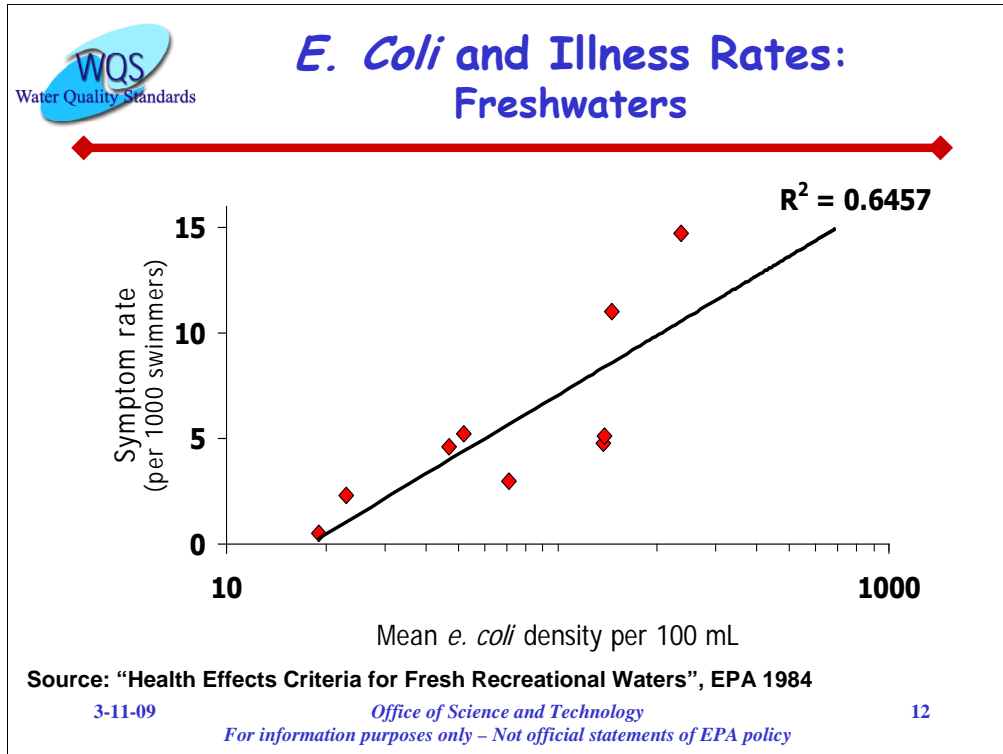
11

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Take home message of this set of slides: good correlations for Enterococci in fresh and marine waters and for E.coli in fresh water but NOT in marine waters. And very poor correlations for fecal coliform concentrations and illness in fresh or marine waters.

$R^2=0.5079$

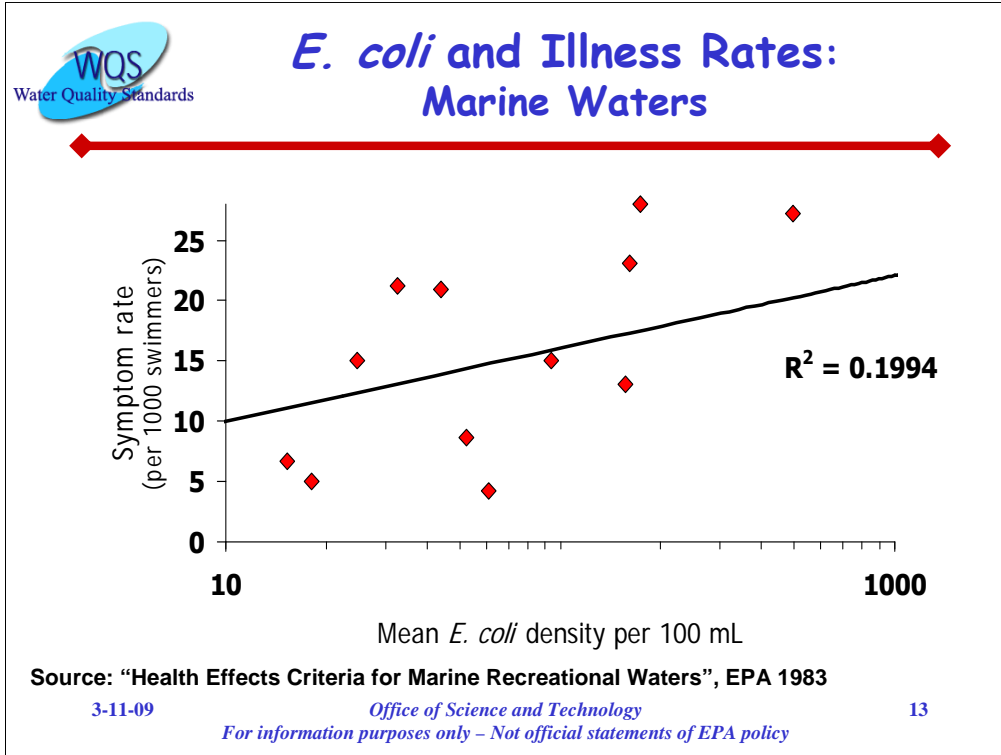
Data are grouped by beach and summer.



Take home message of this set of slides: good correlations for Enterococci in fresh and marine waters and for E.coli in fresh water but NOT in marine waters. And very poor correlations for fecal coliform concentrations and illness in fresh or marine waters.

$$R^2=0.6457$$

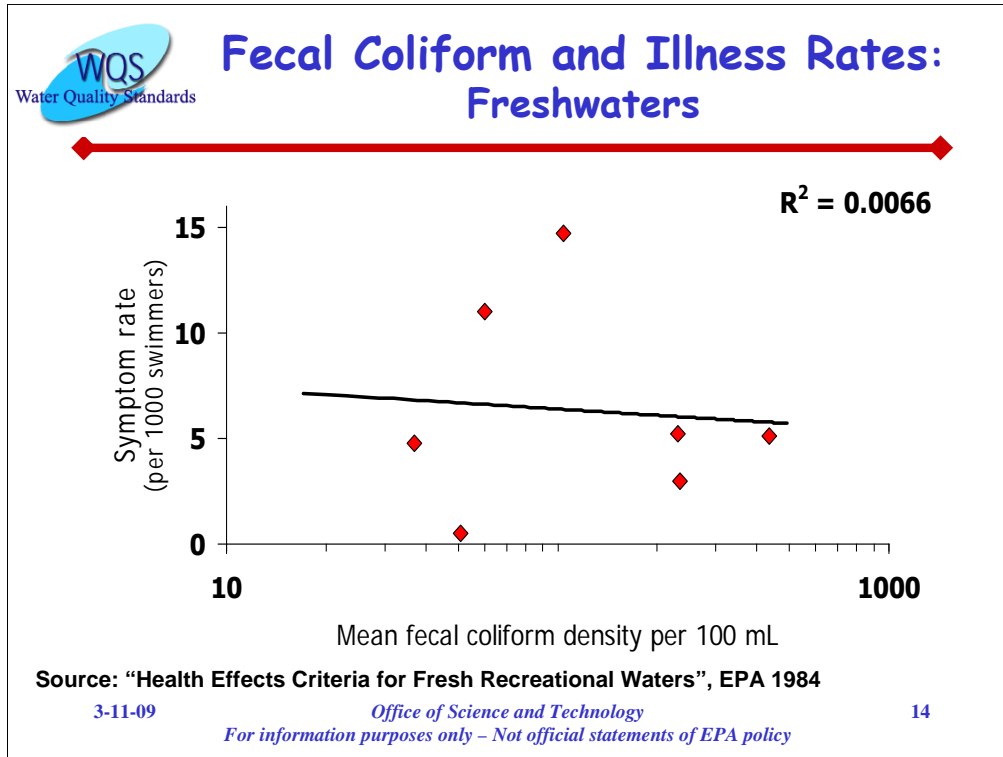
Data are grouped by beach and summer.



Take home message of this set of slides: good correlations for Enterococci in fresh and marine waters and for E.coli in fresh water but NOT in marine waters. And very poor correlations for fecal coliform concentrations and illness in fresh or marine waters.

$R^2=0.1994$

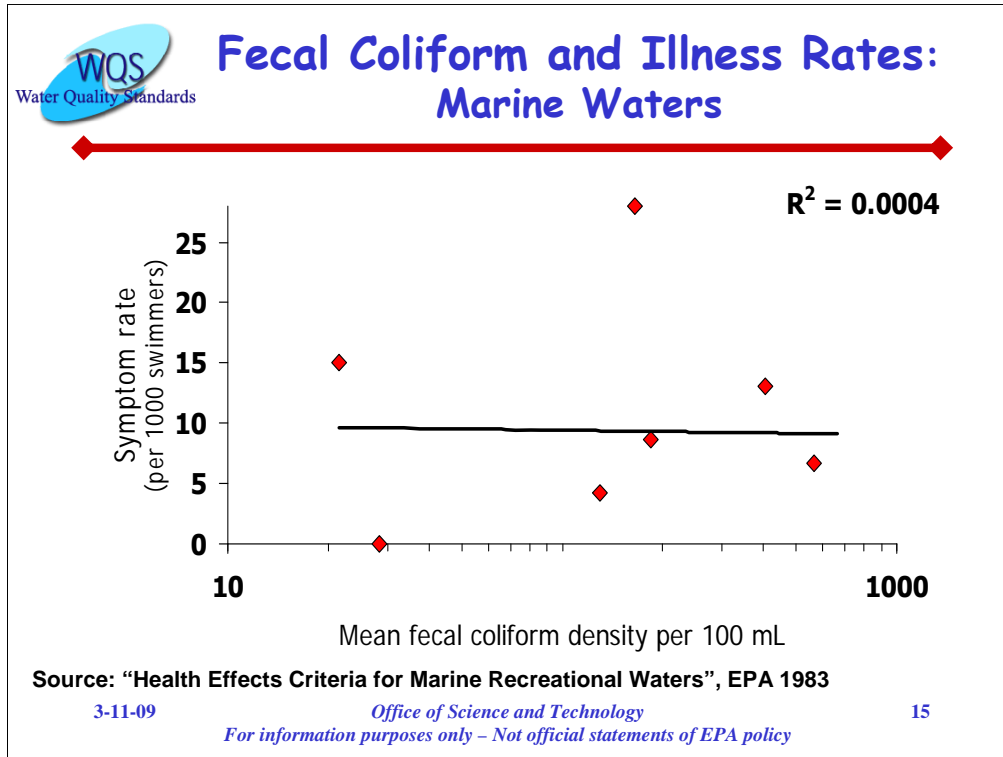
Data are grouped by beach and summer.



Take home message of this set of slides: good correlations for Enterococci in fresh and marine waters and for E.coli in fresh water but NOT in marine waters. And very poor correlations for fecal coliform concentrations and illness in fresh or marine waters.

$R^2=0.0066$ (almost negative – FC not a good indicator)

Data are grouped by beach and summer.



Take home message of this set of slides: good correlations for Enterococci in fresh and marine waters and for E.coli in fresh water but NOT in marine waters. And very poor correlations for fecal coliform concentrations and illness in fresh or marine waters.

$R^2=0.0004$ (almost negative – FC not a good indicator)

Data are grouped by beach and summer.



The Use of EPA's Recommended Criteria

❖ The criteria are used in two different, yet related ways:

◆ Protection of water bodies designated for recreational uses in state and tribal WQS

- Used to derive permit limits, make listing decisions, and develop TMDLs

◆ Beach monitoring and notification programs

- Protect public health
- Aid in determining when to issue advisories or close beaches

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Water Quality Standards (WQS) are focused on source control and long-term assessment (303d, TMDLs, NPDES)

However, the BEACH Act requires grant recipients to base their beach decisions on water quality standards and are used to make short-term (daily) closure or advisory decisions at the beach.



Bacteria Criteria in Water Quality Standards

❖ States adopt bacteria criteria to protect waters designated for recreation

◆ Primary contact recreation

➤ Seasonal and intermittent uses

◆ Secondary contact recreation

❖ States designate the majority of waters for primary contact

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17

States define in their own standards and varies by state, but generally:

• Primary Contact Recreation is understood to mean:

Water related recreational activities where there is a high degree of bodily contact with the water (e.g. where there is a high likelihood of incidental ingestion of water). Examples include, but are not limited to, swimming, rafting, certain kinds of kayaking, tubing, skin diving, surfing, water skiing, and water play by children.

• Secondary Contact Recreation is understood to mean: wading, fishing, boating (low likelihood of incidental ingestion).

• EPA does NOT have a 304(a) criteria recommendation for protection of secondary contact uses, but has historically approved numeric criteria to protect secondary contact that are 5 times the primary contact values (and even up to 9 times in a few cases).

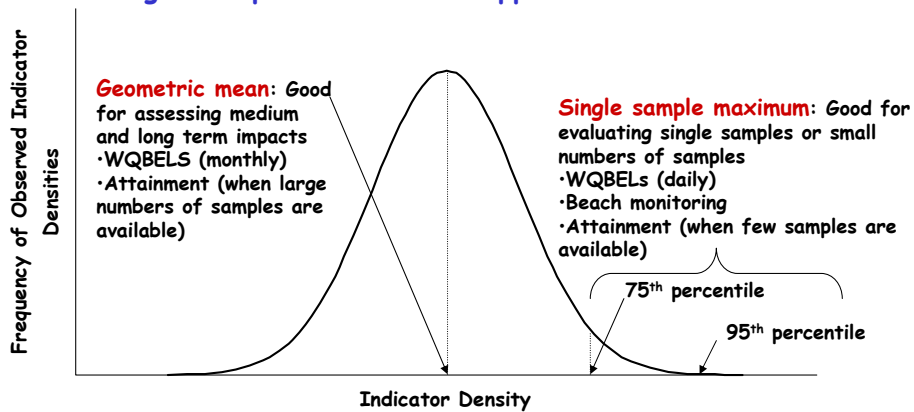
• Seasonal uses allow states to only apply the primary contact designated use and associated criteria during the recreational season typical of their state (e.g., May – Oct)

• States adopt separate bacteria criteria for shellfish and drinking water

Components of EPA's Criteria

❖ *E. coli* and enterococci criteria have two components:

- ◆ Geometric mean
- ◆ Single Sample Maximum or Upper Percentile Value



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Geometric mean

Central value along a set of measurements

Single sample maximum

Value based on a percentile of the distribution around the chosen mean, which only a certain number of samples should exceed

From the 1986 Criteria document: “ To set the single sample maximum, it is necessary to specify the desired chance that the beach will be left open when the protection is adequate... A smaller confidence level [or a smaller chance] corresponds to a more stringent (i.e. lower) single sample maximum... This technique reduces the chances of single samples inappropriately indicating violations of the recommended criteria.

...A low confidence level (75%) was assigned to designated beach areas because a high degree of caution should be used to evaluate water quality for heavily used areas.”



Primary Contact Recreation

❖ Current Fresh Water Criteria Recommendations

◆ Enterococci

Risk Level (% of swimmers)	Geometric Mean Density (per 100 mL)	Single Sample Maximum Allowable Density (per 100 mL)			
		75 th percentile	82 nd percentile	90 th percentile	95 th percentile
0.8	33	62	79	107	151
0.9	42	79	100	137	193
1.0	54	101	128	175	247

◆ E. Coli

Risk Level (% of swimmers)	Geometric Mean Density (per 100 mL)	Single Sample Maximum Allowable Density (per 100 mL)			
		75 th percentile	82 nd percentile	90 th percentile	95 th percentile
0.8	126	236	299	409	576
0.9	161	301	382	523	736
1.0	206	385	489	668	940

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Previous criteria-

Based on health studies that looked only at a risk threshold

Current criteria- Based on epidemiological studies that quantified risk.

Yellow highlight is the official recommendation (at 0.8% risk level) but we allow flexibility to adopt risk levels up to 1.0 % in freshwater

75% - Designated Bathing Beach

82% - Moderate Use Beach

90% - Light Use

95% - Infrequent Use

Primary Contact Recreation

❖ Current Marine Water Criteria - Enterococci

Risk Level (% of swimmers)	Geometric Mean Density (per 100 mL)	Single Sample Maximum Allowable Density (per 100 mL)			
		75 th percentile	82 nd percentile	90 th percentile	95 th percentile
0.8	4	13	20	35	63
0.9	5	16	24	42	76
1.0	6	19	29	50	91
1.1	8	23	35	61	110
1.2	9	28	42	73	133
1.3	11	34	51	89	161
1.4	14	41	62	107	195
1.5	17	49	75	130	235
1.6	20	60	91	157	284
1.7	25	72	109	189	344
1.8	30	87	132	229	415
1.9	35	104	158	276	501

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Based on epidemiological studies that quantified risk.

Yellow highlight is the official recommendation (at 1.9% risk level) in marine waters.

[Note: Risk levels are different for freshwaters and marine waters because they tie back to the old fecal coliform values of 200 cfu/100 ml]

75% - Designated Bathing Beach

82% - Moderate Use Beach

90% - Light Use

95% - Infrequent Use



What is the BEACH Act?

- ❖ **2000 Amendment to the Clean Water Act, for coastal and Great Lakes recreation waters**
 - ◆ Added sections 303(i) and 406
- ❖ **Key EPA requirements**
 - ◆ Ensure state adoption of coastal recreation water quality criteria for pathogens and pathogen indicators
 - ◆ Conduct research on pathogen indicators in coastal recreation waters and develop rapid methods
 - ◆ Publish performance criteria for monitoring and notification
 - ◆ Provide development and implementation grants to state, tribal and local authorities

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- Inland waters are those waterbodies that are not coastal recreation waters as defined by the Clean Water Act. Inland waters are typically freshwater but could include saltwater waterbodies (that are not also coastal recreation waters) as well.
- Coastal recreation waters are defined in Clean Water Act (CWA) section 502(21) and in EPA's implementing regulations at 40 CFR 131.41(b) as those Great Lakes and marine waters (including coastal estuaries) that are designated under section 303(c) of the Clean Water Act for use for swimming, bathing, surfing, or similar water contact activities. Inland waters or waters upstream from the mouth of a river or stream having an unimpaired natural connection with the open sea are not considered coastal recreation waters.
- In this context, the term "unimpaired" refers to a waterbody's unimpeded access to marine or Great Lakes waters, not to the water quality of any particular waterbody.



The BEACH ACT Regulation

- ❖ Promulgated on November 16, 2004
- ❖ Best source of information on EPA's interpretation of the criteria for both coastal recreation waters and inland waters
- ❖ Preamble and technical fact sheets include some implementation language

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- Promulgated on November 16, 2004
- Adopted 1986 bacteria criteria for 21 states and territories
- Coastal recreation waters are defined in the rule (and in the BEACH Act)
- Each use intensity (SSM) category is defined
- Includes a compliance schedule provision for those states and territories covered by the rule

Preamble to the BEACH Act rule reflects EPA's current thinking on risk levels, use of the SSM, and non-human sources for BOTH coastal recreation waters and inland waters.

Information on the rule, including technical fact sheets, is available at criteria website (see later slide)



Key Implementation Points: Risk Levels

❖ Risk Levels

◆ EPA data support:

- up to 19 illnesses/1000 swimmers in marine water
- up to 10 illnesses/1000 swimmers in freshwater

◆ Higher illnesses rates for protection of primary contact uses must be supported by data

◆ No UAA required to move between risk levels

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- Risk level for primary contact recreation is at discretion of states/tribes (within the limits identified)
- Higher risk level would need epi data (or possibly quantitative microbial risk assessment) support



Key Implementation Points: Geo Mean and SSM

- ❖ Geometric mean is value most closely linked to the illness rates
- ❖ Single Sample Maximum was not intended to be used as a "not to be exceeded" value

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See slides 26 and 27 for uses of Geo Mean and SSMs



Geo Mean and SSM in BEACH Act Waters

- ❖ Must have both *Geo Mean* and *SSM* for all waters designated for primary contact rec
- ❖ Must use *SSM* for beach closure and advisory programs
- ❖ States have flexibility to:
 - Adopt some or all of the *SSMs*
 - Describe the applicability of the *SSM* for the various *CWA* purposes in their standards
- ❖ Do not have situations where neither *Geo Mean* or *SSM* apply
 - Federal promulgation does not include minimum sample size requirements for calculating the *Geo Mean*.

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Beach Act Rule requirements



Geo Mean and SSM in Inland Waters

- ❖ Encourage states to include both a *Geo Mean* and *SSM* for all waters designated for primary contact rec
- ❖ Encourage states to use *SSMs* for making decisions in their public recreation area closure/advisory programs
- ❖ States have flexibility to:
 - Adopt any, some or all of the *SSMs*
 - Describe applicability of the *SSM* for the various *CWA* purposes in their standards
- ❖ Do not have situations where neither *Geo Mean* or *SSM* apply
 - Encourage states that have min. sample size requirements for calculating *Geo Mean*, but may not sample that often to consider *SSMs*

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Inland waters are not part of the BEACH Act Rule, but we have stated publicly that what is said in the BEACH Act Rule preamble is our best and most current thinking on implementation for both coastal and inland waters. Therefore, we cannot require this for inland waters, but we can “encourage” it.

Uses of the SSM

- ❖ Beach advisory and closure programs;
- ❖ Waterbody assessment
 - ◆ Small datasets
 - ◆ When states collect “insufficient” (as defined by their regs) data to reliably average and compare to the geometric mean
 - ◆ Sources of short-term spikes (CSOs)
 - ◆ NPDES permits - deriving daily limits

EPA encourages states to clarify in their water quality standards how they will use the SSM component.

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BEACH Act rule preamble discusses these items for coastal recreation waters. Inland waters are not part of the BEACH Act Rule, but we have stated publicly that what is said in the BEACH Act Rule preamble is our best and most current thinking on implementation for both coastal and inland waters. Therefore, we cannot require this for inland waters, but we can “encourage” it.



Key Implementation Points: Non-Human Sources

- ❖ **Non-Human source exclusions to the criteria can be allowed when:**
 - ◆ **The sources are only from non-human sources (supported by sanitary surveys/watershed characterization studies)**
 - AND**
 - ◆ **Those non-human sources are shown to pose no risk to human health (i.e., through an epi study)**
- States may use existing epi data in lieu of conducting their own studies**

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- A state needs to show (through sanitary surveys and epidemiological studies) that there are no human sources and that the non-human sources do not pose a human health risk
- Since the Experts Workshop Report (June 2007) was issued EPA is taking a more firm position on this exclusion. The experts could not conclusively say that non-human sources were less risky to humans and suggested that as a high priority research area for EPA.



EPA's Current Focus

- ❖ Developing the science foundation for new/revised recreational water quality criteria
- ❖ To ensure that new/revised rec WQC are sufficiently protective of the public health

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BEACH Act required EPA to publish new/revised criteria for coastal recreation waters by Oct. 2005.

We are developing science foundation to do that- but we would like to develop the science foundation for new/revised rec water criteria in all waters designated for primary contact.



Experts Workshop -March 2007

- ❖ Forty-three U.S. and international experts
- ❖ Identified Critical Path Research Needs
- ❖ 7 Workgroup Topics
 - ◆ Approaches to Criteria development
 - ◆ Pathogens, pathogen indicators, and indicators of fecal contamination
 - ◆ Methods Development
 - ◆ Comparing Risk (to Humans) from Different Sources
 - ◆ Acceptable Risk
 - ◆ Modeling applications for Criteria Development and Implementation
 - ◆ Implementation Realities

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See <http://www.epa.gov/ost/criteria/recreation/> for a copy of the Report on the Experts Workshop



EPA's Critical Path Science Plan for New/Revised Criteria

- ❖ Describes research and science for establishing the scientific foundation for new/revised criteria
- ❖ Is an integrated approach to answering key science questions for scientifically sound criteria
- ❖ Completed in August 2007

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31

See <http://www.epa.gov/ost/criteria/recreation/> for copy of the Critical Path Science Plan and Criteria Development Plan & Schedule.



Goals of the Science Plan Research

- ❖ Assess Human Health Risk
- ❖ Develop Indicators
- ❖ Develop Methods
- ❖ Extrapolate Research Results

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1. **Assessment of Human Health Risk.** Conduct research (e.g., epidemiologic studies and quantitative microbial risk assessment [QMRA]) to allow for an assessment of potential human health risks (including non-gastrointestinal effects) in the general population, including children, from swimming-related exposure to different sources of fecal contamination (human versus non-human).
2. **Development of Indicators.[1]** Conduct research to identify appropriate indicators of fecal contamination to allow for a reliable correlation between indicator concentrations and health effects. Develop studies to evaluate temporal and spatial variability in indicator concentrations to appropriately characterize water quality and inform recreational water quality management decisions.
3. **Development of Methods.[2]** Conduct research to develop, evaluate and validate appropriate methods to measure indicators of fecal contamination to allow for a reliable correlation between indicator concentrations and health effects. Assess linkages between indicators and methods to ensure that they will be protective of the swimming use when implemented singly or in combination.
4. **Extrapolation of Research Results for Developing New or Revised Criteria.** Conduct appropriate studies to assess the influence of variability in geographic and aquatic conditions on indicator and method performance, and assess the suitability of indicators and methods for various CWA purposes (e.g., beach monitoring, assessments, TMDLs, and permitting). Develop, evaluate and validate predictive models and tools to understand the extent to which data from epidemiologic study sites can be extrapolated to other geographic locations and aquatic conditions; and examine the role of models as a tool in predicting water quality problems to assist in new or revised criteria implementation.
 - To inland waters and Nationally
 - For application in various CWA applications
 - To assist in implementing new/revised criteria

Things to Expect

❖ 2007-2010

- ◆ **Additional Research into Indicators, Methods, and Epi Studies**
 - Indicators: Enterococci, *E.coli*, bacteroides, coliphage
 - Biomarkers: human, bovine
 - Methods: culture, qPCR, other
 - Epi studies: California, Alabama, Rhode Island, more...
- ◆ **Fate & Transport Studies**
- ◆ **Predictive Modeling**
- ◆ **Site Characterization Studies: sanitary surveys, use of Quantitative Microbial Risk Assessment**
- ◆ **Research to Support Extrapolation to Inland Waters**
- ◆ **Engaging Stakeholders on Implementation**

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Summer 2007 – EPA performed 2 marine epi studies – Goddard, RI and Fairhope, AL. EPA also supported an epi study at Avalon Beach (on Catalina Island) in California.



Things to Expect (2)



❖ 2010-2012

- ◆ Develop New Recreational Water Quality Criteria
- ◆ Continue Engaging Stakeholders on Implementation

❖ 2012-

- ◆ New Criteria Published for Use by States and Tribes

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34



For More Information

❖ EPA's Beach and Rec Criteria Web Pages

- ◆ www.epa.gov/beaches
 - > BEACH Act text
 - > Grants information
 - > Beach Guidance Document
 - > Local beach information
- ◆ www.epa.gov/waterscience/criteria/humanhealth/microbial/#wqs
 - > BEACH Act rule
 - Technical fact sheets
- ◆ www.epa.gov/waterscience/criteria/recreation
 - > Experts Scientific Workshop Report and Executive Summary
 - > Critical Path Science Plan
 - > Criteria Development Plan & Schedule

❖ Shari Barash

- ◆ 202-566-0996 or barash.shari@epa.gov

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Take Home Messages

- ❖ EPA's current §304(a) bacteria criteria are for *E. coli* and enterococci
- ❖ When using the '86 bacteria criteria, states and tribes have flexibility;
 - ◆ To make appropriate risk-based decisions
 - ◆ In using the single sample maximum component of the criteria
- ❖ EPA is developing new/revised criteria for publication in 2012

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Study Question 1

❖ **Enterococcus causes illness in humans**

- ◆ True
- ◆ False

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Study Question 1

❖ Enterococcus causes illness in humans

◆ True

◆ False

❖ Enterococcus is an indicator of fecal contamination; it does not cause illness directly

Study Question 2

❖ **E. coli can be used as an indicator of fecal contamination in both fresh and marine waters**

- ◆ True
- ◆ False

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Study Question 2

❖ E. coli can be used as an indicator of fecal contamination in both fresh and marine waters

◆ True

◆ False

❖ E. coli is a valid indicator in fresh waters only

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Study Question 3

◆ According to the BEACH Act, “coastal recreation waters” include marine water, Great Lakes waters, and estuaries

- ◆ True
- ◆ False

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Study Question 3

❖ According to the BEACH Act, “coastal recreation waters” include marine water, Great Lakes waters, and estuaries

◆ True

◆ False

❖ The BEACH Act includes all coastal waters; it does not include waters upstream from the mouth of a river

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42