Presented below are water quality standards that are in effect for Clean Water Act purposes.

EPA is posting these standards as a convenience to users and has made a reasonable effort to assure their accuracy. Additionally, EPA has made a reasonable effort to identify parts of the standards that are not approved, disapproved, or are otherwise not in effect for Clean Water Act purposes.

Blue – not a standard
Black – standard
Red – under review

CHAPTER 62-303: IDENTIFICATION OF IMPAIRED SURFACE WATERS

Effective July 24, 2017

In instances where the EPA has determined that certain provisions are not considered new or revised water quality standards, the Agency has attempted to indicate those in blue text. However, the font color indicated within this document, should not be interpreted as the official position of the Agency. For more detailed explanations on the EPA's analysis and rationale related to decisions of new or revised water quality standards, see the Agency's historical decision documents and associated records or contact the appropriate Agency staff.

EPA **has not yet acted upon** the revisions to 62-303.720(2)(k)2 and 62-303.720(2)(k)6 and therefore, are not in effect for Clean Water Act purposes.

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Red – under review

CHAPTER 62-303
IDENTIFICATION OF IMPAIRED SURFACE WATERS

PART I
GENERAL

62-303.100 Scope and Intent.

(1) This chapter establishes a methodology to identify surface waters of the state that will be included on the state's Planning List of waters that will be assessed pursuant to Sections 403.067(2) and (3), Florida Statutes (F.S.), and a methodology to identify surface waters that will be included on the Study List. It also establishes a methodology to identify impaired waters based on representative data that will be included on the state's Verified List of impaired waters, for which the Department will calculate Total Maximum Daily Loads (TMDLs), pursuant to Section 403.067(4), F.S., and which will be submitted to the United States Environmental Protection Agency (EPA) pursuant to paragraph 303(d)(1) of the Clean Water Act (CWA).

(2) Many waterbodies naturally do not meet one or more established water quality criteria at all times, even though they meet their designated use. It is not the intent of this chapter to include waters that do not meet otherwise applicable water quality criteria

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solely due to natural conditions or physical alterations of the waterbody not related to pollutants. Similarly, it is not the intent of this chapter to include waters on the Verified List where designated uses are being met and where water quality criteria exceedances are limited to those parameters for which permitted mixing zones or other moderating provisions [such as site-specific alternative criteria (SSAC)] are in effect. Waters that do not meet otherwise applicable water quality standards due to natural conditions or to pollution not related to pollutants shall be noted in the state's water quality assessment prepared under subsection 305(b) of the CWA [305(b)/303(d) Integrated Report].

(3) This chapter is intended to evaluate attainment of water quality standards as set forth in Chapter 62-302, F.A.C., for the purposes of identifying waterbodies or segments for which TMDLs will be established. It is the intent of this chapter to establish requirements that would apply solely for purposes of assessment and listing under CWA sections 303(d). However, it is not the intent of this chapter to establish requirements for other purposes under Florida law. In cases where this chapter relies on numeric indicators of ambient water quality as part of the methodology for determining whether existing narrative criteria are being met and the numeric indicators have not been adopted as numeric criteria, these numeric values are intended to be used only in the context of developing the lists pursuant to this chapter. As such, exceedances of these numeric values shall not, by themselves, constitute violations of Department rules that would warrant enforcement action.

(4) Nothing in this rule is intended to limit any actions by federal, state, or local agencies, affected persons, or citizens pursuant to other rules or regulations.

(5) Pursuant to Section 403.067, F.S., impaired waters shall not be listed on the Verified List if reasonable assurance is provided that, as a result of existing or proposed technology-based effluent limitations and other pollution control programs under local, state, or federal authority, they will attain water quality standards in the future and reasonable progress towards attainment of water quality standards will be made by the time the next 303(d) list for the basin is scheduled to be submitted to EPA.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.021(11), 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 2-17-16.

62-303.150 Relationships Among Planning, Study and Verified Lists.

(1) The Department shall follow the methodology in Part II to develop a Planning List and the methodology in Part III to develop a Study List pursuant to subsection 403.067(2), F.S. As required by Section 403.067(2), F.S., the Planning List and the Study List shall not be used in the administration or implementation of any regulatory program. The Planning List shall be submitted to EPA for informational purposes only. Waters on the Planning List will be assessed pursuant to Section 403.067(3), F.S., as part of the Department's watershed management approach. During this assessment, the Department shall determine whether the waterbody is impaired and whether the impairment is due to pollutant loads using the methodology in Part IV. In cases where a waterbody on the Planning List is determined to be impaired but the Department cannot determine the cause of the impairment, the waterbody shall be placed on a Study List for further analysis to determine the causative pollutant(s) or other factors contributing to the impairment. The Study List also addresses increasing nutrient or nutrient response variable trends in waterbodies. The Department shall only place a waterbody on the Verified List if pollutant loading or concentrations cause or contribute to nonattainment of water quality standards. The resultant Verified List of impaired waters, which is the list of waters for which TMDLs will be developed by the Department pursuant to Section 403.067(4), F.S., will be adopted by Secretarial Order and will be subject to challenge under Sections 120.569 and 120.57, F.S. Once adopted, the list will be submitted to the EPA pursuant to paragraph 303(d)(1) of the Federal Clean Water Act.

(2) Consistent with state and federal requirements, opportunities for public participation, including workshops, meetings, and periods to submit comments on draft lists, will be provided as part of the basin assessment cycle.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Repromulated 1-2-07, Amended 7-2-12, 2-17-16.

62-303.200 Definitions.

As used in this chapter:

(1) "Biological Health Assessment" shall mean one of the following aquatic community-based biological evaluations: Stream Condition Index (SCI), Lake Vegetation Index (LVI), or Shannon-Weaver Diversity Index.

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(2) “Biological Reconnaissance (BioRecon)” shall mean a biological assessment that measures stream health in predominantly fresh waters using benthic macroinvertebrates, performed and calculated using the Standard Operating Procedures (SOP) for the Biological Reconnaissance as described in subparagraph 62-160.800(1)(c)1., F.A.C.

(3) “Clean techniques” shall mean those applicable field sampling procedures and analytical methods referenced in “Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, July 1996, USEPA, Office of Water, Engineering and Analysis Division, Washington, D.C.,” (http://www.flrules.org/Gateway/reference.asp?No=Ref-06032) which is incorporated by reference. Copies of the procedures and methods may be obtained by writing to the Florida Department of Environmental Protection, 2600 Blair Stone Road, MS #6511, Tallahassee, FL 32399-2400.

(4) “Department” or “DEP” shall mean the Florida Department of Environmental Protection.

(5) “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 Chapter 62-302, F.A.C.

(6) “Estuary” shall mean predominantly marine regions of interaction between rivers and nearshore ocean waters, where tidal action and river flow mix fresh and salt water. Such areas include bays, mouths of rivers, and lagoons.

(7) “Impaired water” shall mean a waterbody or waterbody segment that does not meet its applicable water quality standards as set forth in Chapters 62-302 and 62-4, F.A.C., as determined by the methodology in Part IV of this chapter, due in whole or in part to discharges of pollutants from point or nonpoint sources.

(8) “Lake” shall mean a lentic fresh waterbody with a relatively long water residence time and an open water area that is free from emergent vegetation under typical hydrologic and climatic conditions. Aquatic plants, as defined in subsection 62-340.200(1), F.A.C., may be present in the open water. Lakes do not include springs, wetlands, or streams (except portions of streams that exhibit lake-like characteristics, such as long water residence time, increased width, or predominance of biological taxa typically found in non-flowing conditions).

(9) “Lake Vegetation Index (LVI)” shall mean a Biological Health Assessment that measures biological health in predominantly freshwater lakes using aquatic and wetland plants, performed and calculated using the Standard Operating Procedures for the LVI as described in subparagraph 62-160.800(1)(c)2., F.A.C.

(10) “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.

(11) “Nutrient” shall mean total nitrogen (TN), total phosphorus (TP), nitrate-nitrite (NO3 + NO2), or other organic or inorganic forms of nitrogen or phosphorus.

(12) “Nutrient response variable” shall mean a biological variable, such as chlorophyll *a*, or biomass or structure of the phytoplankton, periphyton or vascular plant community, that responds to nutrient load or concentration in a predictable and measurable manner. For purposes of interpreting paragraph 62-302.530(47)(b), F.A.C., dissolved oxygen (DO) shall also be considered a nutrient response variable if it is demonstrated for the waterbody that DO conditions result in biological imbalance and the DO responds to a nutrient load or concentration in a predictable and measurable manner.

(13) “Nutrient Watershed Region” shall mean a drainage area over which the nutrient thresholds in paragraph 62-302.531(2)(c), F.A.C., apply.

(a) The Panhandle West region consists of the Perdido Bay Watershed, Pensacola Bay Watershed, Choctawhatchee Bay Watershed, St. Andrew Bay Watershed, and Apalachicola Bay Watershed.

(b) The Panhandle East region consists of the Apalachee Bay Watershed, and Econfina/Steinhatchee Coastal Drainage Area.

(c) The North Central region consists of the Suwannee River Watershed and an area in Alachua County stream to sink region affected by the Hawthorne Formation.

(d) The West Central region consists of the Peace, Myakka, Hillsborough, Alafia, Manatee, Little Manatee River Watersheds, Sarasota/Lemon Bay Watershed and small, direct Tampa Bay tributary watersheds south of the Hillsborough River Watershed.

(e) The Peninsula region consists of the Waccasassa Coastal Drainage Area, Withlacoochee Coastal Drainage Area, Crystal/Pithlachascotee Coastal Drainage Area, small, direct Tampa Bay tributary watersheds west of the Hillsborough River Watershed, small, direct Charlotte Harbor tributary watersheds south of the Peace River Watershed, Caloosahatchee River Watershed, Estero Bay Watershed, Imperial River Watershed, Kissimmee River/Lake Okeechobee Drainage Area, Loxahatchee/St. Lucie Watershed, Indian River Watershed, Daytona/St. Augustine Coastal Drainage Area, St. John’s River Watershed, Nassau Coastal Drainage Area, and St. Mary’s River Watershed.

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(f) The South Florida region consists of those areas south of the Peninsula region, such as the Cocohatchee River Watershed, Naples Bay Watershed, Rookery Bay Watershed, Ten Thousand Islands Watershed, Lake Worth Lagoon Watershed, Southeast Coast – Biscayne Bay Watershed, Everglades Watershed, Florida Bay Watershed, and the Florida Keys.
A map of the Nutrient Watershed Regions, dated October 17, 2011 (http://www.flrules.org/Gateway/reference.asp?No=Ref-06033), is incorporated by reference herein and may be obtained by writing to the Florida Department of Environmental Protection, 2600 Blair Stone Road, MS #6511, Tallahassee, FL 32399-2400.

(14) "Open coastal waters" shall mean all gulf or ocean waters that are not classified as estuaries or open ocean waters.

(15) "Open ocean waters" means all surface waters extending seaward from the most seaward natural 90-foot (15-fathom) isobath. Contour lines may be determined from National Oceanic and Atmospheric Administration Charts.

(16) "Physical alterations" shall mean human-induced changes to the physical structure of the waterbody.

(17) "Planning List" shall mean the list of potentially impaired surface waters or segments identified pursuant to Part II of this chapter where additional information is needed to evaluate whether the water is impaired and a TMDL is needed, as provided in Section 403.067(2), F.S.

(18) "Pollutant" shall be as defined in subsection 502(6) of the CWA. Characteristics of a discharge, including dissolved oxygen, pH, or temperature, shall also be defined as pollutants if they result or may result in the potentially harmful alteration of downstream waters.

(19) "Pollution" shall be as defined in subsection 502(19) of the CWA and Section 403.031(7), F.S.

(20) "Predominantly fresh waters" shall mean surface waters in which the chloride concentration is less than 1,500 milligrams per liter or specific conductance is less than 4,580 µmhos/cm. Measurements for making this determination shall be taken within the bottom half of the water column.

(21) "Predominantly marine waters" shall mean surface waters in which the chloride concentration is greater than or equal to 1,500 milligrams per liter or specific conductance is greater than or equal to 4,580 µmhos/cm. Measurements for making this determination shall be taken within the bottom half of the water column.

(22) "Reference water" means a waterbody that exhibits a range of physical, chemical and biological characteristics approximating the natural background conditions of the same, or similar, type of waterbody within an ecologically similar region. A reference water may be representative of the water quality and structure and function of biological communities of natural background conditions even if there is evidence of limited human disturbance in the waterbody or watershed, as long as anthropogenic sources do not produce a significant measurable or predicted effect on the parameter of concern in the waterbody.

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

(24) "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.

(25) "Spill" shall mean a short-term, unpermitted discharge to surface waters, not to include sanitary sewer overflows or chronic discharges from leaking wastewater collection systems.

(26) "Spring vent" shall mean a location where groundwater flows out of a natural, discernable opening in the ground onto the land surface or into a predominantly fresh surface water.

(27) "Stream" shall mean a predominantly fresh surface waterbody that flows in a defined channel with banks., Streams do not include wetlands or portions of streams that exhibit lake characteristics (e.g., long water residence time, increased width, and predominance of biological taxa typically found in non-flowing conditions).

(28) "Stream Condition Index (SCI)" shall mean a Biological Health Assessment that measures stream biological health in predominantly fresh waters using benthic macroinvertebrates, performed and calculated using the Standard Operating Procedures for the SCI as described in subparagraph 62-160.800(1)(c)3., F.A.C. For water quality standards purposes, the Stream Condition Index shall not apply in the South Florida Nutrient Watershed Region.

(29) "Study List" shall mean the list of surface waters or segments where additional information is needed, as identified in Rule 62-303.390, F.A.C.

(30) "Surface water" means those waters of the State upon the surface of the earth to their landward extent, 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.

(31) "Total Maximum Daily Load" (TMDL) for an impaired waterbody or waterbody segment shall mean the sum of the individual wasteload allocations for point sources and the load allocations for nonpoint sources and natural background. Prior to determining individual wasteload allocations and load allocations, the maximum amount of a pollutant that a waterbody or

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waterbody segment can assimilate from all sources without exceeding water quality standards must first be calculated.

(32) "Verified List" shall mean the list of impaired waterbodies or segments for which TMDLs will be developed, as provided in Section 403.067(4), F.S., and which will be submitted to EPA pursuant to paragraph 303(d)(1) of the CWA.

(33) "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.

(34) "Water quality standards" shall mean standards composed of designated present and future most beneficial uses (classification of waters), the numeric and narrative criteria, including Site Specific Alternative Criteria, applied to the specific water uses or classification, the Florida antidegradation policy, and the moderating provisions, such as variances, mixing zone rule provisions, or exemptions.

(35) "Water segment" shall mean a portion of a waterbody that the Department will assess and evaluate for purposes of determining whether the waterbody is impaired and whether the impairment is due to pollutant discharges.

(36) "Waters" shall be those surface waters described in Section 403.031(13), F.S.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 6-5-06, 12-11-06, 7-2-12, 2-17-16.

PART II
THE PLANNING LIST

62-303.300 Methodology to Develop the Planning List.

This part establishes a methodology for developing a Planning List of waters to be assessed pursuant to Sections 403.067(2) and (3), F.S. Unless information presented to the Department demonstrates otherwise, data older than 10 years are not representative of current conditions and shall not be used except to evaluate historical trends. Any determinations by the Department to use data older than 10 years shall be documented, and the documentation shall include the basis for the decision.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 8-1-13, 2-17-16.

62-303.310 Evaluation of Aquatic Life Use Support.

A Class I, II, III, or III-Limited water shall be placed on the Planning List for assessment of aquatic life use support (propagation and maintenance of a healthy, well-balanced population of fish and wildlife) if, based on sufficient quality and quantity of data, the waterbody:

(1) Exceeds applicable aquatic life-based thresholds as outlined in Rule 62-303.320, F.A.C.,

(2) Does not meet Biological Health Assessment thresholds for its waterbody type as outlined in Rule 62-303.330, F.A.C., or

(3) Exceeds nutrient impairment thresholds or numeric nutrient standards as outlined in Rules 62-303.350 through 62-303.354, F.A.C.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 7-2-12, 2-17-16.

62-303.320 Aquatic Life-Based Water Quality Criteria Assessment.

(1) Water segments shall be placed on the Planning List if, using objective and credible data, as defined by the requirements specified in this section, the number of samples that do not meet an applicable water quality criterion due to pollutant discharges is greater than or equal to the number listed in Table 1 for the given sample size. For sample sizes up to 500, waters are placed on the Planning List when 10 percent or more of the samples do not meet the applicable criteria with a minimum of an 80 percent confidence level using a binomial distribution. For sample sizes greater than 500, the Department shall calculate the number of samples not meeting the criterion that are needed to list the waterbody with an 80 percent confidence level for the given sample size using the binomial distribution.

Table 1: Planning List

Minimum number of samples not meeting an applicable water quality criterion needed to put a water on the Planning List with at least 80% confidence.

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Sample sizes		Are listed if they have at least this # of samples that do not meet a criterion
From	To	
10	15	3
16	23	4
24	31	5
32	39	6
40	47	7
48	56	8
57	65	9
66	73	10
74	82	11
83	91	12
92	100	13
101	109	14
110	118	15
119	126	16
127	136	17
137	145	18
146	154	19
155	163	20
164	172	21
173	181	22
182	190	23
191	199	24
200	208	25
209	218	26
219	227	27
228	236	28
237	245	29
246	255	30

Sample sizes		Are listed if they have at least this # of samples that do not meet a criterion
From	To	
256	264	31
265	273	32
274	282	33
283	292	34
293	301	35
302	310	36
311	320	37
321	329	38
330	338	39
339	348	40
349	357	41
358	367	42
368	376	43
377	385	44
386	395	45
396	404	46
405	414	47
415	423	48
424	432	49
433	442	50
443	451	51
452	461	52
462	470	53
471	480	54
481	489	55
490	499	56
500	500	57

(2) The Department's Florida Storage and Retrieval (FLASTORET) database, or its successors, shall be the primary source of data used for determining whether samples do not meet water quality criteria. As required by subsection 62-40.540(3), F.A.C., the Department, other state agencies, the Water Management Districts, and local governments collecting surface water quality data in Florida shall enter the data into FLASTORET, or its successors, within one year of collection. Other sampling entities that want to ensure their data will be considered for evaluation should ensure their data are entered into FLASTORET, or its successors. The Department shall consider data submitted to the Department from other sources and databases if the data meet the sufficiency and data quality requirements of this section.

(3) Unless information presented to the Department demonstrates otherwise, data older than ten years are not representative of current conditions and shall not be used to develop Planning Lists except to evaluate historical trends. Any determinations by the Department to use data older than 10 years shall be documented, and the documentation shall include the basis for the decision that the data are representative of current conditions. Further, more recent data shall take precedence over older data if:

(a) The newer data indicate a change in water quality and this change is related to changes in anthropogenic pollutant loading to the watershed or improved pollution control mechanisms in the watershed contributing to the assessed area, or

(b) The Department determines that the older data do not meet the data quality requirements of this section or are no longer representative of the water quality of the segment. The Department shall note for the record that the older data were excluded and

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provide details about why the older data were excluded.

(4) To place a water segment on the Planning List using Table 1, a water segment shall have a minimum of ten samples for the ten-year period, with at least five temporally independent samples. To be treated as a temporally independent sample, samples shall be at least one week apart, regardless of whether the samples are collected at different locations within the segment.

(a) For parameters other than dissolved oxygen (DO), samples collected at the same location less than four days apart shall be considered as one sample, with the median value used to represent the sampling period. However, if individual values exceed acutely toxic levels as listed in Table 2, then the worst-case value shall be used to represent the sampling period. The worst-case value is both the minimum and maximum for pH, or the maximum value for other parameters.

(b) For lakes, the daily average DO level shall be calculated as the average of measurements collected in the upper two meters of the water column at the same location and on the same day. For all other fresh waters, the daily average freshwater DO level shall be calculated as the average of all measurements collected in the water column at the same location and on the same day. If any individual DO measurement is greater than 100 percent saturation, 100 percent shall be substituted for that value for the purpose of calculating daily averages.

(c) The daily average freshwater DO criteria shall be assessed preferentially using daily average values calculated from full days of diel monitoring data. A full day of diel data shall consist of 24 hours of measurements collected at a regular time interval of no longer than one hour. If diel monitoring data are not available, instantaneous samples may be used to assess the DO criterion by comparing the instantaneous value with a time-of-day-specific translation of the daily average criterion. To determine the time-of-day-specific translation of the daily average criterion, the time (T) at which the DO sample was taken (in minutes past midnight) is entered into the appropriate equation below for the applicable region and waterbody type. The actual DO measurement collected at a given time is assessed against the calculated time-of-day-specific translation for that time, and if the instantaneous DO is greater than or equal to the calculated value, the daily average DO criterion is achieved.

Region	**Equations for Time-of-Day-Specific Translation of the Daily Average DO Criterion**
Streams	
Northeast + Big Bend	$1.1844 \times 10^{-13} \cdot T^5 - 4.1432 \times 10^{-10} \cdot T^4 + 4.7729 \times 10^{-7} \cdot T^3 - 1.9692 \times 10^{-4} \cdot T^2 + 0.02314 \cdot T + 31.24$
Peninsula + Everglades	$1.9888 \times 10^{-13} \cdot T^5 - 6.8941 \times 10^{-10} \cdot T^4 + 7.8373 \times 10^{-7} \cdot T^3 - 3.1598 \times 10^{-4} \cdot T^2 + 0.03551 \cdot T + 33.43$
Panhandle West	$9.0851 \times 10^{-14} \cdot T^5 - 2.9941 \times 10^{-10} \cdot T^4 + 3.1560 \times 10^{-7} \cdot T^3 - 1.0851 \times 10^{-4} \cdot T^2 + 0.006285 \cdot T + 65.61$
Lakes	
Northeast + Big Bend	$1.4578 \times 10^{-13} \cdot T^5 - 5.5607 \times 10^{-10} \cdot T^4 + 7.0683 \times 10^{-7} \cdot T^3 - 3.1879 \times 10^{-4} \cdot T^2 + 0.02817 \cdot T + 34.19$
Peninsula + Everglades	$1.3709 \times 10^{-13} \cdot T^5 - 5.0496 \times 10^{-10} \cdot T^4 + 6.1352 \times 10^{-7} \cdot T^3 - 2.5817 \times 10^{-4} \cdot T^2 + 0.01960 \cdot T + 37.14$
Panhandle West	$7.1190 \times 10^{-14} \cdot T^5 - 2.6420 \times 10^{-10} \cdot T^4 + 3.2247 \times 10^{-7} \cdot T^3 - 1.3607 \times 10^{-4} \cdot T^2 + 0.01071 \cdot T + 66.35$

(d) If multiple instantaneous DO samples are available in a day, the time-of-day-specific translation of the daily average criterion will be calculated for each individual sample. Achievement of the daily average DO criteria will be assessed by comparing the average of the actual DO measurements collected at each time against the average of the calculated time-of-day-specific translations for each time. If the average of the measured DO values is greater than or equal to the average of the time-of-day-specific translations of the criteria, the daily average DO criterion is achieved. An average of multiple daily values calculated in this manner will be considered as a single sample for assessment purposes.

(e) Samples collected within 200 meters of each other will be considered the same station or location, unless there is a tributary, an outfall, or significant change in the hydrography of the water.

(f) Samples collected from different stations within a water segment shall be assessed as separate samples even if collected at the same time.

(g) In making the determination to list water segments, the Department shall consider ambient background conditions, including seasonal and other natural variations.

Table 2. Acutely Toxic Levels for Parameters with Aquatic Life-Based Criteria

Parameter	Units	Freshwater Value	Marine Value
Aldrin	ug/L	3	1.3

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Aluminum	ug/L	750	N/A
Arsenic	ug/L	340	69
Cadmium	ug/L	exp((1.0166*(lnH))-3.924)	40
Carbaryl	ug/L	2.1	1.6
Chlordane	ug/L	2.4	0.09
Chlorine	ug/L	19	13
Chlorpyrifos	ug/L	0.083	0.011
Chromium III	ug/L	exp((0.8190(lnH))+3.7256)	N/A
Chromium VI	ug/L	16	1100
Copper	ug/L	exp((0.9422*(lnH))-1.700)	5.8
Cyanide	ug/L	22	1
DDT	ug/L	1.1	0.13
Diazinon	ug/L	0.17	0.82
Dieldrin	ug/L	0.24	0.71
Endosulfan	ug/L	0.22	0.034
Endrin	ug/L	0.086	0.037
Heptachlor	ug/L	0.52	0.053
Lead	ug/L	exp((1.273(lnH))-1.460)	221
Lindane	ug/L	0.95	0.16
Nickel	ug/L	exp((0.8460(lnH))+2.255)	75
Nonylphenol	ug/L	28	7
Pentachlorophenol	ug/L	exp(1.005(pH)-4.869)	13
Selenium	ug/L	N/A	290
Silver	ug/L	exp((1.72(lnH))-6.59)	2.2
Toxaphene	ug/L	0.73	0.21
Zinc	ug/L	exp((0.8473(lnH))+0.884)	95

(5) For assessment of the portions of the Suwannee, Withlacoochee (North), and Santa Fe Rivers utilized by the Gulf Sturgeon, and in the portions of the Santa Fe and New Rivers utilized by the Oval Pigtoe Mussel, waters will be listed on the Planning List when more than 50 percent of the measurements are below the applicable median or more than 10 percent of the daily average values are below the applicable 10th percentile value at a minimum of a 80 percent confidence level using the binomial distribution. The applicable median and 10th percentile values are specified by river segment in Appendix I of the "*Technical Support Document: Derivation of Dissolved Oxygen Criteria to Protect Aquatic Life in Florida's Fresh and Marine Waters*" (DEP-SAS-001/13), dated March, 2013 (http://www.flrules.org/Gateway/reference.asp?No=Ref-02961), which is incorporated by reference herein. Copies of Appendix I may be obtained by writing to the Florida Department of Environmental Protection, 2600 Blair Stone Road, MS #6511, Tallahassee, FL 32399-2400.

(6) For predominantly marine waters, the Department shall evaluate the daily average DO criterion using Table 1 set forth in subsection 62-303.320(1), F.A.C., above, and shall also evaluate whether the 7-day and 30-day average criteria have been achieved during the planning period. A water segment shall be placed on the Planning List for potential DO impairment if the number of samples that do not meet the daily average DO criterion is greater than or equal to the number listed in Table 1 for the given sample size, or if it has a weekly average value below the 7-day average DO criterion or a monthly average value below the 30-day DO criterion in the planning period.

(a) If any individual DO measurement is greater than 100 percent saturation, 100 percent shall be substituted for that value for the purpose of calculating daily, weekly and monthly averages.

(b) Where DO values are collected at multiple depths at a given station and time, the average of the values shall be used to represent the measurements unless any of the individual DO values are less than 2 mg/l, in which case the lower 25th percentile of the measured values shall be used.

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(c) For assessment purposes, the 7-day average DO percent saturation shall be calculated as a weekly average using a minimum of three full days of diel data collected within a week, or a minimum of ten grab samples collected over at least three days within a week, with each sample measured at least four hours apart.

(d) For assessment purposes, the 30-day average DO percent saturation shall be calculated as a monthly average using a minimum of three full days of diel data, with each diel sampling conducted in different weeks of the month, or grab samples collected from a minimum of ten different days of the month.

(e) A full day of diel data shall consist of 24 hours of measurements collected at a regular time interval of no longer than one hour.

(7) Notwithstanding the requirements of subsection (4), water segments shall be included on the Planning List if:

(a) There are less than ten samples for the segment, but there are three or more temporally independent samples that do not meet an applicable water quality criterion, or

(b) More than one sample do not meet an acute toxicity-based water quality criterion listed in subsection 62-302.500(1), F.A.C., or a water quality criterion for a synthetic organic compound or synthetic pesticide in any three year period.

(8) Values that exceed possible physical or chemical measurement constraints (pH greater than 14, for example) or that represent data transcription errors shall be excluded from the assessment. Outliers identified through statistical procedures shall be evaluated to determine whether they represent valid measures of water quality. If the Department determines that they are not valid, they shall be excluded from the assessment. However, the Department shall note for the record that the data were excluded and explain why they were excluded.

(9) The Department shall consider all readily available water quality data collected and analyzed in accordance with Chapter 62-160, F.A.C. If requested, the sampling agency must provide to the Department all of the data quality assessment elements listed in Table 2 of the Department's Guidance Document "Data Quality Assessment Elements for Identification of Impaired Surface Waters" (DEP EAS 01-01, April 2001) (http://www.flrules.org/Gateway/reference.asp?No=Ref-06034), which is incorporated by reference herein. Copies of the document may be obtained by writing to the Florida Department of Environmental Protection, 2600 Blair Stone Road, MS #6511, Tallahassee, FL 32399-2400.

(10) For the assessment of metals criteria,

(a) Surface water data for mercury shall be collected and analyzed using clean sampling and analytical techniques, and

(b) The corresponding hardness value shall be required for freshwater metals criteria that are hardness dependent. If the ambient hardness value is less than 25 mg/L as $CaCO_3$, then a hardness value of 25 will be used to calculate the criteria. If data are not used due to sampling or analytical techniques or because hardness data were not available, the Department shall note for the record that data were excluded and explain why they were excluded.

(11) For the assessment of the DO criteria, any DO data collected as a concentration in mg/l shall be converted to percent saturation using the temperature and salinity measured at the same location within fifteen minutes of the DO measurement. Percent DO saturation shall be calculated using the method in Section 5.4 of *the* "*Technical Support Document: Derivation of Dissolved Oxygen Criteria to Protect Aquatic Life in Florida's Fresh and Marine Waters,*" (DEP-SAS-001/13), dated March, 2013 (http://www.flrules.org/Gateway/reference.asp?No=Ref-02958), which is incorporated by reference herein. Copies of Section 5.4 may be obtained by writing to the Florida Department of Environmental Protection, 2600 Blair Stone Road, MS #6511, Tallahassee, FL 32399-2400.

(12) Surface water data with values below the applicable practical quantification limit (PQL) or method detection limit (MDL) shall be assessed in accordance with paragraphs 62-4.246(6)(b) and (c) and subsection 62-303.320(8), F.A.C. Results reported by a laboratory with the "U" data qualifier code according to paragraphs 62-160.340(3)(b) and (c), F.A.C., shall be assessed as half the reported result or half the criterion, whichever is lower.

(a) If sampling entities want to ensure that their data will be considered for evaluation, they should review the Department's list of approved MDLs and PQLs developed pursuant to Rule 62-4.246, F.A.C., and, if available, use approved analytical methods with MDLs below the applicable water quality criteria. If there are no approved methods with MDLs below a criterion, then the method with the lowest MDL should be used. Analytical results listed as below detection or below the MDL shall not be used for developing Planning Lists if the MDL was above the criteria and there were, at the time of sample collection, approved analytical methods with MDLs below the criteria on the Department's list of approved MDLs and PQLs.

(b) If appropriate analytical methods were used, then data with values below the applicable MDL will be deemed to meet the applicable water quality criterion and data with values between the MDL and PQL will be deemed to be equal to the MDL.

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(13) It should be noted that the data requirements of this rule constitute the minimum data set needed to assess a water segment for impairment. Agencies or groups designing monitoring networks are encouraged to consult with the Department to determine the sample design appropriate for their specific monitoring goals.

(14) A water segment shall be placed on the Planning List for DO impairment if there has been a statistically significant decreasing trend in DO levels or increasing trend in the range of daily DO fluctuations over the planning period at the 90 percent confidence level using a one-sided Seasonal Kendall test for trend, as described in Helsel, D.R. and R.M. Hirsch, 2002, Statistical Methods in Water Resources, USGS, pages 338 through 340 (http://www.flrules.org/Gateway/reference.asp?No=Ref-02962), which are incorporated by reference herein, after controlling for or removing the effects of confounding variables, such as climatic and hydrologic cycles, quality assurance issues, and changes in analytical methods, and except as provided for under Rules 62-302.300 and 62-4.242, F.A.C. A copy of pages 338 through 340 may be obtained by writing to the Florida Department of Environmental Protection, 2600 Blair Stone Road, MS #6511, Tallahassee, FL 32399-2400.

(15) For assessment of the 30-day average total ammonia criterion, the monthly average total ammonia shall be calculated for a station using a minimum of four samples collected within the month. A water segment shall be placed on the Planning List for potential total ammonia impairment if a station within the segment has a monthly average value above the 30-day average criterion in the planning period.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 8-1-13, 2-17-16.

62-303.330 Biological Assessment.

(1) Biological data must meet the requirements of subsections (3) and (8) in Rule 62-303.320, F.A.C.

(2) Biological Health Assessments used to evaluate predominantly freshwater streams and lakes under this rule shall include the Stream Condition Index (SCI), the Lake Vegetation Index (LVI), and the Shannon-Weaver Diversity Index. BioRecons can also be used to evaluate predominantly freshwater streams under this rule. Because these Biological Health Assessment procedures require specific training and expertise, persons conducting a BioRecon, SCI or LVI must comply with the quality assurance requirements of Chapter 62-160, F.A.C., attend at least eight hours of Department field training and pass a Department audit that verifies the sampler follows the applicable SOPs, as set forth in Chapter 62-160, F.A.C., before their Biological Health Assessment data will be considered valid for use under this rule.

(3) A water segment shall be included on the Planning List if it meets any of the following conditions, given a minimum sample size of one bioassessment:

(a) One of the two most recent Shannon-Weaver Diversity Index (subsection 62-302.530(10), F.A.C.) scores is less than 75 percent of the value from an appropriate control site.

(b) One of the two most recent SCI scores is:

1. A score of < 35; or

2. A 20 point reduction from the historic maximum value if the historic maximum value SCI is above 64.

(c) One of the two most recent BioRecon has a score < 4.

(d) One of the two most recent Lake Vegetation Index scores is:

1. A score < 43; or

2. A 20 point reduction from the historic maximum value if the historic maximum value LVI is above 78.

(4) The “historic maximum value” shall be the highest mean of any three consecutive, temporally independent Stream Condition Index (SCI) scores or Lake Vegetation Index (LVI) scores at the same location that are collected prior to the most recent sample being considered for evaluation with this provision. For the purposes of setting historic maximum values, the “same location” for a stream shall be defined as being within 200 meters.

(5) To qualify as temporally independent samples, each Biological Health Assessment shall be conducted at least three months apart. Biological Health Assessments conducted within 200 meters in a stream or within the same lake less than three months apart shall be considered one sample, with the mean value used to represent the sampling period. Biological Health Assessments conducted at locations greater than 200 meters apart in a stream shall be assessed as independent scores regardless of temporal separation of samples.

(6) Other information relevant to the biological health of the water segment, including toxicity tests and information about alterations in the type, nature, or function of a waterbody, shall also be considered when assessing aquatic life use support.

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Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 7-2-12, 2-17-16.

62-303.340 Toxicity.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Repealed 12-11-06.

62-303.350 Assessments of Numeric Interpretations of Narrative Nutrient Criterion.

(1) The numeric interpretations of the narrative nutrient criterion in sections 62-302.531 and 62-302.532, F.A.C., and the nutrient impairment thresholds identified in Rules 62-303.351 through 62-303.354, F.A.C., shall be the primary means for assessing whether a water should be assessed further for nutrient impairment. Other information indicating an imbalance in flora or fauna due to nutrient enrichment, such as algal blooms or mats, excessive nuisance macrophyte growth, decrease in the distribution (either in density or areal coverage) of seagrasses or other submerged aquatic vegetation, adverse changes in algal species composition, and excessive diel oxygen swings, shall also be considered for placing waters on the Planning List.

(2) To be used to determine whether a waterbody should be assessed further for nutrient enrichment, data must meet the requirements of subsections and paragraphs (2), (3), (4)(a), (4)(e)-(g), (8), (9), (12) and (13) in Rule 62-303.320, F.A.C.;

(3) To calculate an annual geometric or arithmetic mean for TN, TP, NO3-NO2, or chlorophyll *a*, there shall be at least four temporally-independent samples per year with at least one sample collected between May 1 and September 30 and at least one sample collected during the other months of the calendar year. To be treated as temporally-independent, samples must be collected at least one week apart.

(4) To assess nutrient criteria expressed as a long-term average of annual means for TN, TP, NO3-NO2, or chlorophyll *a*, the long-term average of annual means shall be based on data from at least 3 years meeting the minimum data requirements of subsection 62-303.350(3), F.A.C.

(5) To assess nutrient criteria expressed as a long-term average for TN, TP, NO3-NO2, or chlorophyll *a*, the long-term average for nutrients shall be based on a minimum of 10 data points over at least 3 years, with at least two temporally independent samples per year, with at least one sample collected between May 1 and September 30 and at least one sample collected during the other months of the calendar year.

(6) To be assessed under this chapter, except for data used to establish historical chlorophyll *a* levels, chlorophyll *a* data shall be determined using Department-approved methods as measured according to the DEP document titled, "Applicability of Chlorophyll *a* Methods" (DEP-SAS-002/10), dated October 24, 2011 (http://www.flrules.org/Gateway/reference.asp?No=Ref-02914), incorporated by reference herein, unless an alternative method is specifically approved by the Department under Chapter 62-160, F.A.C. Copies of the chlorophyll *a* document may be obtained by writing to the Florida Department of Environmental Protection, 2600 Blair Stone Road, MS #6511, Tallahassee, FL 32399-2400. Chlorophyll *a* data shall be corrected for or free from the interference of pheophytin.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 7-2-12, 2-17-16.

62-303.351 Nutrients in Freshwater Streams.

A stream or stream segment shall be included on the Planning List for nutrients if:

(1) The applicable numeric interpretation of the narrative nutrient criterion established in subsection 62-302.531(2), F.A.C., is exceeded for any parameter;

(2) For streams meeting the definition in subsection 62-302.200(36), F.A.C., that do not have a site specific numeric interpretation of the narrative nutrient criterion, the nutrient thresholds in subparagraph 62-302.531(2)(c)2., F.A.C., are exceeded and insufficient Biological Health Assessment data are available to fully assess achievement of the nutrient provisions in subparagraph 62-302.531(2)(c)1., F.A.C.;

(3) Algal mats or blooms are present in sufficient quantities to pose a nuisance or hinder reproduction of a threatened or endangered species;

(4) An annual geometric mean chlorophyll *a* is greater than 20 ug/l; or

(5) There is a statistically significant increasing trend in the annual geometric means at the 95 percent confidence level in TN, TP or chlorophyll *a* over the planning period using a Mann's one-sided, upper-tail test for trend, as described in Nonparametric Statistical Methods by M. Hollander and D. Wolfe (1999 ed.), pages 376 and 724, which are incorporated by reference herein. Copies of these pages may be obtained by writing to the Florida Department of Environmental Protection, 2600 Blair Stone Road, MS #6511, Tallahassee, FL 32399-2400.

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Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Repromulgated 1-2-07, 7-2-12, 2-17-16.

62-303.352 Nutrients in Freshwater Lakes.

(1) Lakes or lake segments shall be included on the Planning List for nutrients if:

(a) The numeric interpretation of the narrative nutrient criterion established in subsection 62-302.531(2), F.A.C., is exceeded for any parameter;

(b) Algal mats or blooms are present in sufficient quantities to pose a nuisance or hinder reproduction of a threatened or endangered species; or

(c) There is a statistically significant increasing trend in the annual geometric means at the 95 percent confidence level in TN, TP, or chlorophyll *a* over the planning period using a Mann's one-sided, upper-tail test for trend, as described in Nonparametric Statistical Methods by M. Hollander and D. Wolfe (1999 ed.), pages 376 and 724, which were incorporated by reference in Rule 62-303.351, F.A.C.

(d) There are insufficient data to calculate the long-term geometric mean for color, alkalinity or specific conductance for a lake, the lake shall be included on the Planning List if the annual geometric mean chlorophyll *a* value is greater than 20 ug/L in at least one year.

(2) Color, alkalinity, and specific conductance data used to establish the applicable lake criteria are subject to the data sufficiency requirements in sub-subparagraph 62.302.531(2)(b)1.c., F.A.C.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 7-2-12, 2-17-16.

62-303.353 Nutrients in Estuaries and Open Coastal Waters.

Estuaries, estuary segments, or open coastal waters shall be included on the Planning List for nutrients if:

(1) The numeric interpretation of the narrative nutrient criterion established in subsection 62-302.531(2) or 62-302.532(2), F.A.C., is exceeded for any parameter; or

(2) For estuaries without a numeric interpretation of the narrative nutrient criterion, their annual geometric mean chlorophyll *a* for any year is greater than 11 ug/l;

(3) Algal mats or blooms are present in sufficient quantities to pose a nuisance or hinder reproduction of a threatened or endangered species; or

(4) There is a statistically significant increasing trend in the annual geometric means at the 95 percent confidence level in TN, TP, or chlorophyll *a* over the planning period using a Mann's one-sided, upper-tail test for trend as described in Nonparametric Statistical Methods by M. Hollander and D. Wolfe (1999 ed.), pages 376 and 724, which were incorporated by reference in subsection 62-303.351(5), F.A.C.; or

(5) For estuaries with nutrient criteria expressed as not to be exceeded in more than 10 percent of the samples, the nutrient data exceed the listing thresholds in subsection 62-303.320(1), F.A.C.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 7-2-12, 8-1-13, 2-17-16.

62-303.354 Nitrate-nitrite in Freshwater Spring Vents.

A spring vent in predominantly fresh waters shall be included on the Planning list for nitrate-nitrite if:

(1) The numeric interpretation of the narrative nutrient criterion established in subsection 62-302.531(2), F.A.C., is exceeded; or

(2) Algal mats or blooms are present in sufficient quantities to pose a nuisance or hinder reproduction of a threatened or endangered species; or

(3) There is a statistically significant increasing trend in the annual geometric means at the 95 percent confidence level in nitrate-nitrite over the planning period using a Mann's one-sided, upper-tail test for trend, as described in Nonparametric Statistical Methods by M. Hollander and D. Wolfe (1999 ed.), pages 376 and 724, which were incorporated by reference in Rule 62-303.351, F.A.C.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 7-2-12, Amended 2-17-16.

62-303.360 Primary Contact and Recreation Use Support.

(1) A Class I, II, III or III-Limited (if primary contact and recreational use is not limited) water shall be placed on the Planning

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List for evaluating primary contact and recreation use support based on bacteriological data if:

(a) There is a sufficient number of samples from the water segment that do not meet the applicable water quality criteria for *E. coli* for predominantly freshwaters or enterococci for predominantly marine waters expressed as a Ten Percent Threshold Value (TPTV) based on the methodology described in subsection 62-303.320(1), F.A.C. Data must meet the requirements of subsections and paragraphs 62-303.320(2), (3), (4)(e)-(4)(g), (8), (9), F.A.C. Samples collected on different days will be assessed as individual samples and samples collected on the same day shall be averaged; or

(b) The waterbody includes a sampling location that has one or more monthly geometric mean values above the monthly geometric mean *E. coli* criterion for predominantly freshwaters or enterococci criterion for predominantly marine waters during the planning period. To calculate a monthly geometric mean, there shall be at least ten samples collected within that month, with at least one sample from each full week of the month. Data must meet the requirements of subsections and paragraphs 62-303.320(2), (3), (4)(e)-(4)(g), (8), (9), F.A.C., and samples collected on different days will be assessed as individual samples and samples collected on the same day shall be averaged.

(2) A Class I, II, III, or III-Limited water shall be placed on the Planning List for evaluating primary contact and recreation use support based on bathing area closures, advisories, or warnings issued by a local health department or county government if:

(a) The water segment includes a bathing area that was closed by a local health Department or county government for more than one week or more than once during a calendar year based on bacteriological data; or

(b) The water segment includes a bathing area for which a local health Department or county government has issued closures, advisories, or warnings totaling 21 days or more during a calendar year based on bacteriological data; or

(c) The water segment includes a bathing area that was closed or had advisories or warnings for more than 12 weeks during a calendar year by a local health Department or county government based on derived relationships between bacteria levels and rainfall or flow.

(3) The Florida Department of Health (DOH) database shall be the primary source of data used for determining bathing area closures, advisories, and warnings.

(4) Advisories, warnings, and closures based on red tides, rip tides, dangerous aquatic life, hurricanes, or short-term releases of pollutants, such as sewage spills, sewer line breaks, and medical wastes, shall not be included when assessing primary contact and recreation use support. However, the Department shall note for the record that closures, advisories, or warnings were excluded and explain why they were excluded.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 9-4-07, 8-1-13, 2-17-16.

62-303.370 Fish and Shellfish Consumption Use Support.

(1) A Class I, II, III or III-Limited water shall be placed on the Planning List for fish consumption if there is either a limited or no consumption fish consumption advisory, issued by the DOH, or other authorized governmental entity, in effect for the water segment.

(2) A Class II water shall be placed on the Planning List for shellfish consumption based on its shellfish harvesting classification if the water segment includes an area that is classified by the Department of Agriculture and Consumer Services' Shellfish Environmental Assessment Section (SEAS) in one of the following shellfish harvesting classifications:

(a) Restricted or conditionally restricted,

(b) Conditionally approved, excluding any areas for which SEAS identified only wildlife as the potential source of bacteriological contamination for the shellfish harvesting area, or

(c) Prohibited, unless the prohibited classification is precautionary and not based on water quality data.

(3) A Class II water shall be placed on the Planning List for shellfish consumption based on bacteriological data if:

(a) There is a sufficient number of samples from the water segment that do not meet the applicable Class II water quality criteria for fecal coliforms based on the methodology described in subsection 62-303.320(1), F.A.C. Data must meet the requirements of subsections 62-303.320(2), (3), paragraphs (4)(e)-(4)(g), and subsections (8), (9), F.A.C., with the exception that paragraph 62-303.320(4)(a), F.A.C., does not apply and samples collected on different days will be assessed as individual samples; or

(b) The water segment includes a sampling location that has a median fecal coliform Most Probable Number (MPN) or Membrane Filter (MF) value that exceeds 14 counts per 100 ml for the planning period. To calculate a median value for a sampling location, there shall be at least 10 samples collected during the planning period. Data must meet the requirements of subsections (2)-

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(4), (8), and (9) in Rule 62-303.320, F.A.C., however samples collected on different days within any four day period will be assessed as individual samples and samples collected on the same day shall be averaged.

(c) When evaluating a water segment for bacteriological quality, the criteria in paragraph 62-302.530(6)(a), F.A.C., used for fecal coliform shall be that the MPN shall not exceed 43 counts per 100 ml and the MF shall not exceed 31 counts per 100 ml.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 9-4-07, 8-1-13, 2-17-16.

62-303.380 Drinking Water Use Support and Protection of Human Health.

(1) A Class I water shall be placed on the Planning List for potential impairment of drinking water use support and the protection of human health based on bacteriological data if:

(a) There is a sufficient number of *E. coli* samples from the water segment that do not meet the applicable Class I water quality criteria for bacteriological quality expressed as a Ten Percent Threshold Value (TPTV) based on the methodology described in Rule 62-303.320, F.A.C. Data must meet the requirements of subsections and paragraphs 62-303.320(2), (3), (4)(e)-(g), (8), and (9), F.A.C. Samples collected on different days will be assessed as individual samples and samples collected on the same day shall be averaged; or

(b) The water segment includes a sampling location that has one or more monthly geometric mean values above the monthly geometric mean *E.coli* criterion during the planning period. To calculate a monthly geometric mean value for a sampling location, there shall be at least five samples collected within that month, with at least one sample from each full week of the month. Data must meet the requirements of subsections and paragraphs 62-303.320(2), (3), (4)(e)-(4)(g), (8), (9), F.A.C. Samples collected on different days will be assessed as individual samples and samples collected on the same day shall be averaged.

(2) A Class I water shall be placed on the Planning List for potential impairment of drinking water use support and the protection of human health based on information provided by public water systems if a public water system demonstrates to the Department that either:

(a) Treatment costs to meet applicable drinking water criteria have increased by at least 25% to treat contaminants that exceed Class I criteria or to treat blue-green algae or other nuisance algae in the source water; or

(b) The system has changed to an alternative supply because of additional costs that would be required to treat their surface water source. When determining increased treatment costs, costs due solely to new, more stringent drinking water requirements, inflation, or increases in costs of materials shall not be included.

(3) A water shall be placed on the Planning List for assessment of the threat to human health if:

(a) For human health-based criteria expressed as maximums, the water segment does not meet the applicable criteria based on the methodology described in Rule 62-303.320, F.A.C., or

(b) For human health-based criteria expressed as annual averages, the annual average concentration for any year of the assessment period exceeds the criteria. To be used to determine whether a water should be assessed further for human-health impacts, data must meet the requirements of paragraphs or subsections (2), (3), (7)(a), (8) and (9) in Rule 62-303.320, F.A.C.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 9-4-07, 8-1-13, 2-17-16.

PART III
THE STUDY LIST

62-303.390 The Study List.

(1) The Study List contains waters where additional information or Department review is needed before the water is placed on the Verified List for TMDL development but available evidence indicates there is a clear adverse trend in nutrients or nutrient response variables with a reasonable expectation that the water will become impaired within 10 years, or evidence indicates nonattainment of water quality standards or stream nutrient thresholds. Causes of nonattainment can include excess pollutant loading or concentrations, habitat or hydrologic alterations, or natural conditions. Waters that do not attain water quality standards due to natural conditions pursuant to Rule 62-303.420, F.A.C., shall not be added to the Study List. To conform to the expectations of Section 303(d) of the Federal Clean Water Act and federal regulations at 40 C.F.R. 130.7(b), waters and associated parameters indentified in the Study List will be submitted to EPA as water quality limited segments. However, pursuant to paragraph 403.067(2)(a), F.S., the Study List cannot be used in the administration or implementation of any regulatory program. A TMDL

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shall not be established for a waterbody placed on the Study List pursuant to subsection 62-303.390(2), F.A.C., until such time as it is placed on the Verified List pursuant to Part IV of this chapter.

(2) A Class I, II, III or Class III-Limited water shall be placed on the Study List if:

(a) For waters with a statistically-significant increasing trend in TN, TP, nitrate-nitrite, or chlorophyll *a* pursuant to subsection 62-303.351(5), 62-303.352(3), 62-303.353(4), or 62-303.354(3), F.A.C., the Department confirms the water does not exceed an applicable numeric nutrient criterion and there is:

1. A statistically-significant (at the 95 percent confidence level) temporal trend in the annual geometric means after controlling for or removing the effects of confounding variables, such as climatic and hydrologic cycles, seasonality, quality assurance issues, and changes in analytical methods or method detection limits; and

2. A reasonable expectation that the water will become impaired within 10 years, taking into consideration the current concentrations of nutrients or nutrient response variables and the slope of the trend.

(b) A waterbody does not achieve the Biological Health Assessment provisions in Rule 62-303.430, F.A.C., but a cause has not been identified;

(c) A waterbody is verified as not meeting the dissolved oxygen criterion pursuant to Part IV of this chapter, but a cause has not been identified;

(d) A waterbody where pollution control mechanisms are in place or planned that meet the requirements of subsections 62-303.600(1) and (3), F.A.C., except that there is uncertainty when water quality standards will be attained and the waterbody segment requires additional study;

(e) For streams meeting the definition in subsection 62-302.200(36), F.A.C., that do not have a site specific numeric interpretation of the narrative nutrient criterion, the nutrient thresholds in subparagraph 62-302.531(2)(c)2., F.A.C., are exceeded based on data from the last 7.5 years and insufficient Biological Health Assessment, chlorophyll *a*, or other response variable data are available to fully assess achievement of the nutrient provisions in paragraph 62-302.531(2)(c), F.A.C.

(f) There are fewer than twenty samples for a bacteriological water quality criterion expressed as a TPTV, but there are five or more samples that do not meet an applicable water quality criterion based on data from at least five temporally independent sampling events;

(g) A waterbody segment is verified as not meeting the bacteriological water quality criterion pursuant to Part IV of this Chapter, but the Department determines that additional study is needed to evaluate whether the exceedances are due to natural sources given the predominance of natural land uses in the watershed or based on information submitted to the Department; or

(h) A waterbody exceeds a generally applicable criteria, but the Department receives a petition for a SSAC pursuant to Rule 62-302.800, F.A.C., and additional time is needed to review and process the petition.

(3) For waters placed on the Study List based on an increasing trend in nutrients or chlorophyll *a* pursuant to paragraph 62-303.390(2)(a), F.A.C., the Department shall notify local stakeholders about the increasing trend. A water shall be removed from the Study List upon development of a new site-specific interpretation of the narrative nutrient criteria for the waterbody that would address the trend, determination that there was a flaw in the original analysis, determination that the trend is no longer statistically significant, development of a restoration plan meeting the requirements of subsection 62-303.600(1), F.A.C., or placement of the water on the Verified List.

(4) For waters that meet the listing requirements under paragraph 62-303.390(2)(b) or (c), F.A.C., above, a stressor identification study shall be conducted to identify the causative pollutant(s) or other factor(s) responsible for nonattainment. A stressor identification study includes collection and analysis of physical, chemical, and biological data necessary to determine the causative pollutant(s) or other factor(s) causing nonattainment.

(5) For waters placed on the Study List pursuant to paragraph 62-303.390(2)(d), F.A.C., the Department shall evaluate progress towards attainment of water quality standards**.**

(6) For waters placed on the Study List based on exceedances of the nutrient stream thresholds pursuant to paragraph 62-303.390(2)(e), FA.C., sufficient biological health assessments shall be collected to determine whether the stream attains the stream nutrient standard in paragraph 62-302.531(2)(c), F.A.C.

(7) For waters that fall under paragraph 62-303.390(2)(f), F.A.C., above, additional samples shall be collected to meet a minimum of 20 samples to re-assess the waterbody.

(8) For waters that fall under paragraph 62-303.390(2)(g), F.A.C., above, a bacterial source tracking study shall be conducted to evaluate whether anthropogenic sources are causing exceedances of the bacteriological criteria. The water shall be removed from

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the Study List if the Department confirms the exceedances are due to non-anthropogenic sources or shall be verified as impaired if at least ten percent of the exceedances are demonstrated to be due to anthropogenic sources**.**

(9) For waterbodies placed on the Study List to provide time to complete the review and otherwise process a petition for a SSAC, the Department shall reassess the waterbody during the next applicable assessment cycle for the basin.

(10) It is the Department's goal to collect the additional data needed for waters placed on the Study List pursuant to paragraphs 62-303.390(2)(a)-(c), and (2)(e)-(h), F.A.C., as part of its watershed management approach, with the data collected during either the same cycle that the water is initially listed on the Study List or during the subsequent cycle. After collecting the additional data, the Department shall either list the waterbody on the Verified List or remove the waterbody from the Study List, as appropriate.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 7-2-12, Amended 2-17-16.

PART IV

THE VERIFIED LIST

62-303.400 Methodology to Develop the Verified List.

(1) Waters shall be verified as being impaired if they meet the requirements for the Planning List in Part II and the additional requirements of Rules 62-303.420-.480, F.A.C. A waterbody that fails to meet the minimum criteria for surface waters established in Rule 62-302.500, F.A.C.; any of its designated uses, as described in this part; or applicable water quality criteria, as described in this part, shall be determined to be impaired.

(2) Additional data and information collected after the development of the Planning List will be considered when assessing waters on the Planning List, provided it meets the requirements of this chapter. In cases where additional data are needed for waters on the Planning List to meet the data sufficiency requirements for the Verified List, it is the Department's goal to collect this additional data as part of its watershed management approach, with the data collected during either the same cycle that the water is initially listed on the Planning List (within 1 year) or during the subsequent cycle.

(3) Unless information presented to the Department demonstrates otherwise, data more than 7.5 years old at the time the water segment is assessed are not representative of current conditions and shall not be used except to evaluate historical trends. Any determinations by the Department to use data older than 7.5 years shall be documented, and the documentation shall include the basis for the decision.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 2-17-16.

62-303.410 Determination of Aquatic Life Use Support.

Failure to meet any of the metrics used to determine aquatic life use support listed in Rules 62-303.420-.450, F.A.C., shall constitute verification that there is an impairment of the designated use for propagation and maintenance of a healthy, well-balanced population of fish and wildlife.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Repromulgated 1-2-07.

62-303.420 Aquatic Life-Based Water Quality Criteria Assessment.

(1) The Department shall reexamine the data used in Rule 62-303.320, F.A.C., to determine whether water quality criteria are met.

(a) If values exceeding the criteria are not due to pollutant discharges or reflect natural background conditions, including seasonal or other natural variations, the water shall not be listed on the Verified List. In such cases, the Department shall note for the record why the water was not listed and provide the basis for its determination that the exceedances were not due to pollutant discharges.

(b) If the Department has information suggesting that the values not meeting the dissolved oxygen (DO) criterion are due to natural background conditions, it is the Department's intent to support that conclusion through the use of Biological Health Assessment procedures referenced in Rule 62-303.330, F.A.C. The waterbody or segment shall not be included on the Verified List for DO if two or more temporally independent Biological Health Assessments indicate the waterbody supports the protection and maintenance of a healthy, well-balanced population of fish and wildlife. The Biological Health Assessments shall be conducted either in the same waterbody segment, or for streams, in the contiguous waterbody segment downstream of the segment where the

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Black – standard
Red – under review

water quality samples were taken. These Biological Health Assessments shall be conducted on the same day or after the water quality samples were collected.

(2) If the water was listed on the Planning List and there were insufficient data from the most recent five years of the Planning List assessment to meet the data distribution requirements of subsection 62-303.320(4), F.A.C., and to meet a minimum sample size for verification of twenty samples, additional data will be collected as needed to provide a minimum sample size of twenty. Once these additional data are collected, the Department shall re-evaluate the data using the approach outlined in subsection 62-303.320(1), F.A.C., but using Table 3, and place waters on the Verified List when 10% or more of the samples do not meet the applicable criteria, with a minimum of a 90% confidence level using a binomial distribution. The Department shall limit the analysis to data collected during the last 7.5 years. For sample sizes greater than 500, the Department shall calculate the number of samples not meeting the criterion that are needed for the given sample size using the binomial distribution.

Table 3: Verified List

Minimum number of samples not meeting an applicable water quality criterion needed to put a water on the Verified List with at least 90% confidence.					
Sample sizes		Are listed if they have at least this # of samples that do not meet a criterion	Sample sizes		Are listed if they have at least this # of samples that do not meet a criterion
From	To		From	To	
20	25	5	254	262	33
26	32	6	263	270	34
33	40	7	271	279	35
41	47	8	280	288	36
48	55	9	289	297	37
56	63	10	298	306	38
64	71	11	307	315	39
72	79	12	316	324	40
80	88	13	325	333	41
89	96	14	334	343	42
97	104	15	344	352	43
105	113	16	353	361	44
114	121	17	362	370	45
122	130	18	371	379	46
131	138	19	380	388	47
139	147	20	389	397	48
148	156	21	398	406	49
157	164	22	407	415	50
165	173	23	416	424	51
174	182	24	425	434	52
183	191	25	435	443	53
192	199	26	444	452	54
200	208	27	453	461	55
209	217	28	462	470	56
218	226	29	471	479	57
227	235	30	480	489	58
236	244	31	490	498	59
245	253	32	499	500	60

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(3) If the waterbody was placed on the Planning List based on worst case values used to represent multiple samples taken during a four day period, the Department shall evaluate whether the worst case value should be excluded from the analysis pursuant to subsections (4) and (5). If the worst case value should not be used, the Department shall then re-evaluate the data following the methodology in subsection 62-303.420(2), F.A.C., using the more representative worst case value or, if all valid values are below acutely toxic levels, the median value.

(4) If the waterbody was listed on the Planning List based on samples that do not meet water quality criteria for metals, the metals data shall be excluded if it is determined that the quality assurance requirements of subsection 62-303.320(10), F.A.C., were not met or that the sample was not collected and analyzed using clean techniques, if the use of clean techniques is appropriate. The Department shall re-evaluate the remaining valid data using the methodology in subsection 62-303.420(2), F.A.C., excluding any data that cannot be validated.

(5) Values that exceed possible physical or chemical measurement constraints (pH greater than 14, for example) or that represent data transcription errors, outliers the Department determines are not valid measures of water quality, water quality criteria exceedances due solely to violations of specific effluent limitations contained in state permits authorizing discharges to surface waters, water quality criteria exceedances within permitted mixing zones for those parameters for which the mixing zones are in effect, and water quality data collected during extended drought or following contaminant spills, discharges due to upsets or bypasses from permitted facilities, or rainfall in excess of the 25-year, 24-hour storm, shall be excluded from the assessment carried out under this rule. However, the Department shall note for the record that the data were excluded and explain why they were excluded.

(6) Once the additional data review is completed pursuant to subsections (1) through (5), the Department shall re-evaluate the data and shall include waters on the Verified List that meet the criteria in subsection 62-303.420(2) or paragraph 62-303.320(7)(b), F.A.C.

(7) Notwithstanding the requirements of subsection (2), water segments shall also be included on the Verified List if, based on representative data collected and analyzed in accordance with Chapter 62-160, F.A.C.:

(a) For parameters other than bacteriological water quality criteria, there are less than twenty samples, but there are five or more samples that do not meet an applicable water quality criterion based on data from at least five temporally independent sampling events, or

(b) Scientifically credible and compelling information regarding the magnitude, frequency, or duration of samples that do not meet an applicable water quality criterion provides overwhelming evidence of impairment. Any determinations to list waters based on this provision shall be documented, and the documentation shall include the basis for the decision.

(c) For any water chemistry data used to list waters under paragraph 62-303.420(7)(b), F.A.C., the Department shall include in the administrative record all of the applicable data quality assessment elements listed in Table 2 of the Department's Guidance Document "Data Quality Assessment Elements for Identification of Impaired Surface Waters" (DEP EAS 01-01, April 2001), which was incorporated by reference in subsection 62-303.320(9), F.A.C.

(8) For lakes, the daily average DO level shall be calculated as the average of measurements collected in the upper two meters of the water column at the same location on the same day. For all other fresh waters, the daily average freshwater DO level shall be calculated as the average of all measurements collected in the water column at the same location and on the same day. If any individual DO measurement is greater than 100 percent saturation, 100 percent shall be substituted for that value for the purpose of calculating daily averages.

(9) The daily average freshwater DO criteria shall be assessed preferentially using daily average values calculated from full days of diel monitoring data. A full day of diel data shall consist of 24 hours of measurements collected at a regular time interval of no longer than one hour. If diel monitoring data are not available, instantaneous samples may be used to assess the DO criterion by comparing the instantaneous value with a time-of-day-specific translation of the daily average criterion. To determine the time-of-day-specific translation of the daily average criterion, the time (T) at which the DO sample was taken (in minutes past midnight) is entered into the appropriate equation below for the applicable region and waterbody type. The actual DO measurement collected at a given time is assessed against the calculated time-of-day-specific translation for that time, and if the instantaneous DO is greater than or equal to the calculated value, the daily average DO criterion is achieved.

Region	**Equations for Time-of-Day-Specific Translation of the Daily Average DO Criterion**
Streams	

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Northeast + Big Bend	$1.1844 \times 10^{-13} \cdot T^5 - 4.1432 \times 10^{-10} \cdot T^4 + 4.7729 \times 10^{-7} \cdot T^3 - 1.9692 \times 10^{-4} \cdot T^2 + 0.02314 \cdot T + 31.24$
Peninsula + Everglades	$1.9888 \times 10^{-13} \cdot T^5 - 6.8941 \times 10^{-10} \cdot T^4 + 7.8373 \times 10^{-7} \cdot T^3 - 3.1598 \times 10^{-4} \cdot T^2 + 0.03551 \cdot T + 33.43$
Panhandle West	$9.0851 \times 10^{-14} \cdot T^5 - 2.9941 \times 10^{-10} \cdot T^4 + 3.1560 \times 10^{-7} \cdot T^3 - 1.0851 \times 10^{-4} \cdot T^2 + 0.006285 \cdot T + 65.61$
Lakes	
Northeast + Big Bend	$1.4578 \times 10^{-13} \cdot T^5 - 5.5607 \times 10^{-10} \cdot T^4 + 7.0683 \times 10^{-7} \cdot T^3 - 3.1879 \times 10^{-4} \cdot T^2 + 0.02817 \cdot T + 34.19$
Peninsula + Everglades	$1.3709 \times 10^{-13} \cdot T^5 - 5.0496 \times 10^{-10} \cdot T^4 + 6.1352 \times 10^{-7} \cdot T^3 - 2.5817 \times 10^{-4} \cdot T^2 + 0.01960 \cdot T + 37.14$
Panhandle West	$7.1190 \times 10^{-14} \cdot T^5 - 2.6420 \times 10^{-10} \cdot T^4 + 3.2247 \times 10^{-7} \cdot T^3 - 1.3607 \times 10^{-4} \cdot T^2 + 0.01071 \cdot T + 66.35$

If multiple instantaneous DO samples are available in a day, the time-of-day-specific translation of the daily average criterion will be calculated for each individual sample. Achievement of the daily average DO criterion will be assessed by comparing the average of the actual DO measurements collected at each time against the average of the calculated time-of-day-specific translations for each time. If the average of the measured DO values is greater than or equal to the average of the time-of-day- specific translations of the criteria, the daily average DO criterion is achieved. An average of multiple daily values calculated in this manner will be considered as a single sample for assessment purposes.

(10) For predominantly marine waters, the Department shall evaluate the daily average DO criterion using Table 3 set forth in subsection 62-303.420(1), F.A.C., above, and shall also evaluate whether the seven-day and 30-day average criteria have been achieved during the verified period. A water segment shall be placed on the Verified List for DO impairment if the number of samples below the daily average DO criterion is greater than or equal to the number listed in Table 3 for the given sample size, or if there is more than one weekly average value below the weekly average DO criterion in any twelve week period of the verified period or more than one monthly average value below the monthly average DO criterion in any calendar year of the verified period. Prior to placing a waterbody on the Verified List, the Department shall identify the causative pollutant(s) responsible for the exceedances of the DO criteria. Before assessing the weekly and monthly average DO criterion, the DO data shall be evaluated pursuant to subsections 62-303.420(3) and (5), F.A.C.

(a) If any individual DO measurement is greater than 100 percent saturation, 100 percent shall be substituted for that value for the purpose of calculating daily, weekly and monthly averages.

(b) Where DO values are collected at multiple depths at a given station and time, the average of the values shall be used to represent the measurements unless any of the individual DO values are less than 2 mg/l, in which case the lower 25th percentile of the measured values shall be used.

(c) For assessment purposes, the seven-day average DO percent saturation shall be calculated as a weekly average using a minimum of three full days of diel data collected within a week, or a minimum of ten grab samples collected over at least three days within a week, with each sample measured at least four hours apart.

(d) For assessment purposes, the 30-day average DO percent saturation shall be calculated as a monthly average using a minimum of three full days of diel data, with each diel sampling conducted in different weeks of the month, or grab samples collected from a minimum of ten different days of the month.

(e) A full day of diel data shall consist of 24 hours of measurements collected at a regular time interval of no longer than one hour.

(11) For assessment of the DO criteria for the portions of the Suwannee, Withlacoochee (North), and Santa Fe Rivers utilized by the Gulf Sturgeon, and in the portions of the Santa Fe and New Rivers utilized by the Oval Pigtoe Mussel, waters will be placed on the Verified List when more than 50 percent of the measurements are below the applicable median or more than 10 percent of the daily average values are below the applicable 10th percentile values, specified in Appendix I of the "*Technical Support Document: Derivation of Dissolved Oxygen Criteria to Protect Aquatic Life in Florida's Fresh and Marine Waters,*" (http://www.flrules.org/Gateway/reference.asp?No=Ref-02972) which was incorporated by reference in subsection 62-303.320(5), F.A.C, at a minimum of a 90 percent confidence level using the binomial distribution.

(12) For the assessment of the DO criteria, any DO data collected as a concentration in mg/L shall be converted to percent saturation using the temperature and salinity measured at the same location within fifteen minutes of the DO measurement. Percent DO saturation shall be calculated using the method in Section 5.4 of the "*Technical Support Document: Derivation of Dissolved Oxygen Criteria to Protect Aquatic Life in Florida's Fresh and Marine Waters,*" (http://www.flrules.org/Gateway/reference.asp?No=Ref-02971) which was incorporated by reference in subsection 62-303.320(11), F.A.C.

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(13) A water segment shall be placed on the Verified List for DO impairment if there has been a statistically significant decreasing trend in DO levels or an increasing trend in the range of daily DO fluctuations over the verified period at the 95 percent confidence level using a one-sided Seasonal Kendall test for trend, as described in Helsel, D.R. and R.M. Hirsch, 2002, Statistical Methods in Water Resources, USGS, pages 338 through 340 (http://www.flrules.org/Gateway/reference.asp?No=Ref-02973), which were incorporated by reference in subsection 62-303.320(14) F.A.C., after controlling for or removing the effects of confounding variables, such as climatic and hydrologic cycles, quality assurance issues, and changes in analytical methods. Water segments shall not be placed on the Verified List for DO impairment until the Department has identified a pollutant causing the decrease or if the decrease in DO levels was authorized under Rules 62-302.300 and 62-4.242, F.A.C.

(14) For assessment of the 30-day average total ammonia criterion, the monthly average total ammonia shall be calculated for a station using a minimum of four samples collected within the month. A water segment shall be placed on the Verified List for total ammonia impairment if a station within the segment has more than one monthly average value above the 30-day average criterion in any calendar year of the verified period.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.021(11), 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 7-2-12, 8-1-13, 2-17-16.

62-303.430 Biological Impairment.

(1) All Biological Health Assessments used to list a water on the Verified List shall be conducted and interpreted in accordance with Chapter 62-160, F.A.C., including Department-approved Standard Operating Procedures and Department documents that are incorporated by reference in Chapter 62-160, F.A.C., for the SCI, LVI, and Shannon-Weaver Diversity Index.

(2) If the water met the requirements for placement on the Planning List based on Biological Health Assessment results, the water shall be determined to be biologically impaired if any of the following conditions occur, given a minimum sample size of two temporally independent bioassessments:

(a) The average score of all the SCIs is below 40, or either of the two most recent temporally independent SCI scores is less than 35. If there are only two SCIs and the difference between the two scores is greater than 20 points, then an additional SCI shall be required and the average of all three scores shall be used.

(b) The average score of all the temporally independent LVIs is below 43 for a lake segment. If there are only two LVIs for a lake segment and the difference between the two scores is greater than 20 points, then an additional LVI shall be required and the average of all three scores shall be used.

(c) The historic maximum SCI value, as defined in subsection 62-303.330(4), F.A.C., is above 64 and the average of the two most recent temporally independent SCI scores is 20 or more points below the historic maximum value.

(d) The historic maximum value LVI, as defined in subsection 62-303.330(4), F.A.C., is above 78 and the average of the two most recent temporally independent LVI scores is 20 or more points below the historic maximum value.

(e) The average score of at least two temporally independent Shannon-Weaver Diversity Indices is less than 75 percent of the average score from an appropriate control site, pursuant to subsection 62-302.530(10), F.A.C.

(3) If the water was listed on the Planning List based on BioRecon data, two or more temporally independent SCIs shall be conducted. If the water segment was listed on the Planning List based on other information specified in subsection 62-303.330(6), F.A.C., indicating biological impairment, two or more temporally independent Biological Health Assessments appropriate for the waterbody type shall be conducted in the waterbody segment to verify whether the water is impaired. If available, the Department shall consider other scientifically credible biological assessment methods in predominantly marine waters to verify that the water is biologically impaired. Results from these biological assessments shall be evaluated in accordance with subsection 62-303.430(2), F.A.C., as applicable.

(4) If a waterbody was listed on the Planning List based on failure of the Shannon-Weaver Diversity Index under subsection 62-302.530(10), F.A.C., a minimum of two Biological Health Assessments shall be conducted in accordance with the methodology in Rule 62-303.330, F.A.C., to verify whether the water is impaired. If an SCI or LVI is not applicable for the waterbody type, then the Biological Health Assessment shall be the Shannon-Weaver Diversity Index or other scientifically credible method.

(5) Following verification that a waterbody is biologically impaired, a waterbody shall be included on the Verified List for biological impairment if:

(a) There are water quality data reasonably demonstrating the particular pollutant(s) causing the impairment and the concentration of the pollutant(s); and,

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(b) One of the following demonstrations is made:

1. If there is a numeric criterion for the specified pollutant(s) in Chapter 62-302, F.A.C., but the criterion is met, an identification of the specific factors that reasonably demonstrate why the numeric criterion is not adequate to protect water quality and how the specific pollutant is causing the impairment, or

2. If there is not a numeric criterion for the specified pollutant(s) in Chapter 62-302, F.A.C., an identification of the specific factors that reasonably demonstrate how the particular pollutant(s) are associated with the observed biological effect. If the numeric interpretation of the narrative nutrient criterion in paragraph 62-302.531(2)(c), F.A.C., is exceeded, then nutrients shall be identified as the causative pollutant unless a stressor identification study links the adverse biological effects to causal factor(s) other than nutrients.

(6) If a waterbody is verified as biologically impaired, but a causative pollutant has not been identified, the waterbody shall be included on the Study List.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 7-2-12, 2-17-16

62-303.440 Toxicity.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Repealed 12-11-06.

62-303.450 Assessments of Numeric Interpretations of Narrative Nutrient Criteria.

(1) A stream or estuary without applicable numeric criteria in subsection 62-302.531(2), F.A.C., shall be placed on the Verified List for impairment due to nutrients if it exceeds the chlorophyll *a* thresholds in subsection 62-303.351(4), F.A.C., or subsection 62-303.353(2), F.A.C., more than once in any consecutive three year period, and there are sufficient data from the last 7.5 years to meet the data sufficiency requirements of subsections 62-303.350(2)-(6), F.A.C. If there are insufficient data, additional data shall be collected as needed to meet the requirements. Once these additional data are collected, the Department shall determine if there is sufficient information to develop a site-specific chlorophyll *a* threshold that better reflects conditions beyond which an imbalance in flora or fauna occurs in the water segment. If there is sufficient information, the Department shall re-evaluate the data using the site-specific thresholds. If there is insufficient information, the Department shall re-evaluate the data using the thresholds provided in subsections 62-303.351(4) and 62-303.353(2), F.A.C., for streams and estuaries and verify impairment if there is more than one exceedance in any consecutive three year period. In any case, the Department shall limit its analysis to the use of data collected during the last 7.5 years. If alternative thresholds are used for the analysis, the Department shall provide the thresholds for the record and document how the alternative threshold better represents conditions beyond which an imbalance in flora or fauna is expected to occur.

(2) If the waterbody was listed on either the Planning or Study List for nutrient enrichment based on other information indicating an imbalance in flora or fauna, as provided in paragraphs or subsection 62-303.350(1), 62-303.351(3), 62-303.352(1)(b) or 62-303.353(3), F.A.C., the Department shall verify the imbalance before placing the water on the Verified List for impairment due to nutrients and shall provide documentation supporting the imbalance in flora or fauna.

(3) If the waterbody was listed on the Planning List based on paragraphs or subsections 62-303.351(1), 62-303.352(1)(a) and (d), 62-303.353(1) and (5), or 62-303.354(1), F.A.C., the Department shall place the waterbody on the Verified List for exceedances of the narrative nutrient criteria in paragraph 62-302.530(47)(b), F.A.C., if the applicable numeric interpretation of the narrative nutrient criterion is exceeded based on the last 7.5 years of data.

(4) If a lake was listed on the Planning List based on subsection 62-303.352(2), F.A.C., and there are still insufficient data to determine the long-term geometric mean color or alkalinity, the Department shall place the lake on the Verified List for exceedances of the narrative nutrient criterion in paragraph 62-302.530(47)(b), F.A.C., if the annual geometric mean chlorophyll *a* exceeds the applicable criterion for a colored lake in sub-subparagraph 62-302.531(2)(b)1.b., F.A.C., more than once in a three year period in the last 7.5 years.

(5) If the waterbody was listed on the Study List for an adverse trend in nutrient response variables pursuant to paragraph 62-303.390(2)(a), F.A.C., the Department shall analyze the potential risk of nonattainment of the narrative nutrient criteria in paragraph 62-302.530(47)(b), F.A.C. This analysis shall take into consideration the current concentrations of nutrient response variables, the slope of the trend, and the potential sources of nutrients (natural and anthropogenic). If there is a reasonable expectation that the

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waterbody will become impaired within 5 years, the Department shall place the waterbody on the Verified List to develop a TMDL that establishes a numeric interpretation pursuant to paragraph 62-302.531(2)(a), F.A.C.

(6) The thresholds for impairment due to nutrients in paragraph 62-302.531(2)(c) and subsections 62-303.351(4) and 62-303.353(2), F.A.C., are not required to be used during development of wasteload allocations or TMDLs where a site-specific interpretation of the narrative nutrient criterion in paragraph 62-302.530(47)(b), F.A.C., is established.

(7) When assessing waters for nutrient impairment, the Department shall evaluate whether the data were collected under extreme climatic conditions, such as floods, droughts, and hurricanes. If the needed supporting information is provided to the Department, the Department shall also evaluate whether the data were collected under conditions that are representative of the type of waterbody used to derive the applicable criteria, and whether the samples are biased towards specific non-representative flow conditions. When assessing estuary specific numeric interpretations of the narrative nutrient criterion in Rule 62-302.532, F.A.C., the Department shall also evaluate whether the current ambient monitoring network is representative of the network that was the basis for the numeric interpretation of the narrative nutrient criterion in Rule 62-302.532, F.A.C. The Department will consider this information when developing the final Verified List and shall not list waters as impaired based solely on extreme climatic conditions, non-representative data, or changes in the monitoring network.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 7-2-12, 8-1-13, 2-17-16.

62-303.460 Primary Contact and Recreation Use Support.

(1) The Department shall review the data used by the DOH as the basis for bathing area closures, advisories or warnings and verify that the values exceeded the applicable DOH thresholds and the data meet the requirements of Chapter 62-160, F.A.C. If the segment is listed on the Planning List based on bathing area closures, advisories, or warnings issued by a local health department or county government, the closures, advisories, or warnings based on red tides, rip tides, sewage spills, sewer line breaks, dangerous aquatic life, medical wastes, hurricanes, or other factors not related to chronic discharges of pollutants shall not be included when verifying primary contact and recreation use support. The Department shall then re-evaluate the remaining data using the methodology in subsection 62-303.360(2), F.A.C. Water segments that meet the criteria in subsection 62-303.360(2), F.A.C., shall be included on the Verified List as impaired.

(2) If the water segment was listed on the Planning or Study List due to samples that do not meet water quality criteria for bacteriological quality, the Department shall, to the extent practical, evaluate the source of bacteriological contamination and shall verify that the impairment is due to chronic sources of human-induced bacteriological pollutants before verifying the water segment is impaired. The Department shall take into account the proximity of municipal stormwater outfalls, septic tanks, domestic wastewater facilities, and other anthropogenic discharges when evaluating potential sources of bacteriological pollutants. For water segments that contain municipal stormwater outfalls, the impairment documented for the segment shall be presumed to be due, at least in part, to chronic discharges of bacteriological pollutants. The Department shall then re-evaluate the data using the methodology in subsection 62-303.320(1), F.A.C., excluding any values that have been demonstrated to be elevated solely due to non-anthropogenic sources. If information is provided to the Department indicating that the exceedances may be due to natural sources but there is uncertainty whether anthropogenic sources contributed to the exceedances, the water segment shall be placed on the Study List pursuant to paragraph 62-303.390(2)(g), F.A.C.

(3) Water segments shall be included on the Verified List if:

(a) The number of samples that exceed the applicable bacteriological water quality criteria expressed as a TPTV meets the requirements in subsection 62-303.420(6), F.A.C. Data must meet the data requirements of subsections and paragraphs 62-303.320(2), (3), (4)(e)-(4)(g), (8), and (9), F.A.C. Samples collected on different days will be assessed as individual samples and samples collected on the same day shall be averaged; or

(b) There are one or more exceedances of a bacteriological water quality criterion expressed as a monthly geometric mean during the verified period. Data must meet the requirements of subsections and paragraphs 62-303.320(2), (3), (4)(e)-(4)(g), (8), and (9), F.A.C. Samples collected on different days will be assessed as individual samples and samples collected on the same day shall be averaged. To assess the monthly data for a sampling location, there shall be at least ten samples collected within that month, with at least one sample from each full week of the month.

Blue – not a standard
Black – standard
Red – under review

(4) When assessing waters pursuant to paragraphs 62-303.460(3)(a) and (b), F.A.C., the Department shall evaluate whether the samples are representative and are not biased toward collecting samples at times either under the influence of wet weather conditions or absent the influence of wet weather conditions. Representative sampling generally reflects a consistent number of samples evenly spaced over regular intervals. Any determinations to exclude waters based on this provision shall be documented, and the documentation shall include the basis for the decision.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 9-4-07, 8-1-13, 2-17-16.

62-303.470 Fish and Shellfish Consumption Use Support.

(1) The Department shall review the fish consumption advisories and the data used by the DOH as the basis for the advisories and shall only use the advisories and data under this part if the following requirements are met:

(a) The advisory is based on the statistical evaluation of fish tissue data from at least twelve fish collected from the specific water segment or waterbody to be listed,

(b) The data are collected in accordance with DEP SOP FS6000 (General Biological Tissue Sampling) and FS 6200 (Finfish Tissue Sampling), which are incorporated by reference, the sampling entity has established Data Quality Objectives (DQOs) for the sampling, and the data meet the DQOs, and

(c) There are sufficient data or other information from within the last 7.5 years that would support the continuation of the advisory. The Department shall document any decision to list waters with advisories older than 7.5 years, including the data supporting the continuation of the advisory or information demonstrating that older data are representative of current conditions.

(2) Waters with advisories determined to meet the requirements of this section or waters where scientifically credible and compelling information meeting the requirements of Chapter 62-160, F.A.C., indicates the applicable human health-based water quality criteria are not met shall be listed on the Verified List. Any determinations to list waters based on this provision shall be documented, and the documentation shall include the basis for the decision.

(3) Class II waters shall be included on the Verified List for fecal coliform if, following review of the available data as described in subsection 62-303.460(2), F.A.C.:

(a) The number of samples above 43 counts per 100 ml meet the requirement in subsection 62-303.420(6), F.A.C. Data must meet the data requirements of subsections and paragraphs 62-303.320(2), (3), (4)(e)-(4) (g), (8), and (9), F.A.C. Samples collected on different days will be assessed as individual samples; or

(b) The water segment includes a sampling location that has a median fecal coliform MPN or MF value that exceeds 14 counts per 100 ml for the verified period. To calculate a median value for a sampling location, there shall be at least 20 samples collected during the verified period.

(4) Waters that qualify for placement on the Planning List based on shellfish harvesting classification information shall be verified as impaired for fecal coliforms.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 9-4-07, 8-1-13, 2-17-16.

62-303.480 Drinking Water Use Support and Protection of Human Health.

If the water segment was listed on the Planning List due to exceedances of a human health-based water quality criterion, the Department shall re-evaluate the data using the methodology in subsections 62-303.380(1) and (3), F.A.C., and limit the analysis to data collected within 7.5 years of the time the water segment is proposed for listing on the Verified List. Data older than 7.5 years shall be used if it is demonstrated to be representative of current conditions. Any determinations to use older data shall be documented by the Department, and the documentation shall provide the basis for the decision that the data are representative of current conditions. For this analysis, the Department shall exclude any data meeting the requirements of subsection 62-303.420(5), F.A.C. The following water segments shall be listed on the Verified List:

(1) For human health-based criteria expressed as maximums, water segments that meet the requirements in subsection 62-303.420(7), F.A.C., or

(2) For human health-based criteria expressed as annual averages, water segments that have an annual average that exceeds the applicable criterion.

Blue – not a standard
Black – standard
Red – under review

(3) For bacteriological water quality criteria, water segments shall be verified as impaired if, following review of the available data as described in subsections 62-303.460(2) and (5), F.A.C.:

(a) The number of months that do not meet the applicable bacteriological water quality criteria expressed as a TPTV meet the requirements in subsection 62-303.420(6), F.A.C. Data must meet the data requirements of subsections 62-303.320(2), (3), (4)(e)-(4)(g), and (8), F.A.C. Samples collected on different days will be assessed as individual samples and samples collected on the same day shall be averaged; or

(b) There are one or more exceedances of a bacteriological water quality criterion expressed as a monthly geometric mean during the verified period. To assess the monthly data for a sampling location there shall be at least five samples collected within that month, with at least one sample from each full week of the month.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 9-4-07, 8-1-13, 2-17-16.

PART V

MISCELLANEOUS PROVISIONS

62-303.500 Prioritization for TMDL Development.

(1) When establishing the TMDL development schedule for water segments on the Verified List of impaired waters, the Department shall prioritize impaired water segments according to the severity of the impairment and the designated uses of the segment, taking into account the most serious water quality problems; most valuable and threatened resources; and risk to human health and aquatic life. Impaired waters shall be prioritized as high, medium, or low priority.

(2) The following waters shall be designated high priority:

(a) Water segments where the impairment poses a threat to potable water supplies or to human health.

(b) Water segments where the impairment is due to a pollutant regulated by the CWA and the pollutant has contributed to the decline or extirpation of a federally listed threatened or endangered species, as indicated in the Federal Register listing the species.

(3) The following waters shall be designated low priority:

(a) Man-made canals, urban drainage ditches, and other artificial water segments unless the impairment poses a threat to potable water supplies or to human health.

(b) Water segments that are not designated as high priority, and the Department has concluded that local stakeholders are diligently working on a demonstration per subsection 62-303.600(1) and (2), F.A.C., by the next listing cycle for the basin.

(4) All segments not designated high or low priority shall be medium priority and shall be prioritized based on the following factors:

(a) The presence of Outstanding Florida Waters.

(b) The presence of water segments that fail to meet more than one designated use.

(c) The presence of water segments that exceed more than one applicable water quality criteria.

(d) Administrative needs of the TMDL program, including meeting a TMDL development schedule agreed to with EPA, focusing TMDL development where it is the most effective approach to restoration, and basin priorities related to following the Department's watershed management approach.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 8-1-13, 2-17-16.

62-303.600 Evaluation of Pollution Control Mechanisms.

(1) Upon determining that a waterbody is impaired or determining there is an increasing trend in nutrients with a reasonable expectation that the waterbody will become impaired within 5 years, the Department shall evaluate whether existing or proposed technology-based effluent limitations and other pollution control programs under local, state, or federal authority are sufficient to result in the attainment of applicable water quality standards.

(2) If, after evaluation of the pollution control mechanisms set forth in subsection (1), the water segment is expected to attain water quality standards in the future and is expected to make reasonable progress towards attainment of water quality standards by the time the next 303(d) list for the basin is scheduled to be submitted to EPA, the segment shall not be listed on the Verified List. The Department's decision shall be based on a plan that provides reasonable assurance that any proposed pollution control mechanisms and expected improvements in water quality in the water segment will attain applicable water quality standards.

Blue – not a standard
Black – standard
Red – under review

(3) For water segments with planned or on-going restoration activities that will address the non-attainment of water quality standards, stakeholders may submit information to the Department demonstrating pollutant reduction mechanisms to address the non-attainment.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Repromulgated 1-2-07, Amended 2-17-16.

62-303.700 Listing Cycle.

The Department shall, to the extent practical, develop basin-specific Verified Lists of impaired waters as part of its watershed management approach, which rotates through the State's surface water basins on a five year cycle. If the specific pollutant(s) or response variables contributing to the impairment in a particular water segment is not known at the time the Planning or Study List is prepared, information in the lists shall provide the basis for including the water segment on the applicable list. The pollutant and concentration(s) causing the impairment shall be identified before the water segment is included on the Verified List to be adopted by Secretarial Order. During the listing cycle, interested parties shall be provided the opportunity to work with the Department to collect and evaluate additional water quality data and provide comments to the Department on the basin-specific lists. At any time during the listing cycle, interested parties may develop proposed water pollution control mechanisms that may affect the final Verified List adopted by the Secretary. To ensure that data or information will be considered in the preliminary basin assessment, it must be submitted to the Department or entered into FLASTORET, or its successors, or, if applicable, the DOH database no later than 60 days after the end of the verified period during the year of the assessment.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 2-17-16.

62-303.710 Format of Verified List and Verified List Approval.

(1) The Department shall follow the methodology established in this chapter to develop basin-specific Verified List of impaired water segments. The Verified List shall specify the pollutant or pollutants causing the impairment and the concentration of the pollutant(s) causing the impairment. If the water segment is listed based on numeric water quality criteria, then the Verified List shall provide the applicable criteria. However, if the listing is based on narrative or biological criteria, or impairment of other designated uses, and the water quality criteria are met, the list shall specify the concentration of the pollutant relative to the water quality criteria and explain why the numerical criterion is not adequate.

(2) Segments impaired for pollutants that are no longer legally allowed to be used or discharged shall not be placed on the Verified List because the TMDL will be zero for the pollutant.

(3) For waters impaired for biological health or dissolved oxygen, the Department shall identify the pollutants causing or contributing to the impairment on the Verified List. If the factor(s) causing the impairment cannot be identified, the water shall be placed on the Study List.

(4) The Verified List shall also include the priority and the schedule for TMDL development established for the water segment, as required by federal regulations.

(5) The Verified List shall be approved by order of the Secretary and the order shall also note any waters that are being removed from the Verified List.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 7-2-12, 2-17-16.

62-303.720 Delisting Procedure.

(1) Waters on Planning or Study Lists developed under this chapter that are verified to not be impaired during development of the Verified List shall be removed from the State's Planning or Study List.

(2) Waterbody segments shall be removed from the State's Verified List only after adoption of a TMDL, a Department determination that pollution control programs provide reasonable assurance that water quality standards will be attained pursuant to Rule 62-303.600 F.A.C., or upon a demonstration that the waterbody meets the waterbody quality standard that was previously established as not being met.

(a) For waters listed due to failure to meet aquatic life use support based on water quality criteria or due to threats to human health based on single sample water quality criteria, the water shall be delisted when:

1. The number of samples that do not meet an applicable water quality criterion due to pollutant discharges is less than or equal

Blue – not a standard
Black – standard
Red – under review

to the number listed in Table 4 for the given sample size, with a minimum sample size of 30. Waters shall be delisted when 10% or less of the samples do not meet the applicable criterion with a minimum of a 90% confidence level using a binomial distribution, or

2. Following implementation of pollution control activities that are expected to be sufficient to result in attainment of applicable water quality standards, evaluation of new data indicates the water no longer meets the criteria for listing established in Rule 62-303.420, F.A.C.; or

3. Following demonstration that the water was inappropriately listed due to flaws in the original analysis, evaluation of available data indicates the water does not meet the criteria for listing established in Rule 62-303.420, F.A.C.

(b) New data evaluated under subparagraph 62-303.720(2)(a)1., F.A.C., must meet the following requirements:

1. They must include samples collected during similar conditions (same seasons and general flow conditions) that the data previously used to determine impairment were collected, with no more than 50% of the samples collected in any one quarter,

2. The sample size must be a minimum of 30 samples, and

3. The data must meet the requirements of subsections 62-303.320(4), (8) and (9), F.A.C.

(c) For waters listed due to failure to meet aquatic life use support based on biological data pursuant to Rule 62-303.430, F.A.C., the waterbody shall be delisted when two temporally independent follow-up Biological Health Assessments have been conducted and the waterbody no longer qualifies for the Planning List pursuant to subsection 62-303.330(3), F.A.C. The follow-up tests must meet the following requirements:

1. For streams, the new data must be SCIs unless the SCI is not appropriate for the waterbody type, in which case the new data shall consist of the Shannon-Weaver Diversity Index.

2. The data must meet the requirements of subsections 62-303.330(1) and (2), F.A.C.

(d) For waters listed due to fish consumption advisories, the water shall be delisted following the lifting of the advisory or when data complying with paragraphs 62-303.470(1)(a) and (b), F.A.C., demonstrate that the continuation of the advisory is no longer appropriate.

(e) For waters listed due to their shellfish bed management classification, the water shall be delisted upon reclassification of the shellfish harvesting area to approved, or for conditionally approved areas, when the only source identified by SEAS for the harvesting area is wildlife.

(f) For waters listed due to bathing area closure or advisory data, the water shall be delisted if the bathing area does not meet the listing thresholds in subsection 62-303.360(1), F.A.C., for five consecutive years.

(g) For waters listed based on impacts to potable water supplies pursuant to paragraph 62-303.380(1)(b), F.A.C., the water shall be delisted when the causes resulting in higher treatment costs have been ameliorated.

(h) For waters listed based on bacteriological water quality criteria expressed as a monthly geometric mean or a median pursuant to paragraph 62-303.460(3)(b), 62-303.470(3)(b), or 62-303.480(3)(b), F.A.C., the water shall be delisted when:

1. For listings based on bacteriological water quality criteria expressed as a monthly geometric mean, the criteria applicable to those sections are met for three consecutive years and there are sufficient new data available to calculate monthly values for at least the same seasons in which the exceedances occurred;

2. For listings based on bacteriological water quality criteria expressed as a median, the criteria applicable to those sections are met for the verified period, or

3. Following a demonstration that the water was inappropriately listed due to flaws in the original analysis, including the use of a non-representative sample set.

(i) For waters listed based on single-sample bacteriological water quality criteria pursuant to paragraph 62-303.460(3)(a), 62-303.470(3)(a), or 62-303.480 (3)(a), F.A.C., the water shall be delisted upon meeting the delisting provisions in paragraph 62-303.720(2)(a), F.A.C.

(j) For waters listed based on a human health-based annual average criterion, the water shall be delisted when the annual average concentration is less than the criterion for three consecutive years.

(k) For waters listed based on nutrient impairment, the waterbody shall be delisted if:

1. It was listed based on exceedances of a nutrient threshold in subsection 62-303.450(1), F.A.C., but it does not meet the listing thresholds in subsection 62-303.450(1), F.A.C., for three consecutive years;

2. It was listed based on exceedances of a numeric nutrient criterion expressed as an annual geometric mean or annual mean,

Blue – not a standard
Black – standard
Red – under review

and the water attains the criterion for three consecutive years;[1]

3. It was listed based on other information indicating an imbalance in flora or fauna pursuant to subsection 62-303.450(2), F.A.C, and it is demonstrated to not exceed the narrative nutrient criteria at paragraph 62-302.530(47)(b), F.A.C., pursuant to the provisions of subsection 62-303.450(2), F.A.C.

4. It was listed based on exceedances of a numeric nutrient criterion expressed as a long-term average or long-term average of annual means, and the long-term average over the verified period no longer exceeds the criterion;

5. It was listed based on exceedances of a numeric nutrient criterion expressed as not to be exceeded in more than 10 percent of the measurements, and the water meets the delisting requirements of subparagraph 62-303.720(2)(a)1., F.A.C.; or

6. It was listed based on exceedance of a loading based numeric nutrient criterion and the water attains the criterion for three consecutive years; or [1]

7. It was listed based on an increasing trend in chlorophyll *a* and based on additional data and analysis the trend is no longer statistically significant or the water is no longer expected to become impaired within 5 years.

(l) For any listed water, the water shall be delisted if, following a change in approved analytical procedures, criteria, or water quality standards, evaluation of available data indicates the water no longer meets the applicable criteria for listing.

(m) For waters listed due to failure to meet aquatic life use support based on paragraph 62-303.420(7)(b), F.A.C., or due to failure to meet fish consumption use support based on subsection 62-303.470(2), F.A.C., the waterbody shall be delisted if the Department determines the waterbody is no longer impaired, based on scientifically credible and compelling information comparable in quantity and quality to the information used to make the initial listing decision. Any determinations to delist waters based on this provision shall be documented, and the documentation shall include the basis for the decision.

Table 4. Delisting

Maximum number of samples that do not meet an applicable water quality criterion allowable to DELIST with at least 90% confidence.

Sample Sizes		Maximum # of Samples not meeting a criterion allowable for delisting		Sample sizes		Maximum # of Samples not meeting a criterion allowable for delisting
From	To			From	To	
30	37	0		279	289	21
38	51	1		290	300	22
52	64	2		301	311	23
65	77	3		312	323	24
78	90	4		324	334	25
91	103	5		335	345	26
104	115	6		346	356	27
116	127	7		357	367	28
128	139	8		368	378	29
140	151	9		379	389	30
152	163	10		390	401	31
164	174	11		402	412	32
175	186	12		413	423	33
187	198	13		424	434	34
199	209	14		435	445	35
210	221	15		446	456	36
222	232	16		457	467	37
233	244	17		468	478	38
245	255	18		479	489	39

[1] These provisions are still under review and not acted on as of October 2017. The EPA will address these provisions in a separate decision document at a later date.

Blue – not a standard
Black – standard
Red – under review

256	266	19		490	500	40
267	278	20				

(n) For waters listed due to failure to meet aquatic life use support pursuant to paragraph 62-303.320(7)(b), F.A.C., the water shall be delisted when the applicable criteria are met for at least three consecutive years and there are new data available for the same seasons in which the previous exceedances occurred.

(o) For waterbodies listed on the Verified List, the water shall be delisted from the Verified List for a given parameter and added to the Study List when subsequent analysis demonstrates that the cause of the impairment was incorrect and therefore, the cause of the impairment is unknown.

(p) For waters listed based on the 30-day average DO criterion for predominantly marine waters or the 30-day average ammonia criterion, the waterbody shall be delisted when the monthly average meets the criterion for at least three consecutive years and there are new data available for the same seasons in which the criterion was previously not achieved.

(q) For waters listed based on the weekly average DO criterion for predominantly marine waters, the waterbody shall be delisted when the weekly average DO criterion is met for at least three consecutive years and there are new data available for the same seasons in which the criterion was previously not achieved.

(3) Any delisting of waters from the Verified List shall be approved by order of the Secretary at such time as the requirements of this section are met.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Amended 12-11-06, 9-4-07, 7-2-12, 8-1-13, 2-17-16.

62-303.810 Impairment of Interstate and Tribal Waters.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History–New 6-10-02, Repromulgated 1-2-07, Repealed 2-23-12.

Blue – not a standard
Black – standard

ATTACHMENT A

The EPA concluded that the following bold text from the March 2013 Implementation Document constitutes new or revised WQS:

"The Hierarchical Approach" Section

RPS Decision Key

1. **Were environmental conditions associated with the RPS samples representative of the typical conditions of the system? (*e.g.*, flow between 10th and 90th percentile of long term discharge, light penetration characteristic of system, sampling location representative of waterbody segment, etc).**
   1a. Yes, proceed to couplet 2.
   1b. No. Collect additional RPS samples at representative locations and during representative conditions, and return to couplet 1.

2. **Results of two temporally independent RPS samplings show that RPS rank 4-6 is 25% or less?**
   2a. Yes. Evidence that the waterbody *achieves the algal mat component of floral measures* (other components must still be evaluated). If RPS rank 4-6 results are between 20% to 25%, then algal species composition will also be evaluated (see algal species composition decision key).
   2b. No, evidence that the *nutrient standard at 62-302.531(2)(c) is not achieved*.

Algal Species Composition Decision Key

1. **Were environmental conditions associated with the RPS samples and algal taxonomic collections representative of the typical conditions of the system? (*e.g.*, flow between 10th and 90th percentile of long term discharge, light penetration characteristic of system, sampling location representative of waterbody segment, etc.).**
   1a. No. Collect additional RPS samples and algal taxonomic composition samples at representative locations and during representative conditions, and return to couplet 1.
   1b. If Yes, see couplet 2.

2. **Results of two temporally independent RPS samplings show that RPS rank 4-6 is 20% or less?**
   2a. Yes. Evidence that the waterbody *achieves the algal species composition component of floral measures* (other components must still be evaluated).
   2b. If No, see couplet 3.

Blue – not a standard
Black – standard

3. **Do dominant taxa[1] of algal community include taxa known to be nutrient enrichment indicators? (see list above and references in Appendix).**
   3 a. Yes. Evidence that the *nutrient standard at Rule 62-302.531(2)(c) is not achieved.*
   3b. No. This is evidence that the waterbody *achieves the algal species composition component of floral measures* (other components must still be evaluated).

The Department will evaluate those dominant species that individually constitute approximately 10% or more of the community.

Where the RPS 4-6 coverage is greater than 20%, an evaluation of the algal species composition (identifying the five most dominant taxa) is also conducted to provide additional information whether there is no imbalance of flora.

Changes in algal species composition (through an analysis of autecological information) are also evaluated using the latest scientific references for algal species. The Department maintains a list of the scientific references used in this evaluation.

For example, nutrient enriched Florida springs are typically characterized by an abundance of one or more of the following taxa: *Lyngbya wollei, Oscillatoria* sp., *Aphanothece* sp., *Phormidium* sp., *Vaucheria* sp., *Spirogyra* sp., *Cladophora sp., Rhizoclonium* sp., *Dichotomosiphon* sp., *Hydrodiction* sp., *Enteromorpha* sp., and *Chaetomorpha* sp. Other algal indicators of nutrient enrichment from the literature include: *Anabaena* sp., *Euglena* sp., *Chlamydomonas* sp., *Scenedesmus* sp., *Chlorella* sp., *Rhopalodia* spp., *Gomphonema* spp., *Cosmarium* sp., *Nitzschia* spp., *Navicula* spp., *and Stigeoclonium* sp. Dominance of such taxa at a stream where the RPS rank 4-6 >20% would be evidence that the NNC is not achieved.

As another example of this approach, the Everglades TP criterion was largely based on observed shifts in the dominant algal taxa from those characteristic of reference conditions (*e.g., Scytonema* sp., *Schizothrix* sp.) to taxa indicative of nutrient enriched conditions (*e.g., Gomphonema parvulum, Navicula minima, Nitzschia amphibia, Nitzschia palea, Oscillatoria* sp., *Rhopalodia gibba, Scenedesmus* sp., *Anabaena* sp., *Cosmarium* sp., and *Lyngbya wollei).*

LVS Decision Key

1. **Were environmental conditions associated with the LVS samples representative of the typical conditions of the system (*e.g.*, flow between 10th and 90th percentile of long term discharge, light penetration characteristic of system, sampling location representative of waterbody segment, etc.).**
   1a. No. Collect additional LVS samples at representative locations and during representative conditions, and return to couplet 1.
   1b. Yes, proceed to couplet 2.

2. **Given that invasive exotic species can occur even in the absence of nutrient impacts**

Blue – not a standard
Black – standard

and that aquatic plant management practices can also affect LVS results, is there evidence the LVS results can be linked to anthropogenic nutrient inputs?
2a. Yes, proceed to couplet 3.
2b. No. The LVS results are inconclusive and other lines of floral evidence should be used.

3. **Results of two temporally independent LVS samplings show that C of C score is ≥ 2.5 and the frequency of occurrence of FLEPPC exotic taxa is ≤ 25%?**
3a. Yes. Evidence that the waterbody *achieves the nuisance macrophyte growth component of floral measures* (other components must still be evaluated).
3b. No. Evidence that the *nutrient standard at 62-302.531(2)(c) is not achieved*.

If there is <2 m^2 of vascular plant coverage present in a 100 m stream reach, there are no floral imbalances attributable to aquatic plants.

Chlorophyll/Algal Bloom Decision Key

1. **Were environmental conditions associated with the chlorophyll samples representative of typical conditions for the system? (*e.g.*, flow between 10th and 90th percentile of long term discharge, light penetration characteristic of system, sampling location representative of waterbody segment, etc.).**
1a. No. Collect additional chlorophyll samples at representative locations and during representative conditions, and return to couplet 1.
1b. If Yes, see couplet 2.

2. **Annual geometric mean chlorophyll ≤ 3.2 ug/L?**
2a. Yes. Evidence that the waterbody *achieves the chlorophyll a/algal bloom component of floral measures* (other components must still be evaluated).
2b. If No, see couplet 3.

3. **Annual geometric mean chlorophyll ≥20 ug/L more than once in a three year period?**
3a. Yes. The *narrative nutrient standard at 62-302.531(2)(c) is not achieved*.
3b. No, annual geometric mean chlorophyll is between 3.2 and 20 ug/L, see couplet 4.

4. **After considering site specific factors that affect chlorophyll concentrations, such as system morphology, water residence time, or consistency with other functionally similar reference sites, can it be documented that the chlorophyll *a* values represent a healthy well balanced phytoplankton community?**
4a. Yes. Evidence that the waterbody *achieves the chlorophyll a/algal bloom component of floral measures.*
4b. No. Evidence that the *nutrient standard at 62-302.531(2)(c) is not achieved.*
4c. Inconclusive because of insufficient contemporaneous data from other functionally similar reference sites. Waterbody will be placed on the Study List if either of the TN or TP thresholds were exceeded.

Blue – not a standard
Black – standard

If all floral measures are achieved, a stream meets the floral component of a healthy, well balanced aquatic system, because it is within the minimally disturbed Benchmark stream condition. However, if any one [of] these floral measures indicates an imbalance, then the stream does not attain the NNC.

"Basic Information Needs for Distinguishing Flowing Waters under 62-302.200(36)" Section

In implementing water quality standards and evaluating whether a particular waterbody meets the provisions of 62-302.200(36)(a) or (b) F.A.C., the Department will provide public notice and request information relevant to the application of water quality standards, including the purpose of the waterbody such as flood protection, stormwater management, irrigation, water supply, navigation, boat access to an adjacent waterbody, or frequent recreational use relevant to 62-302.200(36)(b)1. F.A.C. The Department will consider all relevant information in implementing water quality standards and maintain the administrative records of such decisions, which are available to the public.

"General Information" Section

Until a Class I or III stream segment is identified as meeting the provisions in Rule 62-302.200(36)(a) or (b), F.A.C., the criteria in Rule 62-302.531(2)(c), F.A.C., will apply. Interested parties wishing to distinguish the characteristics of a waterbody with respect to provisions in Rule 62-302.200(36), F.A.C., may provide the Department with the applicable information set forth in the stream definition.

A clear delineation of the geographic boundaries of the segment in question is necessary so that the Department knows exactly where applicable criteria apply.

For waters that meet the definition of 62-302.200(36)(a) or (b) F.A.C., the Department shall follow the Impaired Waters Rule at 62-303 F.A.C.

"Non-Perennial Water Segments" Section

To identify whether a segment is a non-perennial water segment, the biological information identified below will be evaluated by the Department. Other methods that provide this demonstration with similar accuracy will be accepted by the Department if they are a means to predicting the resulting biological conditions discussed below.

[T]he presence of certain facultative or facultative-wetland herbaceous species within the stream bed can be a valid indication that the stream is non-perennial, as these taxa may require moist or saturated conditions to germinate and grow, but would not tolerate the inundation of a perennially flowing stream. Examples of these taxa include, grasses such as *Chasmanthium latifolium* and *Tripsacum dactyloides*, sedges such as *Cyperus esculentus* and *Cyperus retrorsus*, forbs such as *Cuphea cartagenensis*, *Bidens pilosa*, and *Sphagneticola trilobata*, and ferns such as

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***Woodwardia virginica* and *Thelypteris* spp. (see complete lists of obligate wetland, facultative wetland and facultative taxa in Chapter 62-340, F.A.C.).** *[The lists of obligate wetland, facultative wetland and facultative taxa in Chapter 62-340 are considered new or revised WQS in their entirety although they are not repeated here].* **During a habitat assessment or Linear Vegetation Survey conducted during a site visit, the presence of facultative and facultative wetland herbaceous vascular plant taxa in the channel bed would be an indicator that the system is non-perennial.**

The Department has compiled lists of taxa to assist with distinguishing perennial from non-perennial streams/wetland systems (Tables 8 and 9). *[Tables 8 and 9 are considered new or revised WQS in their entirety although they are not repeated here].*

The presence of long-lived aquatic species (benthic macroinvertebrates that require water for their entire life cycle) is another reliable method to determine if a stream is more characterized by perennial flow or wetland/terrestrial conditions. A list of long-lived taxa is included in DEP SOP SCI 2100. *[The list of long-lived taxa included in DEP SOP SCI 2100 are considered new or revised WQS in their entirety although they are not repeated here].* **For purposes of establishing segments that are excluded from the stream definition, the Department shall evaluate the taxa that occur in the segment, as well as the vascular plant information described above.**

"Tidally Influenced Segments" Section

Tidally influenced segments are those that fluctuate (daily, weekly, or seasonally) between predominantly marine and predominantly fresh waters during typical climactic and hydrologic conditions.

Typical hydrologic conditions exclude periods of high rainfall or drought that would create flow conditions well outside of average annual flow conditions.

"Water Management Conveyances" Section (only the bolded text below is considered to be new or revised)

The following information will be used in identifying segments meeting the requirements in Rule 62-302.200(36)(b):

Delineation
Only those sections that meet the requirements in Rule 62-302.200(36)(b), F.A.C., are eligible to retain the narrative nutrient criteria. **A map of the applicable areas for review must clearly delineate the upstream and downstream extent of the artificial conveyance.**

Primary Water Management Purpose
Information must show that the current purpose of the man-made or physically altered conveyance is primarily water management such as flood protection, stormwater management, irrigation, or water supply. Relevant documentation can

include photographic evidence, funding authorizations, operational protocols, local agreements, permits, memoranda of understanding, contracts, or other records that indicate how the conveyance is operated and maintained, and must verify that the design or maintenance of the conveyance allows the conveyance to currently function in a manner consistent with the primary water management purpose. The phrase "primarily used for water management purposes" in Rule 62-302.200(36)(b)1., F.A.C., does not include use for navigation or boat access to an adjacent waterbody, or frequent recreational activities. The purpose of the design of the conveyance in conjunction with the purpose of any subsequent alterations or maintenance is evaluated to help differentiate whether its primary function is navigation, boat access to adjacent waterbodies, or frequent recreational activities; versus flood protection, stormwater management, irrigation, or water supply. If available information provided by the public, in response to public notice and request for information, or otherwise known by the Department, demonstrates that the segment is commonly used for navigation, boat access, or other frequent recreational activities such as swimming or boating, then the primary purpose is not water management and the department will apply the nutrient standards in Rule 62-302.531(2) F.A.C. Freshwater finger canals dug during the construction of neighborhoods designed to create homes with boat access to waterbodies are an example of a navigation or access as a primary purpose.

Physical Alteration that Limits Habitat

The definition at Rule 62-302.200(36)(b)2., F.A.C., outlines that the conveyance must have marginal or poor stream habitat or habitat components that limit biological function because the conveyance has cross sections that are predominantly trapezoidal, has armored banks, or is maintained primarily for water conveyance. Photographic evidence of these limitations can demonstrate the habitat condition of the conveyance. Also, **Standard Operating Procedures for conducting stream Habitat Assessments have been adopted by the Department in DEP SOP FT 3000. In order to qualify under Rule 62-302.200(36)(b)2., F.A.C., the overall Habitat Assessment score must score either marginal or poor.**

The Habitat Assessment procedures include long-established criteria that can be used to demonstrate physical alterations in a system, and can provide information verifying that ongoing maintenance activities are associated with perpetuating those physical alterations. The lack of substrate and degree of artificial channelization are part of the definition and components of the Habitat Assessment scoring system, and a Habitat Assessment score must be completed by an individual with demonstrated proficiency (as per DEP SOP 3000) to indicate that the definition related to the segment's modification is met. **If there are different segments within the conveyance that exhibit different features, a Habitat Assessment is needed for each segment.** The Department will conduct a Habitat Assessment if one was not previously conducted.

To ensure adequate water volume delivery, routine maintenance activities associated with conveyances used for water management purposes often involve removal of aquatic substrate (*e.g.*, woody debris, aquatic and wetland vegetation), dredging of sediments,

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and/or removal of riparian trees. **If the Substrate Diversity and Availability and Artificial Channelization metrics in the Habitat Assessment score in the Poor category, then one can conclude that the conveyance is predominantly altered and is being maintained in a manner to serve the primary purpose for water management.** The overall habitat assessment may not rank as Poor due to other factors, but a primary factor being considered in the definition is the alteration and the maintenance of the conveyance. **If the Substrate Diversity and Availability or Artificial Channelization scores are currently in the marginal range due to lack of maintenance of the conveyance at the time the assessment was completed, the Department will evaluate whether there is a maintenance program with a schedule to demonstrate that the conveyance is still being maintained for its primary water management purpose. If the overall Habitat Assessment score is other than poor or marginal, the conveyances would not meet the definition.**

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ATTACHMENT B

The following provisions of the Process for Reclassifying the Designated Uses of Florida Surface Waters, FDEP, June 2010, DEP-SAS-001/10 document were determined to be new or revised water quality standards.

Page iv:

Attainable use: The present and future most beneficial use that can reasonably be attained in a waterbody. In this document, the attainable use is determined by conducting the reclassification process described in this document, which evaluates whether the use is established and whether protective criteria can practicably be met. "Attainable uses" are, at a minimum, the uses (based on the State's system of water use classifications) that can be achieved (1) when effluent limits under sections 301(b)(l)A) and (B) and section 306 of the Federal Clean Water Act are imposed on point source dischargers and (2) when cost-effective and reasonable best management practices are imposed on nonpoint source dischargers.

Highest attainable use: Used synonymously with the term "attainable use." EPA's "Vision for the Water Quality Standards Programs," states that *"[e]ach waterbody in the United States will have a clear, appropriately comprehensive suite of standards that defines its highest attainable uses and the water quality required to support the uses."*

Natural Surface Waters: Waterbodies that, in their undisturbed state, originally were all or part of the Atlantic Ocean, Gulf of Mexico; a bay, bayou, sound, estuary, or lagoon, including natural channels and natural tributary thereto; a river, stream, or natural tributary thereto; a natural lake; and any natural wetland connected to any of the above waters.

Page 1:
If a use has been changed, DEP must review that use change every three years during the Triennial Review of State water quality standards (Triennial Review) to ensure that the waterbody cannot attain a Class III default use.

Page 3:
For example, drinking water consumption would be considered a use if proper permits (both consumptive use permits and permits for public drinking water systems) have been issued for community consumption and water quality is sufficient for the use, but would not be considered a use in the case of incidental use by individuals consuming the water without treatment.

Page 7:
The petition shall describe the geographic boundaries of the portion of the waterbody to be reclassified, and take into account any permitting requirements for existing permitted entities upstream. For addition of a drinking water use, the boundaries shall include the upstream extent necessary to protect the drinking water supply. For addition of shellfishing use, the boundaries are typically the area of shellfishing use.

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For a waterbody to be considered for reclassification as a drinking water source (Class I), the petitioner must show that the water quality meets the Class I criteria in Rule 62-302.530, F.A.C., or can meet them after conventional treatment.

Page 19:
To downgrade a use to Class III-Limited for recreation, the petitioner must show that full body contact recreation is precluded due to sufficiently shallow water or some other condition, and also must provide information showing that human recreational use is limited. The EPA Water Quality Handbook allows for physical factors, such as depth, to be considered for reclassification purposes, as long as additional use related information is also considered. Naturally ephemeral or intermittent flows would generally not provide sufficient depths or persistence of water for primary contact use recreation. If a waterbody is less than 0.5 meter deep on average during normal flows and less than 1 meter deep in pools, it is not likely that full contact recreation (*i.e.*, swimming) is possible. The general unavailability of water, coupled with the physical limitations to exposure of mucus membranes in such waters, is strong evidence that full body contact is neither existing nor attainable.

The petitioner must also propose defensible site specific bacteria criteria to protect incidental contact with the water. However, EPA does not currently support revisions of the fecal coliform criteria, and any SSAC for limited recreational use must be based on *E. coli* or *Enterococci*.

Page 21:
If water quality of an aquatic system has not been sufficient from November 28, 1975 to the present to support as diverse an aquatic community as associated with its designated use, it is likely that the water quality in the waterbody still supports or has supported some other, presumably less diverse community of organisms, and this community should be protected by any new designated use.

Page 29:
Whether a waterbody is publicly or privately owned, responsible entities can be point or nonpoint sources. Attainment of water quality standards is not limited to controls placed on point sources. Water quality standards apply to nonpoint sources despite the fact that there may be no direct implementation mechanisms for some nonpoint sources, except for nonpoint sources addressed in Basin Management Plans associated with TMDLs. Although pollution control approaches used by nonpoint sources may differ substantially from approaches typically employed by point sources, analysis of the ensuing economic impacts still depends on whether the entity providing the pollution is privately or publicly owned.

Page 31:
All sources of impairment to a waterbody must be addressed in the UAA. However, the emphasis on each source of impairment might differ, depending on the amount of impairment contributed by each source. If a single cause of impairment completely overshadows the effects of smaller sources, and modeling indicates that remediating the smaller sources of impairment would not result in a measurable increase in water quality, then the petitioner does not need to consider the costs to remediate for the smaller source for purposes of the economic analysis.

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As stated earlier, the time period for determining economic impacts influences the outcome of the analysis. DEP recommends that, in general, a longer time frame of 10-15 years be used in the analysis to allow for technological advances and/or increasing economic growth in the local area to be considered when calculating future attainability, unless the petitioner can justify the use of a shorter time period.

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ATTACHMENT C

In addition to the regulations contained in 62-302 and the provisions which were determined to be new or revised water quality standards in Attachment A, the following excerpts are from the SCI Primer, a document incorporated by reference into the State rule that relates to the floral metrics for streams. The bold text represents the portions of the text that EPA reviewed and approved as new or revised water quality standards on November 30, 2012.

Nuisance macrophyte growth (From SCI Primer Section 2.7.4 (page 23))

[I]f a stream exhibits a C of C score of >2.5 and a frequency of occurrence of FLEPCC exotics is <25% of the total plant occurrences, this would be considered an indication of no imbalance of flora.

Presence of algal mats (From SCI Primer Section 2.7.3 (page 22))

[I]f a stream exhibits RPS rank 4-6 percent coverage between the mean percent observed at these minimally disturbed and healthy sites (6-8%) and the associated 90th percentile values **(25**-32**%), this would be considered an indication of no imbalance of flora.**

Changes in algal species composition (From SCI Primer Section 2.7.3 (page 22))

[I]f the percentage of sampled points with a thickness rank of 4-6 is 20% or greater, the biologist collects a composite sample of the dominant groups of periphyton in the stream segment for lab identification of the dominant algal taxa. If autecological information is available for the dominant taxa, this is also qualitatively evaluated.

Algal blooms and Chlorophyll a levels (From SCI Primer Section 2.7.5 (page 24))

An unacceptable phytoplankton bloom would consist of a situation where an algal species, whose noxious characteristics or presence in sufficient number, biomass, or areal extent may reasonably be expected to prevent, or unreasonably interfere with, the designated use of the waterbody.

DEP evaluates the autecological information for the dominant bloom species, in conjunction with the associated chlorophyll a and the persistence of the bloom, as a line of evidence when assessing imbalances of flora.

If a stream exhibits annual geometric mean chlorophyll concentrations between the mean observed at these minimally disturbed and healthy sites (2.0-2.1µg/L) and the associated 90th percentile values **(3.2**-3.5**µg/L), this would be considered a clear indication of no imbalance of flora.**

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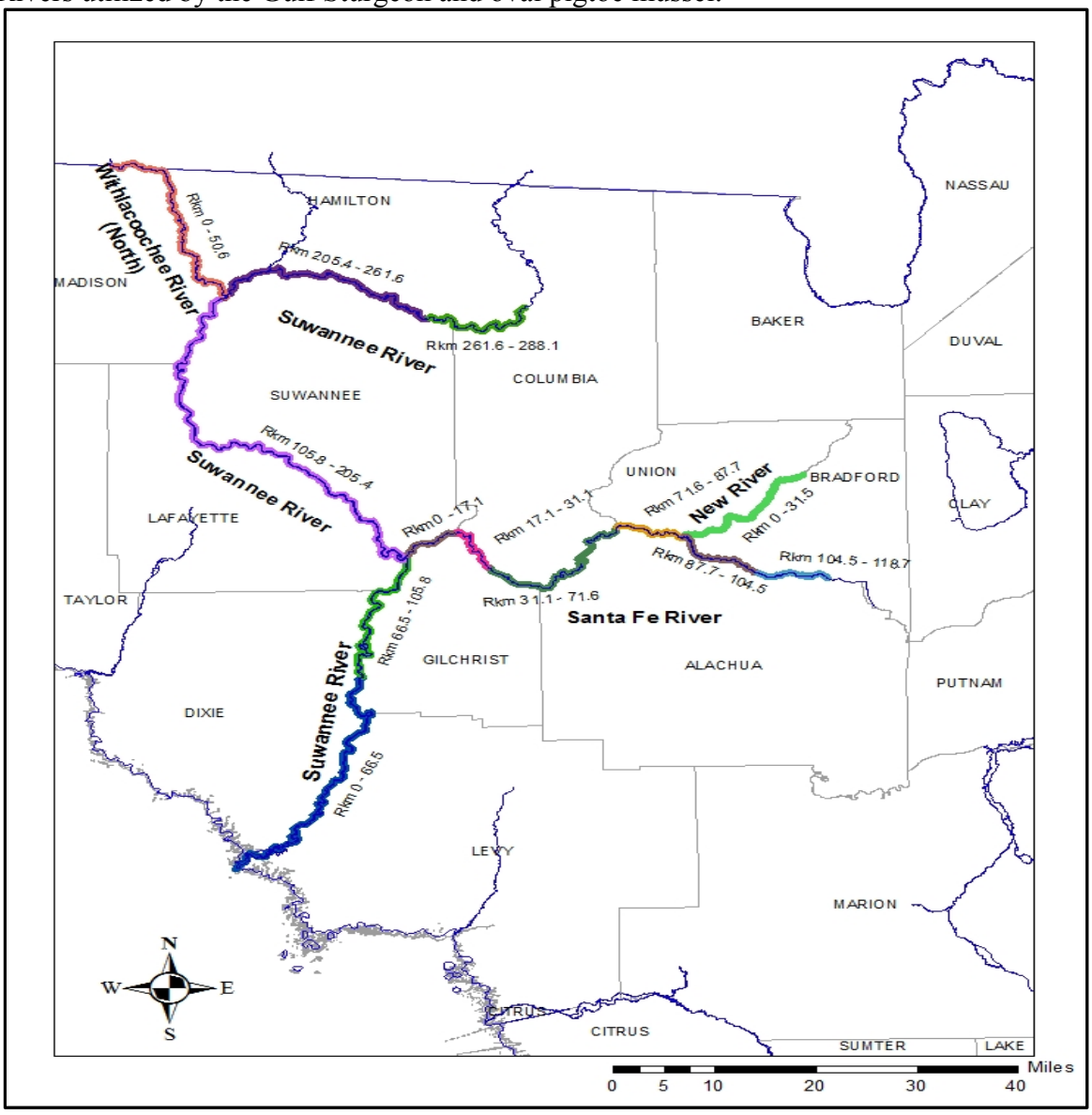
ATTACHMENT D

Information Related to Location of Endangered Species to Which Alternative DO criteria from the Regional Criteria Apply and Determining Whether DO Values Have Decreased Below the Baseline Distribution

The map below shows the portion of the Suwannee, Santa Fe, New, and Withlacoochee North Rivers utilized by the Gulf Sturgeon and oval pigtoe mussel.



To evaluate whether DO values have decreased below the baseline distribution, it is recommended that a) no more than 10 percent of the DO measurements be below the 10th percentile of the existing data distribution for that river segment, b) no more than 50 percent of the measured values to be below the median of the existing data distribution for that river

segment. The 10th percentiles and median DO values for each of the affected river segments are provided in **Table 3**.

When assessing these waters in the future, compliance with both the 10th percentile and median DO values will be evaluated using a binomial hypothesis test at the 80 percent and 90 percent confidence levels necessary to place a water segment on the Planning List and Verified Lists, respectively, for TMDL development. The use of the binomial hypothesis test is consistent with the assessment for other water quality parameters conducted under Chapter 62-303, F.A.C. The number of exceedances required to have 80 percent and 90 percent confidence that more than 10 percent of the measurements are below the applicable 10th percentile value are provided in Chapter 62-303, F.A.C., Tables 1 and 3, respectively. The number exceedances required to have 80 percent and 90 percent confidence that more than 50 percent of the measurements are below the applicable median value for sample sizes up to 419 are provided in **Table 4**.

Species	River System	River km	10th Percentile	Median
Oval Pigtoe Mussel	New River	0 - 31.5	52.5	67.7
Gulf Sturgeon	Santa Fe River	0 - 17.1	50.9	66.0
Gulf Sturgeon	Santa Fe River	17.1 - 31.1	47.6	74.0
Gulf Sturgeon	Santa Fe River	31.1 - 71.6	30.7	53.6
Oval Pigtoe Mussel	Santa Fe River	71.6 - 87.7	59.5	73.0
Oval Pigtoe Mussel	Santa Fe River	87.7 - 104.5	46.1	69.2
Oval Pigtoe Mussel	Santa Fe River	104.5 - 118.7	37.1	69.3
Gulf Sturgeon	Suwannee River	0 - 66.5	58.9	76.7
Gulf Sturgeon	Suwannee River	66.5 - 105.8	60.2	74.6
Gulf Sturgeon	Suwannee River	105.8 - 205.4	53.3	69.0
Gulf Sturgeon	Suwannee River	205.4 - 261.6	41.1	66.4
Gulf Sturgeon	Suwannee River	261.6 - 288.1	65.5	78.2
Gulf Sturgeon	Withlacoochee River	0 - 50.6	54.9	68.2

Table 3. Baseline DO conditions for portions of the Suwannee, Santa Fe, New, and Withlacoochee Rivers utilized by the Gulf Sturgeon and Oval Pigtoe Mussel. The 10th percentile and median percent DO saturation values were determined from data collected from 1991 through 2011.

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Table 4. Minimum number of samples not meeting applicable median criterion needed to put a water on the planning list with 80% confidence and on verified list with 90% confidence that more than 50% of measurements are below median.

Number of Samples	*Number of exceedances required for 80% confidence that more than 50% of measurements are below median*	*Number of exceedances required for 90% confidence that more than 50% of measurements are below median*	*Number of Samples*	*Number of exceedances required for 80% confidence that more than 50% of measurements are below median*	*Number of exceedances required for 90% confidence that more than 50% of measurements are below median*
10	7	8	76	43	45
11	8	9	77	43	45
12	8	9	78	44	46
13	9	10	79	44	46
14	10	10	80	45	47
15	10	11	81	45	47
16	11	12	82	46	48
17	11	12	83	46	48
18	12	13	84	47	49
19	12	13	85	47	49
20	13	14	86	48	50
21	13	14	87	48	50
22	14	15	88	49	51
23	15	16	89	49	52
24	15	16	90	50	52
25	16	17	91	51	53
26	16	17	92	51	53
27	17	18	93	52	54
28	17	18	94	52	54
29	18	19	95	53	55
30	18	20	96	53	55
31	19	20	97	54	56
32	19	21	98	54	56
33	20	21	99	55	57
34	20	22	100	55	57
35	21	22	101	56	58
36	22	23	102	56	58
37	22	23	103	57	59
38	23	24	104	57	60
39	23	24	105	58	60
40	24	25	106	58	61
41	24	26	107	59	61
42	25	26	108	59	62
43	25	27	109	60	62
44	26	27	110	60	63
45	26	28	111	61	63
46	27	28	112	61	64
47	27	29	113	62	64
48	28	29	114	62	65
49	28	30	115	63	65
50	29	31	116	64	66
51	30	31	117	64	66
52	30	32	118	65	67
53	31	32	119	65	67
54	31	33	120	66	68
55	32	33	121	66	69
56	32	34	122	67	69
57	33	34	123	67	70
58	33	35	124	68	70
59	34	35	125	68	71
60	34	36	126	69	71
61	35	37	127	69	72
62	35	37	128	70	72
63	36	38	129	70	73
64	36	38	130	71	73
65	37	39	131	71	74
66	37	39	132	72	74
67	38	40	133	72	75
68	38	40	134	73	75
69	39	41	135	73	76
70	40	41	136	74	76
71	40	42	137	74	77
72	41	42	138	75	78
73	41	43	139	75	78
74	42	44	140	76	79
75	42	44	141	76	79

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Table 4. Continued.

Number of Samples	Number of exceedances required for 80% confidence that more than 50% of measurements are below median	Number of exceedances required for 90% confidence that more than 50% of measurements are below median	Number of Samples	Number of exceedances required for 80% confidence that more than 50% of measurements are below median	Number of exceedances required for 90% confidence that more than 50% of measurements are below median
142	77	80	211	113	116
143	78	80	212	113	116
144	78	81	213	114	117
145	79	81	214	114	117
146	79	82	215	115	118
147	80	82	216	115	118
148	80	83	217	116	119
149	81	83	218	116	119
150	81	84	219	117	120
151	82	84	220	117	121
152	82	85	221	118	121
153	83	85	222	118	122
154	83	86	223	119	122
155	84	86	224	119	123
156	84	87	225	120	123
157	85	88	226	120	124
158	85	88	227	121	124
159	86	89	228	121	125
160	86	89	229	122	125
161	87	90	230	122	126
162	87	90	231	123	126
163	88	91	232	123	127
164	88	91	233	124	127
165	89	92	234	124	128
166	89	92	235	125	128
167	90	93	236	125	129
168	90	93	237	126	129
169	91	94	238	126	130
170	91	94	239	127	130
171	92	95	240	128	131
172	93	95	241	128	131
173	93	96	242	129	132
174	94	96	243	129	132
175	94	97	244	130	133
176	95	97	245	130	134
177	95	98	246	131	134
178	96	99	247	131	135
179	96	99	248	132	135
180	97	100	249	132	136
181	97	100	250	133	136
182	98	101	251	133	137
183	98	101	252	134	137
184	99	102	253	134	138
185	99	102	254	135	138
186	100	103	255	135	139
187	100	103	256	136	139
188	101	104	257	136	140
189	101	104	258	137	140
190	102	105	259	137	141
191	102	105	260	138	141
192	103	106	261	138	142
193	103	106	262	139	142
194	104	107	263	139	143
195	104	107	264	140	143
196	105	108	265	140	144
197	105	108	266	141	144
198	106	109	267	141	145
199	106	110	268	142	145
200	107	110	269	142	146
201	107	111	270	143	147
202	108	111	271	143	147
203	108	112	272	144	148
204	109	112	273	144	148
205	110	113	274	145	149
206	110	113	275	145	149
207	111	114	276	146	150
208	111	114	277	147	150
209	112	115	278	147	151
210	112	115	279	148	151

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Table 4. Continued.

Number of Samples	Number of exceedances required for 80% confidence that more than 50% of measurements are below median	Number of exceedances required for 90% confidence that more than 50% of measurements are below median	Number of Samples	Number of exceedances required for 80% confidence that more than 50% of measurements are below median	Number of exceedances required for 90% confidence that more than 50% of measurements are below median
280	148	152	350	184	188
281	149	152	351	184	189
282	149	153	352	185	189
283	150	153	353	185	190
284	150	154	354	186	190
285	151	154	355	186	191
286	151	155	356	187	191
287	152	155	357	187	192
288	152	156	358	188	192
289	153	156	359	188	193
290	153	157	360	189	193
291	154	157	361	189	194
292	154	158	362	190	194
293	155	158	363	191	195
294	155	159	364	191	195
295	156	160	365	192	196
296	156	160	366	192	196
297	157	161	367	193	197
298	157	161	368	193	197
299	158	162	369	194	198
300	158	162	370	194	198
301	159	163	371	195	199
302	159	163	372	195	199
303	160	164	373	196	200
304	160	164	374	196	200
305	161	165	375	197	201
306	161	165	376	197	201
307	162	166	377	198	202
308	162	166	378	198	202
309	163	167	379	199	203
310	163	167	380	199	203
311	164	168	381	200	204
312	164	168	382	200	205
313	165	169	383	201	205
314	165	169	384	201	206
315	166	170	385	202	206
316	166	170	386	202	207
317	167	171	387	203	207
318	168	171	388	203	208
319	168	172	389	204	208
320	169	172	390	204	209
321	169	173	391	205	209
322	170	173	392	205	210
323	170	174	393	206	210
324	171	175	394	206	211
325	171	175	395	207	211
326	172	176	396	207	212
327	172	176	397	208	212
328	173	177	398	208	213
329	173	177	399	209	213
330	174	178	400	209	214
331	174	178	401	210	214
332	175	179	402	210	215
333	175	179	403	211	215
334	176	180	404	211	216
335	176	180	405	212	216
336	177	181	406	212	217
337	177	181	407	213	217
338	178	182	408	214	218
339	178	182	409	214	218
340	179	183	410	215	219
341	179	183	411	215	219
342	180	184	412	216	220
343	180	184	413	216	221
344	181	185	414	217	221
345	181	185	415	217	222
346	182	186	416	218	222
347	182	186	417	218	223
348	183	187	418	219	223
349	183	187	419	219	224

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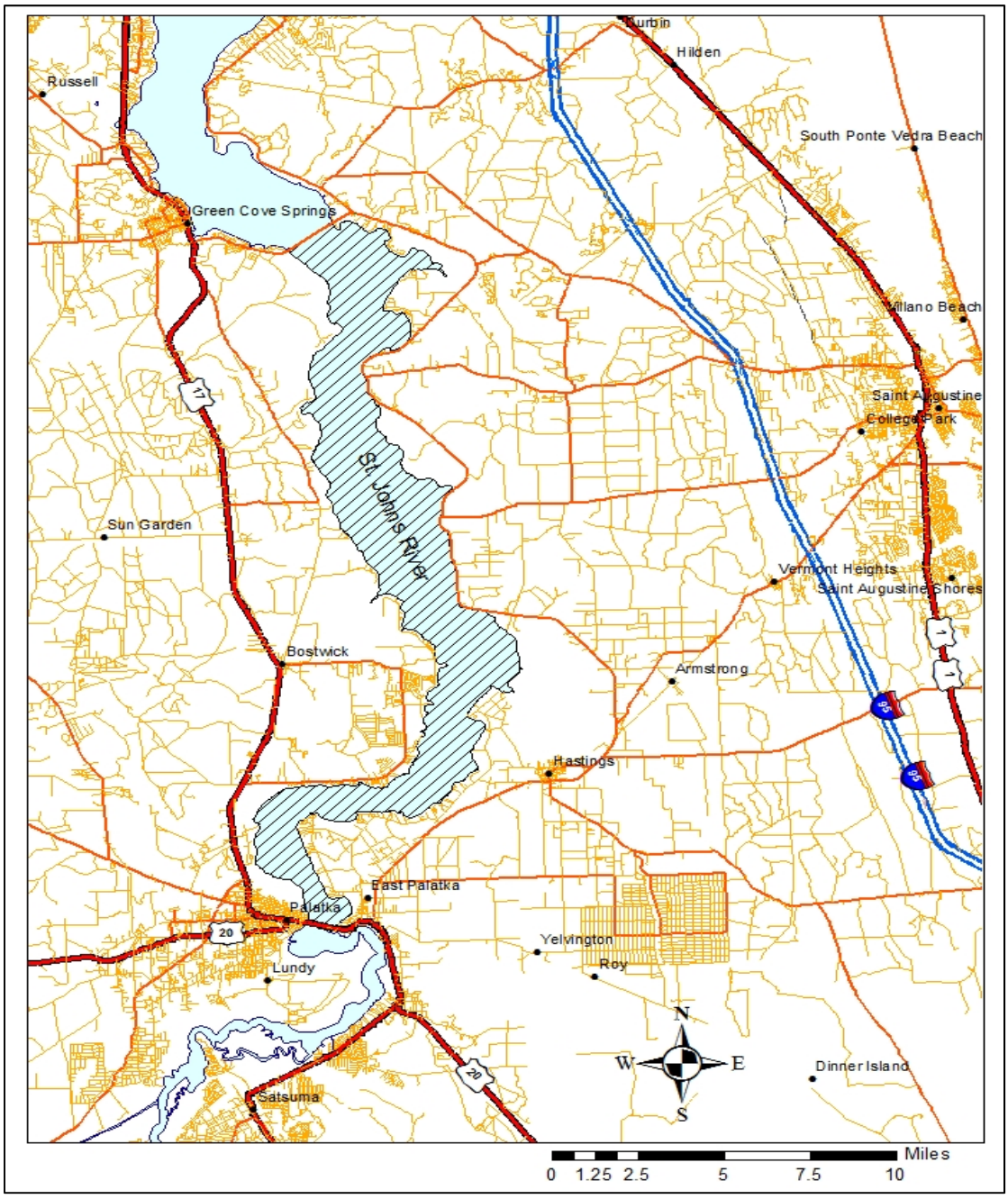
The portion of the St. Johns River between the U.S. Highway 17 Bridge in Palatka north to the Shands Bridge (U.S. Highway 16) bridge near Green Cove Springs (shown by hatching) requiring alternative DO criteria to assure potential sturgeon spawning habitat is protected.



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ATTACHMENT E

Maps for the associated waterbodies listed below can be found at the following State website: http://www.dep.state.fl.us/water/wqssp/ssac-list.htm

Water Body and Classification (with link to map of SSAC area)	Type I Site Specific Alternative Criteria For SSACs with seasonal limits, the default criteria in Rule 62-302.530, F.A.C., apply at other times of the year.	County(s)
Amelia River Segment between the northern mouth of the river and the A1A crossing. Class III.	Dissolved Oxygen of 3.2 mg/L as a minimum during low tide from July 1 through September 30, and not below 4.0 mg/L during all other conditions. The 24-hr. average shall be greater than or equal to 5.0 mg/L. Applies July 1 through Sept. 30th.	Nassau
Crystal River Canal System Portions of the Main Channel, East and West Canals. Class III.	Dissolved Oxygen of 0.1 mg/L as a minimum. Applies year round.	Citrus
Everglades Protection Area As defined in Section 373.4592(2)(i), F.S., and includes Water Conservation Areas 1, 2A, 2B, 3A, 3B, the Arthur R. Marshall National Wildlife Refuge, and Everglades National Park. Class III. **Note:** this SSAC applies to fresh waters within the described area.	Dissolved Oxygen shall be evaluated based on an algorithm that uses sample collection time and water temperature to model the observed natural sinusoidal diel cycle and seasonal variability. This model provides a lower DO limit (DOL) for an individual monitoring station and is described by the equation: $DOL_i = [- 3.70 - \{1.50 \cdot \text{sine}\ (2\pi/1440 \cdot t_i) - (0.30 \cdot \text{sine}\ [4\pi/1440 \cdot t_i])\} + 1/(0.0683 + 0.00198 \cdot C_i + 5.24 \cdot 10^{-6} \cdot C_i^2)] - 1.1$ Where: **DOL_i** = lower limit for the i^{th} annual DO measurement in milligrams per liter (mg/L) **t_i** = sample collection time in minutes (Eastern Standard Time) since midnight of the i^{th} annual DO measurement **C_i** = water temperature associated with the i^{th} annual DO measurement in °C	Palm Beach Broward Dade Monroe

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	Compliance with the SSAC is assessed based on a comparison between the annual average measured DO concentration and the average of the corresponding DO limits specified by the above equation. Applies year round.	
Fenholloway River From river mile -0.1 to river mile 3.5. Class III(m).	Iron - No more than 10% of the iron measurements in this reach of the river shall be above 1.06 mg/L. Applies year round.	Taylor
Hillsboro Canal Tributary Belle Glade - canal receiving wastewater discharge from Sugar Cane Growers Cooperative Labor Camp #3 (NW corner Section 11, Range 37 East, Township 44 South, on NE side of Hillsboro Canal). Class IV.	Dissolved Oxygen of 2.6 mg/L annual average with 0.3 mg/L as a minimum. Applies year round.	Palm Beach
Holmes Creek From the confluence with Little Creek to the SR 277 Creek crossing. Class III.	Dissolved Oxygen of 4.0 mg/L as a minimum from June 1 through September 30.	Jackson Holmes
Myrtle Slough SSAC 1 - In sections 19, 29, 30, 31, and 32, Township 40 south, Range 24 east. SSAC 2 - Between stations 1 and 3 as identified on the image.	SSAC 1 - Dissolved Oxygen of 2.5 mg/L, applicable June through September. SSAC 2 - Dissolved Oxygen level of 1.5 mg/L annual average with normal daily, seasonal and climatic fluctuations including natural excursions to a minimum of 0.1 mg/L. Applies year round.	Charlotte
Peace Creek Canal Lake Wales SSAC –South from SR 60 to the western section line of Section 15, Township 30 South, Range 27 East. Class III. Winter Haven SSAC - Downstream from SR 60	Lake Wales SSAC - Dissolved Oxygen of 3.0 mg/L as a minimum. Applies year round. Winter Haven SSAC - Dissolved Oxygen of 3.0 mg/L, maintaining normal daily and seasonal fluctuations. Applies 3 miles downstream from SR 60 for June, July and September, and 5 miles downstream during August.	Polk

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Spring Creek Headwater to River Mile 2.5. Class III.	Dissolved Oxygen of 2.5 mg/L as a minimum. Applies year round.	Taylor
Thomas Creek Including tributaries, from its headwaters to the downstream location where Thomas Creek becomes predominantly marine (1500 mg/L chloride concentration), at N 30.56603 latitude, W -81.72888 longitude. Class III (f).	Annual average Dissolved Oxygen of 2.6 mg/L, with no more than 10 percent of the individual Dissolved Oxygen measurements below 1.6 mg/L on an annual basis.	Duval Nassau
Turkey Creek (including tributaries) to the confluence with the South Prong of the St. Marys River, and the South Prong of the St. Marys River (including tributaries) from its headwaters to U.S. Route 90. Class III.	Annual average Dissolved Oxygen of 3.0 mg/L, with no more than 10% of the individual Dissolved Oxygen measurements below 1.35 mg/L on an annual basis. Applies year round.	Baker
Withlacoochee River (Northern) (River Miles 19-25). Class III.	Dissolved Oxygen of 4.0 mg/L as a minimum from June 1 through October 30.	Hamilton

Water Body and Classification	**Type II Site Specific Alternative Criteria For SSACs with seasonal limits, the default criteria in Rule 62-302.530, F.A.C., apply at other times of the year.**	**County(s)**
Fenholloway River (Transparency-Phytoplankton) From river mile -0.1 to river mile 3.5. Class III(f & m).	The annual average compensation depth for photosynthetic activity for phytoplankton shall not be decreased greater than 44.3 percent from background conditions as determined by an annual average compensation depth of at least 0.66 meters at river mile 0.53 (station F06). This value must be based on a minimum of 12 measurements during times when the average flow at Cooey Island Bridge at river mile 7.15 (USGS gage 02325532) measures less than 200 cubic feet per second. Applies year round.	Taylor

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Fenholloway River (Nearshore) Coastal waters (Apalachee Bay) as spatially defined by the coordinates (83° 49' 29.95" W, 29° 59' 38.70" N), (83° 45' 3.61" W, 29° 57' 22.10" N), (83° 47' 23.50" W, 29° 54' 5.01" N), and (83° 51' 45.47" W, 29° 56' 25.71" N). Class III(m).	The average of the growing season (May 1-October 31) average light (as photosynthetically active radiation between 400 and 700m) at 1 m depth at stations F10 (83° 47' 6.60" W, 29° 57' 4.20" N) and F11 (83° 48' 27.00" W, 29° 57' 38.40" N) shall be 36 percent or more of surface values based on a minimum of 12 measurements and will only apply during years in which the growing season average flow at Hampton Springs Bridge (USGS gage 02325000 near Perry) is less than or equal to 60 cubic feet per second (after subtracting flows from permitted point sources). Applies year round.	Taylor
Orange County Eastern Water Reclamation Facility discharge wetlands. Class III(f).	PH of not greater than 8.5 standard units. Applies year round.	Orange
St. Johns River Marine portions of the Lower St. Johns River and its tributaries between Julington Creek and the mouth of the river. Class III(m).	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: Total Fractional Exposure = (Days between 4.0-<4.2 mg/L÷16 day Max) + (Days between 4.0-<4.2 mg/L÷21 day Max) + (Days between 4.0-<4.2 mg/L÷30 day Max) + (Days between 4.0-<4.2 mg/L÷47 day Max) + (Days between 4.0-<4.2 mg/L÷55 day Max) or alternate view $\left(\text{Total Fractional Exposure}\right) = \frac{\text{Days between } 4.0 - < 4.2\ \text{mg/L}}{16\ \text{day Max}} + \frac{\text{Days between } 4.2 - < 4.4\ \text{mg/L}}{21\ \text{day Max}} +$ $\frac{\text{Days between } 4.4 - < 4.6\ \text{mg/L}}{30\ \text{day Max}} + \frac{\text{Days between } 4.6 - < 4.8\ \text{mg/L}}{47\ \text{day Max}} + \frac{\text{Days between } 4.8 - < 5.0\ \text{mg/L}}{55\ \text{day Max}}$	Duval Clay St. Johns

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	where the number of days in an interval is based on the daily average Dissolved Oxygen concentration. Applies year round.	