

**CHAPTER 62-303
IDENTIFICATION OF IMPAIRED SURFACE WATERS**

**PART I
GENERAL**

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

(1) The Department shall follow the methodology in ~~Part II Rule 62-303.300, F.A.C.,~~ to develop a planning list ~~and Part III to develop a study list~~ pursuant to Section 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,~~ and shall be submitted to EPA for informational purposes only. Waters on this planning list will be assessed pursuant to ~~Section~~ subsection 403.067(3), F.S., as part of the Department's watershed management approach. During this assessment, the Department shall determine whether the waterbody ~~water body~~ is impaired and whether the impairment is due to pollutant discharges using the methodology in Part ~~IV~~ III. 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 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~~ subsection 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 CWA.

(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 development of planning, study, and verified lists.

Rulemaking Specific Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History--New 6-10-02, Repromulgated 1-2-07, Amended - -11.

62-303.200 Definitions.

As used in this chapter:

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

(2) "BioRecon" shall mean a biological assessment that measures stream health in predominantly freshwaters using benthic macroinvertebrates, performed and calculated using the Standard Operating Procedures (SOP) for the BioRecon in the document titled *BRN 1000: Biological Reconnaissance Field Method* (DEP-SOP-003/01 BRN 1000), dated 10-24-11, which is incorporated by reference herein. Copies of the SOP may be obtained from the Department's internet site at <http://www.dep.state.fl.us/water/wqssp/swq-docs.htm> or by writing to the Florida Department of Environmental Protection, Standards and Assessment Section, 2600 Blair Stone Road, MS 6511, Tallahassee, FL 32399-2400. ~~evaluation conducted in accordance with standard operating procedures (SOPs) FT 3000, FS 7410, and LT 7100, as promulgated in Rule 62-160.800 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.," which is incorporated by reference. Copies of the procedures and methods may be obtained from the Department's internet site at <http://www.dep.state.fl.us/water/wqssp/swq-docs.htm> or by writing to the Florida Department of Environmental Protection, Standards and Assessment Section, 2600 Blair Stone Road, MS 6511, Tallahassee, FL 32399-2400.

(4) through (6) No change.

(7) "Impaired water" shall mean a waterbody ~~water body~~ or waterbody ~~water body~~ 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~~ III 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)(8)~~ “Lake Vegetation Index (LVI)” shall mean a Biological Health Assessment that measures lake biological health in predominantly freshwaters using aquatic and wetland plants, performed and calculated using the Standard Operating Procedures for the LVI in the document titled *LVI 1000: Lake Vegetation Index Methods* (DEP-SOP-003/11 LVI 1000) and the methodology in *Sampling and Use of the Lake Vegetation Index (LVI) for Assessing Lake Plant Communities in Florida: A Primer* (DEP-SAS-002/11), both dated 10-24-11, which are incorporated by reference herein. Copies of the documents may be obtained from the Department’s internet site at <http://www.dep.state.fl.us/water/wqssp/swq-docs.htm> or by writing to the Florida Department of Environmental Protection, Standards and Assessment Section, 2600 Blair Stone Road, MS 6511, Tallahassee, FL 32399-2400. ~~“Lake Condition Index” shall mean the benthic macroinvertebrate component of a biological evaluation conducted following the procedures outlined in “Development of Lake Condition Indexes (LCI) for Florida,” Florida Department of Environmental Protection, July, 2000, which is incorporated by reference.~~

(9) through (10) renumber (10) through (11) No change.

(12) “Nutrient” shall mean total nitrogen (TN), total phosphorus (TP), or their organic or inorganic forms.

(13) “Nutrient response variable” shall mean a biological variable, such as chlorophyll *a*, 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.

(14) “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.

(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 is incorporated by reference herein and may be obtained from the Department’s internet site at <http://www.dep.state.fl.us/water/wqssp/swq-docs.htm> or by writing to the Florida Department of Environmental Protection, Standards and Assessment Section, 2600 Blair Stone Road, MS 6511, Tallahassee, FL 32399-2400.

(11) through (12) renumber (15) through (16) No change.

~~(17)(13)~~ “Physical alterations” shall mean human-induced changes to the physical structure of the waterbody

(14) through (16) renumber (18) through (20) No change.

(21) “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 μ mhos/cm.

~~(22)(17)~~ “Predominantly marine waters” shall mean surface waters in which the chloride concentration at the surface is greater than or equal to 1,500 milligrams per liter or specific conductance is greater than or equal to 4,580 μ mhos/cm.

(18) through (19) renumber (23) through (24) No change.

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

(26) ~~(20)~~ No change.

(27) “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.

(28) ~~(21)~~ “Stream” shall mean a free-flowing, predominantly fresh surface waterbody water that flows in a defined channel with banks, and includes rivers, creeks, branches, freshwater sloughs, and other similar water bodies. 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).

(29) ~~(22)~~ “Stream Condition Index (SCI)” shall mean a Biological Health Assessment that measures stream biological health in predominantly freshwaters using benthic macroinvertebrates, performed and calculated using the Standard Operating Procedures for the SCI in the document titled *SCI 1000: Stream Condition Index Methods* (DEP-SOP-003/11 SCI 1000) and the methodology in *Sampling and Use of the Stream Condition Index (SCI) for Assessing Flowing Waters: A Primer* (DEP-SAS-001/11), both dated 10-24-11, which are incorporated by reference herein. Copies of the documents may be obtained from the Department’s internet site at <http://www.dep.state.fl.us/water/wqssp/swq-docs.htm> or by writing to the Florida Department of Environmental Protection, Standards and Assessment Section, 2600 Blair Stone Road, MS 6511, Tallahassee, FL 32399-2400. For water quality standards purposes, the Stream Condition Index shall not apply in the South Florida Nutrient Watershed Region, evaluation conducted in accordance with SOPs FT 3000, FS 7420, and LT 7200, as promulgated in Rule 62-160.800, F.A.C.

(30) “Study list” shall mean the list of surface waters or segments, as identified in Rule 62-303.390, F.A.C., that do not attain surface water quality standards, but the cause of nonattainment is unknown and requires further study to identify the cause of nonattainment, or exhibit a clear adverse trend in nutrients or nutrient response variables where a site specific numeric interpretation has not been established pursuant to paragraph 63-302.531(2)(a), F.A.C.

(31) ~~(23)~~ No change.

(32) ~~(24)~~ “Total Maximum Daily Load” (TMDL) for an impaired waterbody water body or waterbody water body 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 water body or waterbody segment can assimilate from all sources without exceeding water quality standards must first be calculated. A TMDL shall include either an implicit or explicit margin of safety and a consideration of seasonal variations.

~~(25) “Trophic State Index” or “TSI” means the trophic state index for lakes, which is based on lake chlorophyll a, Total Nitrogen, and Total Phosphorus levels, and is calculated following the procedures outlined on pages 86 and 87 of the State’s 1996 305(b) report, which are incorporated by reference.~~

(26) through (27) renumber (33) through (34) No change.

(35) ~~(28)~~ “Water quality standards” shall mean standards composed of designated present and future most beneficial uses (classification of waters), the numerical 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. (mixing zones, site specific alternative criteria, and exemptions) contained in Chapter 62-302, F.A.C., and in Chapter 62-4, F.A.C., adopted pursuant to Chapter 403, F.S.

(36) ~~(29)~~ “Water segment” shall mean a portion of a waterbody water body that the Department will assess and evaluate for purposes of determining whether a TMDL will be required. Water segments previously evaluated as part of the Department’s 1998 305(b) Report are depicted in the map titled “Water Segments of Florida,” which is incorporated by reference.

(37) ~~(30)~~ No change.

PART II THE PLANNING LIST

62-303.310 Evaluation of Aquatic Life Use Support.

A Class I, II, or III 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, it:

- (1) No change.
- (2) Does not meet Biological Health Assessment thresholds for its waterbody ~~water body~~ type as outlined in Rule 62-303.330, F.A.C., or
- (3) Exceeds nutrient impairment thresholds as outlined in Rule 62-303.350, F.A.C.

62-303.330 Biological Assessment.

(1) No change.

(2) Biological Health Assessments ~~Bioassessments~~ used to evaluate predominantly fresh water ~~assess~~ streams and lakes under this rule shall include BioRecons, the Stream Condition Index (SCI) Indices (SCIs), and the Lake Vegetation Index (LVI), and the Shannon-Weaver Diversity Index, the benthic macroinvertebrate component of the Lake Condition Index (LCI), which only applies to clear lakes with a color less than 20 platinum cobalt units. BioRecons can also be used to evaluate predominantly fresh water streams under this rule. Because these Biological Health Assessment ~~bioassessment~~ procedures require specific training and expertise, persons conducting a BioRecon, SCI or LVI ~~the bioassessments~~ must comply with the quality assurance requirements of Chapter 62-160, F.A.C. (including adherence to Sampling and Use of the Stream Condition Index (SCI) for Assessing Flowing Waters: A Primer (DEP-SAS-001/11), which was incorporated by reference in subsection 62-303.200(29), F.A.C., and Sampling and Use of the Lake Vegetation Index (LVI) for Assessing Lake Plant Communities in Florida: A Primer (DEP-SAS-002/11), which was incorporated by reference in subsection 62-303.200(9), F.A.C.), attend at least eight hours of Department ~~sanctioned~~ field training, and pass a Department ~~sanctioned~~ field audit that verifies the sampler follows the applicable SOPs, as set forth in Chapter 62-160, F.A.C., before their Biological Health Assessment ~~bioassessment~~ 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: ~~Water segments with at least one failed bioassessment or one failure of the biological integrity standard, subsection 62-302.530(11), F.A.C., shall be included on the planning list for assessment of aquatic life use support.~~

(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 Stream Condition Index 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 scores is ≤ 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.

(a) In streams, the bioassessment shall be either an SCI or a BioRecon. Failure of a bioassessment for streams consists of a “poor” or “very poor” rating on the Stream Condition Index, or a “fail” rating on the BioRecon.

(b) Failure for lakes consists of a “poor” or “very poor” rating on the Lake Condition Index.

(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. To qualify as temporally independent samples, each Biological Health Assessment shall be conducted at least three months apart. Biological Health Assessments collected at the same water segment less than three months apart shall be considered one sample, with the mean value used to represent the sampling period.

~~(5)~~(4) Other information relevant to the biological health integrity 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.

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

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

(1) ~~The nutrient impairment thresholds identified in Rules 62-303.351 through 62-303.354, F.A.C., Trophic state indices (TSIs) and annual mean chlorophyll a values~~ shall be the primary means for assessing whether a water body should be assessed further for nutrient impairment. Other information indicating an imbalance in flora or fauna due to nutrient enrichment, ~~such as including, but not limited to,~~ algal blooms or mats, excessive nuisance macrophyte growth, decrease in the distribution (either in density or areal coverage) of submerged aquatic vegetation, adverse changes in algal species composition richness, 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,

(a) Data must meet the requirements of subsections (2)-(4), (7), and (8) in Rule 62-303.320, F.A.C.;

(b) ~~To calculate an annual geometric mean for TN, TP 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; and At least one sample from each season shall be required in any given year to calculate a Trophic State Index (TSI) or an annual mean chlorophyll a value for that year (for purposes of this chapter, the four seasons shall be January 1 through March 31, April 1 through June 30, July 1 through September 30, October 1 through December 31),~~

(c) ~~If there are multiple chlorophyll a or TSI values within a season, the average value for that season shall be calculated from the individual values and the four quarterly values shall be averaged to calculate the annual mean for that calendar year,~~

(d) ~~For data collected after the effective date of this rule, individual TSI values shall only be calculated when the nitrogen, phosphorus, and chlorophyll data were collected at the same time and location,~~

(e) ~~If there are insufficient data used to calculate a TSI or an annual mean chlorophyll a value in the planning period, but there are data from at least four consecutive seasons, the mean TSI or mean chlorophyll a value for the consecutive seasons shall be used to assess the waterbody,~~

(f) ~~There must be annual means from at least four years when evaluating the change in TSI over time pursuant to subsection 62-303.352(3), F.A.C., and~~

(c) ~~(g)~~ To be assessed under this chapter rule, 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, incorporated by reference herein. Copies of the chlorophyll a document may be obtained from the Department's internet site at <http://www.dep.state.fl.us/water/wqssp/swq-docs.htm> or by writing to the Florida Department of Environmental Protection, Standards and Assessment Section, 2600 Blair Stone Road, MS 6511, Tallahassee, FL 32399-2400. Chlorophyll a data shall be corrected for or free from the interference of pheophytin. ~~chlorophyll a data collected after the effective date of this rule shall be corrected chlorophyll a, except for data used to establish historical chlorophyll a levels. Corrected chlorophyll a is the calculated concentration of chlorophyll a remaining after the chlorophyll degradation product, phaeophytin a, has been subtracted from the uncorrected chlorophyll a measurement.~~

(3) ~~When comparing changes in chlorophyll a or TSI values to historical levels, historical levels shall be based on the lowest five year average for the period of record. To calculate a five year average, there must be annual means from at least three years of the five year period.~~

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

62-303.351 Nutrients in Freshwater Streams.

A stream or stream segment shall be included on the planning list for nutrients if: ~~the following biological imbalances are observed:~~

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

(2) For streams meeting the definition in subsection 62-302.200(36), F.A.C., the nutrient thresholds in subparagraph 62-302.531(2)(c)3., 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)2., F.A.C.;

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

(4) ~~(2)~~ Annual geometric mean chlorophyll a concentrations are greater than 20 ug/l; or if data indicate annual mean chlorophyll a values have increased by more than 50 percent over historical values for at least two consecutive years.

(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 from the Department's internet site at <http://www.dep.state.fl.us/water/wqssp/swq-docs.htm> or by writing to the Florida Department of Environmental Protection, Standards and Assessment Section, 2600 Blair Stone Road, MS 6511, Tallahassee, FL 32399-2400.

Rulemaking Specific Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History - New 6-10-02, Repromulgated 1-2-07, Amended - -11.

62-303.352 Nutrients in Freshwater Lakes.

For the purposes of evaluating nutrient enrichment in lakes, TSIs shall be calculated based on the procedures outlined on pages 86 and 87 of the State's 1996 305(b) report, which are incorporated by reference. Lakes or lake segments 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), F.A.C., is exceeded; For lakes with a mean color greater than 40 platinum cobalt units, the annual mean TSI for the lake exceeds 60, unless paleolimnological information indicates the lake was naturally greater than 60, 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 For lakes with a mean color less than or equal to 40 platinum cobalt units, the annual mean TSI for the lake exceeds 40, unless paleolimnological information indicates the lake was naturally greater than 40, or

(3) 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, F.A.C. For any lake, data indicate that annual mean TSIs have increased over the assessment period, as indicated by a positive slope in the means plotted versus time, or the annual mean TSI has increased by more than 10 units over historical values. When evaluating the slope of mean TSIs over time, the Department shall require at least a five unit increase in TSI over the assessment period and use 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), with a 95 percent confidence level.

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

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), F.A.C., is exceeded; or

(2) Their annual geometric mean chlorophyll a for any year is greater than 11 ug/l; or if data indicate annual mean chlorophyll a values have increased by more than 50 percent over historical values for at least two consecutive years.

(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..

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

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;

(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.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History – New - -11.

PART III THE STUDY LIST

62-303.390 The Study List.

(1) The Study List contains waters where evidence indicates nonattainment of water quality standards, but the Department does not have enough information to determine the causative pollutant(s) and therefore cannot determine the appropriate remedy, and waters where a site specific numeric interpretation has not been established pursuant to paragraph 63-302.531(2)(a), F.A.C., and there is a clear adverse trend in nutrients or nutrient response variables. 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 paragraph 62-303.420(1)(b), 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 identified 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 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, or III 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 subsections 62-303.351(5), 62-303.352(3), 62-303.353(2), or 62-303.354(3), F.A.C., the Department confirms 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 segment 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 segment 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 segment where pollution control mechanisms are in place or planned that meet the requirements of Rule 62-303.600, F.A.C., except that there is uncertainty when water quality standards will be attained and the waterbody segment requires additional study; or

(e) For streams meeting the definition in subsection 62-302.200(36), F.A.C., the nutrient thresholds in subparagraph 62-302.531(2)(c)3., 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. A TMDL shall not be established for the waterbody prior to the collection of additional response variable data and the conclusion of the next assessment cycle.

(3) Waters that fall under paragraph 62-303.390(2)(a), F.A.C., and do not have a site specific numeric interpretation of the narrative pursuant to paragraph 62-302.351(2)(a), F.A.C., shall be removed from the Study List upon development of a site-specific interpretation of the narrative nutrient criteria for the waterbody. Those waters subject to a site specific interpretation of the narrative that meet the provisions of subparagraph 62-303.390(2)(a)1., F.A.C., will be reevaluated by the Department to determine whether adjustments are necessary to provide for the attainment and maintenance of water quality standards in downstream waterbodies.

(4) For waters that fall under paragraph 62-303.390(2)(b), 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) It is the Department's goal to collect the additional data needed for waters on the Study List 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.

Rulemaking Authority 403.061, 403.067 FS. Law Implemented 403.062, 403.067 FS. History – New - -11.

PART IV ~~III~~ THE VERIFIED LIST

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

(1) No change.

(a) No change.

(b) If the Department has information suggesting that the values not meeting the dissolved oxygen (DO) criterion are due to natural background conditions, ~~including information about the in stream concentrations of TN, TP, and BOD relative to comparable reference waters for waterbodies with values below the DO criterion,~~ it is the Department's intent to support that conclusion through the use of Biological Health Assessment bioassessment procedures referenced in Rule 62-303.330, F.A.C. The ~~waterbody water body~~ or segment shall not be included on the verified list for DO the parameter of concern if two or more temporally independent Biological Health Assessments bioassessments indicate the waterbody supports the protection and maintenance of a healthy, well-balanced population of fish and wildlife. ~~are conducted and no failures are reported. In addition, the Biological Health Assessments shall be conducted in the same waterbody segment, or for streams, in the adjacent downstream waterbody segment where the water quality samples were taken. These Biological Health Assessments shall be conducted on the same day or after the water quality samples were collected. To be treated as independent bioassessments, they must be conducted at least two months apart, within the assessed segment downstream of where the samples were measured, and after the samples were measured.~~

(2) No change.

(3) If the ~~waterbody water~~ 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 water~~ 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(8), 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) through (7) No change.

Rulemaking Specific 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, - -11.

62-303.430 Biological Impairment.

(1) All Biological Health Assessments ~~bioassessments~~ 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 the Department documents, *Sampling and Use of the Stream Condition Index (SCI) for Assessing Flowing Waters: A Primer* (DEP-SAS-001/11), which was incorporated by reference in subsection 62-303.200(29), F.A.C., and *Sampling and Use of the Lake Vegetation Index (LVI) for Assessing Lake Plant Communities in Florida: A Primer* (DEP-SAS-002/11), which was incorporated by reference in subsection 62-303.200(9), F.A.C. To be used for placing waters on the verified list, any Biological Health Assessments ~~bioassessments~~ conducted before the adoption of applicable SOPs for such Biological Health Assessments ~~bioassessments~~ as part of Chapter 62-160, F.A.C., shall substantially comply with the subsequent SOPs. Biological Health Assessments conducted during conditions inconsistent with the applicable primer shall be excluded from the assessment.

(2) If the water was listed on the planning list based on Biological Health Assessment ~~bioassessment~~ results, the water shall be determined to be biologically impaired if any of the following conditions occur:

(a) The average score of at least two temporally independent Biological Health Assessments is below 40 for the SCI or if either of the two most recent SCI scores is less than 35, or 43 for the LVI. If there are only two Biological Health Assessments and the difference between the two scores is greater than 20 points, then an additional SCI or LVI shall be required and the average of all three scores shall be used.

(b) 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 independent SCI scores is 20 or more points below the historic maximum value.

(c) 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 independent LVI scores is 20 or more points below the historic maximum value. ~~there were two or more failed bioassessments within the five years preceding the planning list assessment. If there were less than two failed bioassessments during the last five years preceding the planning list assessment, the Department will conduct an additional bioassessment. If the previous failed bioassessment was a BioRecon, then an SCI will be conducted. Failure of this additional bioassessment shall constitute verification that the water is biologically impaired.~~

(d) 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 ~~rule~~ 62-303.330(4), F.A.C., indicating biological impairment, two or more temporally independent Biological Health Assessments appropriate for the waterbody type shall be conducted ~~the Department will conduct a bioassessment in the waterbody segment, conducted in accordance with the methodology in Rule 62-303.330, F.A.C., 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. For streams, the bioassessment shall be an SCI. Failure of this bioassessment shall constitute verification that the water is biologically impaired.~~

(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) ~~(4)~~ Following verification that a waterbody is biologically impaired, a waterbody ~~water~~ shall be included on the verified list for biological impairment if:

(a) through (b)1. No change.

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.

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

(1) A stream or estuary A water 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(1), F.A.C., more than once in any consecutive three year period, and there are sufficient data from the last 7.5 five years preceding the planning list assessment, combined with historical data (if needed to establish historical chlorophyll *a* levels or historical TSLs), to meet the data sufficiency requirements of subsection 62-303.350(2), 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, including paleoecological data, 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 Rules 62-303.351(4) and 62-303.353(1) --353, F.A.C., for streams, lakes, and estuaries and verify impairment if there is more than one exceedance in any consecutive three year period ; respectively. In any case, the Department shall limit its analysis to the use of data collected during the last 7.5 five years preceding the planning list assessment and the additional data collected in the second phase. 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 subsections 62-303.350(1), 62-303.351(3), 62-303.352(2), or 62-303.353(2), 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 subsections 62-303.351(1), 62-303.352(1), 62-303.353(1), or 62-303.354(1), F.A.C., upon confirming the imbalance of flora or fauna based on the last 7.5 years of data, 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.

(4) 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 at 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 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.

(5) ~~(3)~~ The thresholds for impairment due to nutrients in paragraph 62-302.531(2)(c) and subsections 62-303.351(4) and 62-303.353(1), F.A.C., used under this section 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.

(6) 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. 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 or changes in the monitoring network.

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

(1) through (2) No change.

(3) For waters impaired for dissolved oxygen, the Department shall identify the pollutants causing or contributing to the impairment and list both the pollutant and dissolved oxygen on the verified list. If the factor(s) causing the impairment cannot be identified, the water shall be placed on the study list.

(4) through (7) No change.

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

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. Once a waterbody segment is verified to not be impaired pursuant to Part IV III of this chapter, the data used to place the waterbody on the planning or study list shall not be the sole basis for listing that waterbody segment on future planning lists.

(2) Waterbody segments shall be removed from the State's verified list only after adoption completion 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., for all pollutants causing impairment of the segment or upon demonstration that the waterbody meets the water quality standard that was previously established as not being met.

(a) No change.

(b) For waters listed due to failure to meet aquatic life use support based on biological data, the waterbody shall be delisted when the two most recent independent Biological Health Assessments indicate the waterbody is no longer impaired pursuant to subsection 62-303.430(2), F.A.C., the segment passes two independent follow up bioassessments and there have been no failed bioassessments for at least one year. The follow-up tests must meet the following requirements:

1. For streams, the new data must be ~~may be two BioRecons or any combination of BioRecons and 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 Biological Health Assessments bioassessments must be conducted during similar conditions (same seasons and general flow conditions) under which the previous Biological Health Assessments bioassessments used to determine impairment were collected.

3. through (i) No change.

(j) For waters listed based on nutrient impairment, the waterbody shall be delisted if it does not meet the listing thresholds in Rule 62-303.450, F.A.C., for three consecutive years, or 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(3), F.A.C.

(k) No change.

(l) For waters listed based on paragraph 62-303.420(7)(b), F.A.C., or subsection 62-303.470(3), 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. No change.

(m) No change.

(n) For waterbodies listed on the verified list, the water shall be delisted from the verified list and added to the study list when subsequent analysis demonstrates that the cause of the impairment was incorrect or otherwise demonstrates that a TMDL is not appropriate.

(3) No change.

Rulemaking Specific 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, - -11.