



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

June 8, 2018

Ms. Stacey Day, PhD
Monitoring and Assessment Program Coordinator
Pinellas County Environmental Management
22211 U.S. Hwy 19 N., Bldg 10
Clearwater, FL 33765

RE: Pinellas County comments on Group 5 Cycle 3 assessments

Dear Ms. Day,

Thank you for your comments regarding the revised assessments for the Group 5 Cycle 3 basins. It is important that we receive input from interested stakeholders to ensure accurate assessments of Florida's waters. This letter is in response to those comments received via e-mail on March 30, 2018.

In the evaluation of these waterbodies (WBIDs – **W**ater**B**ody **I**Dentification assessment units), our assessment takes into consideration whether the results are representative of the current conditions of the waterbody. Please keep in mind that the assessments you commented on were assessed in the Impaired Waters Rule database (IWR Run 54) using data through June 30, 2017, extracted from Florida STORET (STORET - an acronym for **S**TORage and **R**ETrieval database) and WIN (Watershed Information Network) as of September 19, 2017. As a result of public comments, the department received from stakeholders on the revised assessment lists, an additional data extraction from STORET and WIN was performed on April 10, 2018. The final assessment lists are based on data from that extraction date, as well as incorporating any revisions needed based on the response to these comments. A summary of your comments and our responses is provided below.

Recommendations for Revised Verified List:

Pinellas County Environmental Management (County) Comment 1: Remove WBID 1440 Anclote River Tidal Enterococci from the Verified List and place into category 4e due to activities in the watershed that could reduce bacteria levels.

Department of Environmental Protection (DEP) Response 1: The Anclote River Tidal (WBID 1440) will be placed in assessment category 4e (Ongoing Restoration Activities) for enterococci based on the assessment category 4e plan submitted to the department on 4/2/18 which includes restoration activities that will address enterococci in addition to other pollutants.

County Comment 2: Remove WBID 1440A Anclote River Bayou Complex (Spring Bayou) Iron from the Verified List and place in category 4d. FDEP staff collected this data only in the Bayou over a year (2012), and there is not enough info to determine cause. There is no data collected in the main river channel for comparison to determine if naturally occurring.

DEP Response 2: The department investigated the 2012 iron exceedances prior to listing the Anclote River Bayou Complex (WBID 1440A) as impaired on the Revised Verified List. In June of 2012, there was a major rainfall event that totaled 10 inches of rain in two days for the Tampa area. In July 2012, all of the iron samples in the waterbody exceeded the threshold (300 µg/L). It was determined that even after removing the 7 samples collected in July, there would still be 8 exceedances out of 46 samples which meets the listing threshold per 62-303.420(2), F.A.C. Additionally, the waterbody was reviewed for anthropogenic sources of iron. There is a golf course upstream of the stations sampled for iron, as well as the City of Tarpon Springs LF & Yard Waste Facility (WACS no. 47035) which notes elevated levels of iron detected in three wells likely attributable to landfill leachate (January 8, 2018 Semiannual Monitoring Report).

In addition, iron is a parameter that the department evaluates to determine if exceedances are due to natural conditions or anthropogenic sources; and, it is not a parameter that can be placed on the Study List (subsection 62-303.390(1), F.A.C.). This parameter could only be placed on the Study List for the purposes of stakeholders submitting a petition for a site-specific alternative criterion (SSAC); therefore, iron will remain in assessment category 5 on the final Verified List.

County Comment 3: For all waterbodies with Macrophyte listing (WBIDs 1527B Bee Branch, 1567C Stevenson Creek (Fresh Segment), 1614 Rattlesnake Creek, 1668A Joe's Creek, and 1668B Pinellas Park Ditch No 5 (Bonn Creek)), recommend low priority for TMDL development. Standard needs revision, as discussed in "General Concerns" section of comments below.

DEP Response 3: Nutrient impairments are designated medium priority per subsection 62-303.500(4), F.A.C. However, the eventual approach to developing the TMDL priority list schedule is outlined in the Priority Framework document (<https://floridadep.gov/dear/water-quality-evaluation-tmdl/documents/priority-framework-document>) and your comments regarding the TMDL schedule will be provided to Erin Rasnake, the Program Administrator of the Water Quality Evaluation and TMDL Program (Erin.Rasnake@dep.state.fl.us, 850-245-8338 for additional inquiries).

County Comment 4: For Joe's Creek, should have 4e designation since has a completed/approved TMDL Implementation Plan.

DEP Response 4: The management strategies identified in the approved TMDL Implementation Plan submitted to the department as part of the County's Municipal Separate Stormwater Sewer System permit provide sufficient documentation to support not listing nutrients on the Verified List. Joe's Creek (WBID 1668A) will be assessed in assessment category 4e (Ongoing Restoration Activities) and placed on the Final Study List.

County Comment 5: In the legend below each table, the SCI definitions are a bit confusing. Recommend rewording, perhaps something like this:

“Where Biology data are presented as SCI (n=y), y represents the total number of samples; WBID Mean is the average value of all temporally independent biological health assessment scores over the assessment period; **Temporally independent assessments are those taken more than 3 months apart;**

~~Mean 1 is the first temporally independent average of all biological health assessments within the most recent consecutive three month period;~~

~~Mean 2 is the second temporally independent average of all biological health assessments within the most recent consecutive three month period prior to the most recent biological health assessment.~~ **If assessments are collected within 3 consecutive months, an average must be calculated and is represented as “Mean 1”, “Mean 2”, etc., beginning with the most recent assessments and going to the oldest assessments within the period. Mean 1 is the most recent three month average assessment, Mean 2 is the next most recent average assessment, etc.**

DEP Response 5: Thank you for your suggestions regarding the list footnote. We have discussed this revision internally and have decided to retain the current SCI footnote as it currently appears on the lists. For additional information on data sufficiency requirements and biological assessments please refer to subsection 62-303.330 and 62-303.430, F.A.C.

Recommendations for Revised Study List:

County Comment 6: SCI data submitted from the County should be used for assessment. Based on data collected in 2014 and 2015, Hollin and McKay have passing SCI scores and should not be on the study list for biology. Please include the most recent SCIs for Church Creek, below, despite no change in assessment category.

Once the most recent SCIs are included, the DO impairments for these two streams should be 4c, “Natural Conditions” and removed from the Study List, correct? If yes, then Spring Branch also should be put as 4c based on passing SCI.

WBID	Waterbody Name	Parameters Assessed Using the Impaired Surface Waters Rule (IWR)	Criterion Concentration or Threshold Not Met	† Integrated Report Category Summary Assessment	Summary Assessment Status	Verified Period Assessment Data ⁵	New Verified Period Assessment Data
1475	Hollin Creek	Biology	Average score of at least two temporally independent SCI scores ≥ 40; or either of the two most recent SCI scores ≥ 35; or if there are only two SCI scores and there is less than or equal to a 20 point difference.	4d 2	Study List Not Impaired	SCI (n=2) Big Mean (38) Mean 1 (30), Mean 2 (46)	SCI (n=3) Big Mean (43) Mean 1 (52), Mean 2 (38)
1475	Hollin Creek	Dissolved Oxygen (Percent Saturation)	≥ 38 %	4d 2	Study List Not Impaired	27/54	-

1614	Rattlesnake Creek	Biology	Average score of at least two temporally independent SCI scores ≥ 40 ; or either of the two most recent SCI scores ≥ 35 ; or if there are only two SCI scores and there is less than or equal to a 20 point difference.	3a 5	No Data Impaired	No Data	SCI (n=2) Big Mean (39) Mean 1 (34), Mean 2 (43)
1527B	Bee Branch	Biology	Average score of at least two temporally independent SCI scores ≥ 40 ; or either of the two most recent SCI scores ≥ 35 ; or if there are only two SCI scores and there is less than or equal to a 20 point difference.	3b 2	Insufficient Data Not Impaired	SCI (n=1) Big Mean (49) Mean 1 (49), Mean 2 (ND)	SCI (n=2) Big Mean (43) Mean 1 (37), Mean 2 (49)
1567B	Spring Branch	Biology	Average score of at least two temporally independent SCI scores ≥ 40 ; or either of the two most recent SCI scores ≥ 35 ; or if there are only two SCI scores and there is less than or equal to a 20 point difference.	3c 5	Planning List Impaired	No Data	SCI (n=2) Big Mean (35) Mean 1 (32), Mean 2 (38)
1567B	Spring Branch	Dissolved Oxygen (Percent Saturation)	$\geq 38 \%$	4d 5	Delist (Study List) Impaired	21/47	-
1567B	Spring Branch	Nutrients (Total Phosphorus)	AGM ≤ 0.12 mg/L	4d 5	Study List Impaired	AGM 2011 (0.20 mg/L) 2012 (0.27 mg/L) 2013 (0.28 mg/L) 2014 (0.24 mg/L) 2015 (0.19 mg/L) 2016 (0.19 mg/L)	-
1567C	Stevenson Creek (Fresh Segment)	Biology	Average score of at least two temporally independent SCI scores ≥ 40 ; or either of the two most recent SCI scores ≥ 35 ; or if there are only two SCI scores and there is less than or equal to a 20 point difference.	3c 4d	Planning List Study List	No Data	SCI (n=2) Big mean (37) Mean 1 (32), Mean 2 (42)

1668A	Joe's Creek	Biology	Average score of at least two temporally independent SCI scores ≥ 40 ; or either of the two most recent SCI scores ≥ 35 ; or if there are only two SCI scores and there is less than or equal to a 20 point difference.	3c 4d	Planning List Study List	No Data	SCI (n=2) Big Mean (28) Mean 1 (33), Mean 2 (22)
1633B	McKay Creek	Biology	Average score of at least two temporally independent SCI scores ≥ 40 ; or either of the two most recent SCI scores ≥ 35 ; or if there are only two SCI scores and there is less than or equal to a 20 point difference.	4d	Study List	SCI (n=2) Big Mean (35) Mean 1 (37), Mean 2 (32)	SCI (n=4) Big Mean (39) Mean 1 (42), Mean 2 (46)
1643	Church Creek	Biology	Average score of at least two temporally independent SCI scores ≥ 40 ; or either of the two most recent SCI scores ≥ 35 ; or if there are only two SCI scores and there is less than or equal to a 20 point difference.	4d	Study List	SCI (n=2) Big Mean (28) Mean 1 (23), Mean 2 (33)	SCI (n=4) Big Mean (32) Mean 1 (39), Mean 2 (34)

DEP Response 6: The department requested and received additional documentation to be able to use the Pinellas County SCI samples in the final Group 5 Cycle 3 Springs Coast assessments. The updated assessments for the WBIDs in question are presented in Table 1 below.

The biology assessment for Hollin Creek (WBID 1475) will remain in category 4d (Study List) because one of the two most recent SCI scores are less than 35 (there were two SCIs collected on February 1, 2011 at two separate stations with one scoring 30). For this reason, Dissolved Oxygen (DO) remains in assessment category 4d (Study List) for Hollin Creek. We determined the biology assessment for Spring Branch (WBID 1567B) would change from assessment category 3c to 5 (Impaired) and both the DO and Total Phosphorus (TP) assessments would move from the Study List to the Final Verified List. For McKay Creek (WBID 1633B) and Church Creek (WBID 1643), we found no change in the biology assessments with the addition of Pinellas County SCI scores. These scores are included in the Planning and Verified Period Assessment Data columns in Table 1.

Table 1. WBID assessments with the addition of Pinellas County SCI samples

WBID	Waterbody Name	Parameters Assessed Using the Impaired Surface Waters Rule (IWR)	Revised Integrated Report Category Summary Assessment	Revised Summary Assessment Status	Final Integrated Report Category Summary Assessment	Final Summary Assessment Status	Planning Period Assessment Data ⁶	Verified Period Assessment Data ⁶
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1475	Hollin Creek	Biology	4d	Study List	4d	Study List	SCI (n=2) Big Mean (38) Mean 1 (46), Mean 2 (30)	SCI (n=3) Big Mean (43) Mean 1 (52), Mean 2 (46, 30)
1475	Hollin Creek	Dissolved Oxygen (Percent Saturation)	4d	Study List	4d	Study List	4/11	27/54
1527B	Bee Branch	Biology	3b	Insufficient Data	5	Impaired	SCI (n=1) Mean 1 (49), Mean 2 ()	SCI (n=3) Big Mean (40) Mean 1 (37), Mean 2 (33)
1567B	Spring Branch	Biology	3c	Planning List	5	Impaired	SCI (n=2) Big Mean (26) Mean 1 (38), Mean 2 (13)	SCI (n=4) Big Mean (33) Mean 1 (22), Mean 2 (41)
1567B	Spring Branch	Dissolved Oxygen (Percent Saturation)	4d	Delist (Study List)	5	Impaired	36/71	21/47
1567B	Spring Branch	Nutrients (Total Phosphorus)	4d	Study List	5	Impaired	AGM 2005 (0.27 mg/L) 2006 (0.32 mg/L) 2007 (0.27 mg/L) 2008 (0.25 mg/L) 2009 (0.33 mg/L) 2011 (0.20 mg/L) 2012 (0.27 mg/L) 2013 (0.28 mg/L) 2014 (0.24 mg/L)	AGM 2011 (0.20 mg/L) 2012 (0.27 mg/L) 2013 (0.28 mg/L) 2014 (0.24 mg/L) 2015 (0.19 mg/L) 2016 (0.19 mg/L)
1567C	Stevenson Creek (Fresh Segment)	Biology	3c	Planning List	4d	Study List	SCI (n=3) Big Mean (33) Mean 1 (32), Mean 2 (42)	SCI (n=2) Big Mean (37) Mean 1 (32), Mean 2 (42)
1614	Rattlesnake Creek	Biology	NA	NA	2	Not Impaired	No Data	SCI (n=4) Big Mean (41) Mean 1 (41), Mean 2 (47)

1668A	Joe's Creek	Biology	3c	Planning List	4d	Study List	SCI (n=3) Big Mean (25) Mean 1 (33), Mean 2 (22)	SCI (n=3) Big Mean (37) Mean 1 (57), Mean 2 (33)
1633B	McKay Creek	Biology	4d	Study List	4d	Study List	SCI (n=3) Mean 1 (45), Mean 2 (37) BIORECON (n=1) Mean 1 (1), Mean 2 (0)	SCI (n=6) Big Mean (39) Mean 1 (39), Mean 2 (38)
1643	Church Creek	Biology	4d	Study List	4d	Study List	SCI (n=2) Mean 1 (23), Mean 2 (33)	SCI (n=6) Big Mean (34) Mean 1 (25), Mean 2 (52)

County Comment 7: Jerry Branch has passing SCIs (43 in 2014 and 41 in 2015), so recommend removal of 4d assignment for Nutrients (TP). There is currently insufficient TP data, but there is sufficient faunal data, and it is showing healthy biology.

WBID	Waterbody Name	Parameters Assessed Using the Impaired Surface Waters Rule (IWR)	Criterion Concentration or Threshold Not Met	† Cycle 3 Assessment Category ³	Planning Period Assessment Data ⁴	Verified Period Assessment Data ⁴	Comments
1550	Jerry Branch	Nutrients (Total Phosphorus)	AGM ≤ 0.12 mg/L	4d 3c	AGM Insufficient Data	AGM 2015 (0.15 mg/L) 2016 (0.16 mg/L) 2017 (0.23 mg/L)	This waterbody is impaired for this parameter based on the annual geometric mean exceeding the nutrient threshold more than once in a three year period; however, this parameter is being placed in assessment category 4d based on insufficient supporting fauna data . The department is requesting EPA add this parameter to the 303(d) List.

DEP Response 7: The department requested and received additional documentation to be able to use the Pinellas County SCI samples in the final Group 5 Cycle 3 Springs Coast assessments. We have reassessed Jerry Branch (WBID 1550) (see Table 2 below). We found that the biology assessment would change to assessment category 2 (Not Impaired) which would allow for the Chlorophyll-a, Total Nitrogen and TP assessments to all move into assessment category 2 for the final assessments.

Table 2. Jerry Branch (WBID 1550) assessments with the addition of Pinellas County SCI samples

WBID	Waterbody Name	Parameters Assessed Using the Impaired Surface Waters Rule (IWR)	Revised Integrated Report Category Summary Assessment	Revised Summary Assessment Status	Final Integrated Report Category Summary Assessment	Final Summary Assessment Status	Planning Period Assessment Data ⁶	Verified Period Assessment Data ⁶
1550	Jerry Branch	Biology	3c	Planning List	2	Not Impaired	SCI (n=3) Big Mean (39) Mean 1 (43), Mean 2 (30)	SCI (n=4) Big Mean (44) Mean 1 (35), Mean 2 (55)
1550	Jerry Branch	Nutrients (Chlorophyll-a)	3b	Insufficient Data	2	Not Impaired	AGM Insufficient Data	AGM 2015 (3 µg/L) 2016 (11 µg/L) 2017 (8 µg/L)
1550	Jerry Branch	Nutrients (Total Nitrogen)	3b	Insufficient Data	2	Not Impaired	AGM Insufficient Data	AGM 2015 (1.18 mg/L) 2016 (1.28 mg/L) 2017 (1.31 mg/L)
1550	Jerry Branch	Nutrients (Total Phosphorus)	4d	Study List	2	Not Impaired	AGM Insufficient Data	AGM 2015 (0.15 mg/L) 2016 (0.16 mg/L) 2017 (0.23 mg/L)

General Concerns About the Interpretation of the Biological Standards:

County Comment 8: “Macrophytes” listings—The floral assessments are the only components of the biological assessment that result in immediate placement on the verified list if a stream does not attain even one assessment. Table 5 “Decision Matrix...” on page 23 of the “Implementation of Florida’s Numeric Nutrient Standards” (2013) indicates that if “Any One Floral Measure [is] Not Attained,” the stream is placed on in Cat 5 on the Verified List, even if the TN and TP nutrient thresholds are attaining and the SCIs are passing. Of all the biological indicators, the assessment of floral measures have the least amount of training and little to no QA/QC from DEP, particularly the RPS. Also, the floral components are highly variable and largely influenced by hydrology, canopy, and disturbance that is typical in urban areas (there are many scientific references for this, including studies in Florida; we can provide if needed).

The LVS relies on the presence/absence of FLEPPC plants. The parameters COC and % FLEPPC are measures of the same thing and are, thus, redundant. With regard to the percentage of FLEPPC plants used to determine attainment of the FLEPPC, on page 13 in the aforementioned DEP doc, **reference** streams in FL had approximately **40%** exotics in the total plant occurrences. The threshold for attainment for all streams is set at **<25%** (80th percentile of reference). In Florida, especially urban areas, it is unreasonable to expect that streams will achieve an even more stringent level of exotics than the average reference streams. And then, there is immediate placement on the 303(d) list if a **single** floral assessment does not attain this

number. Failure should result in placement on the study list, not the impaired list, unless there is concurrence with other factors (nutrients and/or SCI).

This should be revised to make all the facets of the biological assessment more equitable and make the threshold values more reasonable. Pinellas County is requesting that the rule be opened for revision and would like to participate in discussions to improve this methodology.

DEP Response 8: Pursuant to the NNC Implementation Document, the macrophyte impairments are based on two temporally independent Linear Vegetation Survey (LVS) samples that exceed the metrics. The LVS is not the appropriate assessment tool for indicating excessive nuisance macrophyte growth in waters that do not meet the stream definition. When a Class III stream-like waterbody meets all of the exclusions in the definition for “stream” in paragraph 62-302.200(36)(a) or (b), F.A.C., the stream Numeric Nutrient Criteria in paragraph 62-302.531(2)(c), F.A.C., no longer applies. Ditches, canals and other conveyances can be excluded from the stream definition if they are demonstrated to:

1. Be man-made, or predominantly channelized or predominantly physically altered,
2. Be primarily used for water management purposes, such as flood protection, stormwater management, irrigation, or water supply; and
3. Have marginal or poor stream habitat or habitat components, such as a lack of habitat or substrate that is biologically limited, because the conveyance has cross sections that are predominantly trapezoidal, has armored banks, or is maintained primarily for water conveyance.

Stakeholders may submit the following materials to support these demonstrations if they believe the waterbody meets the exclusion for conveyances:

1. Historical and current photos (aerial if available) or topographic maps showing that the waterbody is either manmade or predominantly channelized or straightened.
2. Information on current primary purpose of the conveyance. This can include a narrative description, photos, operational protocols, local agreements, permits, memorandums of understanding (MOUs), contracts, or other records that indicate how the conveyance is used, operated (if applicable), and maintained. Verify conveyance is maintained (herbicide application, physical removal of aquatic substrate, dredging of sediments, or removal of riparian trees) to currently function consistent with the primary water management purpose. The waterbody will not qualify if its primary purpose is navigation or boat access to adjacent waters, or for frequent recreational activities.
3. Photos and results of a Habitat Assessment (HA) following DEP SOP FT 3000 for each segment of the conveyance that exhibits different features, and the overall HA score must be poor or marginal, with a score of less than 6 in each of the following HA categories: Substrate Diversity, Substrate Availability, and Degree of Artificial Channelization.

If a waterbody meets the exclusion for conveyances (or any other exclusion from the stream definition), the waterbody is still covered by the narrative nutrient criterion. The waterbody will be assessed for impairment using the 20 ug/L chlorophyll-a threshold for streams (expressed as an annual geometric mean, not to be exceeded more than once in a three-year period), a statistically significant increasing trend in the annual geometric means in total nitrogen, total phosphorus, and chlorophyll-a over the assessment period, and other information indicating an imbalance in flora or fauna due to nutrient enrichment (including, but not limited to, algal blooms, excessive macrophyte growth, decrease in the distribution (either in density or areal coverage) of seagrasses or other submerged aquatic vegetation, changes in algal species richness, and excessive diel oxygen swings) shall also be considered.

In regard to rule revisions, we have shared your comment with the Water Quality Standards Program, who intends to initiate triennial review of Florida's water quality standards later this year. The Coefficient of Conservatism (C of C) and the Percent Florida Exotic Pest Plant Council (% FLEPPC) are not the exact same thing. The C of C score is a measure of any plant's fidelity to a narrow range of ecological conditions—or how likely it is that it would be growing in an intact natural area versus a disturbed area. Exotics are always assigned a score of 0, and natives range up to 10. The mean C of C takes into account the whole macrophyte community in that stretch of stream. The FLEPPC taxa are a subset of exotics, the most invasive of the many exotic taxa in Florida, that have been determined to be causing the most displacement of native species and disruption to natural communities. The metrics are two different measures of community structure and function.

The department appreciates Pinellas County Environmental Management taking the time to submit comments on the Group 5 basin assessments. Your input helps the department in producing better assessments. If you have additional questions about our responses or the assessments, please contact me or the Environmental Manager for the basin (Jessica Mostyn at (850) 245-8441 or Jessica.Mostyn@dep.state.fl.us). My contact information is (850) 245-8469 or Kevin.ODonnell@dep.state.fl.us.

Sincerely,



Kevin O'Donnell
Environmental Administrator, Watershed Assessment Section
Florida Department of Environmental Protection

Cc: Kelli Hammer Levy
Blake Spencer