



Triennial Review of Florida's Water Quality Standards

Division of Environmental Assessment & Restoration
December 2, 2020



Presentation Outline

- Introduction to the Triennial Review (TR)
- Key Topics of Interest to FSA
 - Clarification of Bacteria Criteria
 - Revisions to Turbidity Criterion
 - Cyanotoxin Criteria
 - Revisions to NNC Implementation Document
- Tentative Schedule



Background

- **Under the Federal Clean Water Act, states are required to periodically conduct a comprehensive review of their surface water quality standards**
 - **Known as “Triennial Review” because must conduct review at least once every three years**
- **Department adopted revisions for last TR on Dec. 9, 2015, and EPA approved the revisions on July 24, 2017**



Background

(continued)

- **General expectation is that States consider adoption of any new/revised EPA recommended water quality criteria**
 - **“304(a) criteria”**
- **States are not required to adopt EPA recommendations, but under recent revisions to 40 CFR 131.20(a), States must explain why if they decide not to adopt**



Scope of Triennial

- **Notices of Rule Development for TR published on March 29, 2019 included all rules with surface water quality standards**
 - **Chapter 62-4 (Permits)**
 - **Chapter 62-302 (Surface Water Quality Standards)**
 - **Chapter 62-303 (Identification of Impaired Surface Waters), and**
 - **Chapter 62-304 (Total Maximum Daily Loads)**
- **Listed all rule sections related to surface water quality standards**
 - **We currently have no changes planned for Chapters 62-4 or 62-304, but all surface water quality standards are still open for potential revision and public comment**



Public Participation to Date

- **DEP held “kickoff” public workshops May 14-16, 2019**
 - Shared topics that DEP planned to address and solicited public input on topics to address
- **DEP held public workshops Nov 4-7, 2019**
 - Presented details of all revisions proposed by DEP and provided opportunity for public comments



Current Status

- **We have been working on three main issues in response to public comments from public workshops**
 - **Cyanotoxin Criteria – working with Blue Green Algae Task Force to get their feedback**
 - **Coral Reef Turbidity Criterion – working with stakeholders to address their concerns**
 - **Revising the NNC Implementation Document**
- **This presentation will highlight changes that have been made to address stakeholder input**



Changes to Chapter 62-302

- **Bacteriological Quality (*Escherichia coli* Bacteria)**
 - For both E. coli and Enterococci criterion, revised rule to clarify that if there are fewer than 10 samples for a given month, the Ten Percent Threshold Value (TPTV) is assessed as a single sample maximum
 - Still requires at least 10 samples in a month for monthly geometric mean criterion
 - Will add similar language to text for Class I (sample size is different) and II waters



Turbidity Criterion

- Initially proposed adding a narrative that would apply to all Florida waters and a turbidity criterion that applies in specific areas with corals and hardbottom communities
- No longer plan to include narrative that would apply to all waters because it was too vague on how it would be implemented
- We are still proposing a Coral Reef turbidity criterion, but
 - We have made several key revisions, and
 - Implementation focuses on Dredging operations
- So....., turbidity revisions should not impact stormwater discharges, but still important enough for quick update



Proposed Coral Turbidity Criterion

- **DEP conducted comprehensive literature review and concluded that 29 NTU over background is not protective of corals/hard bottom communities**
- **However, there are insufficient data to establish a specific numeric criterion**
 - **Potential criteria range from 3 to 7 NTU**
- **Must also address complexity of natural spatial and temporal variability, which impacts duration and frequency of criterion**
 - **Resident corals are adapted to the natural variability**

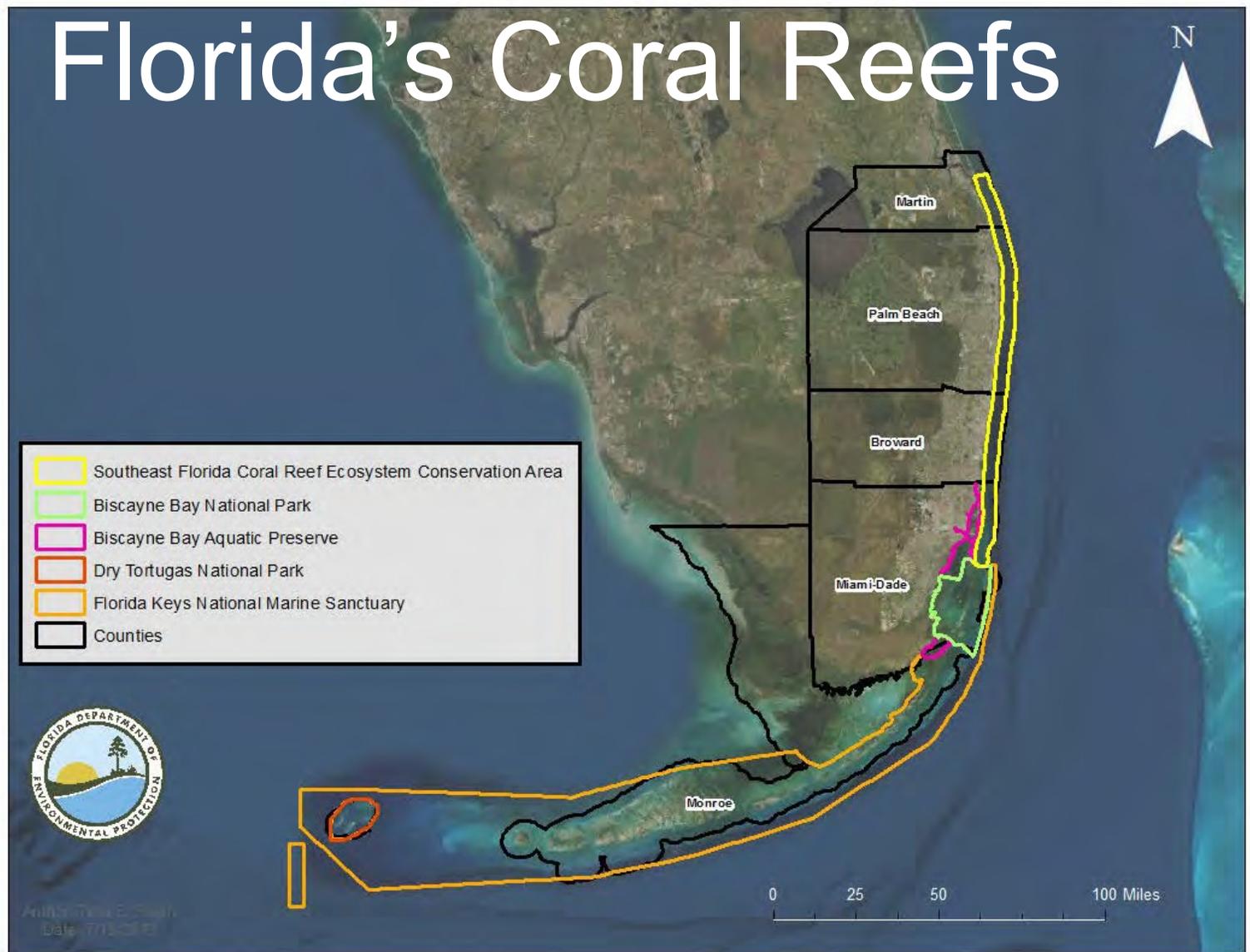


Revisions to Coral Turbidity Criterion

- We proposed a “narrative criterion” to address background variability
 - “turbidity shall not be increased above background conditions....” and “background conditions shall take into account the natural variability of turbidity levels and shall be established following the methods described in the document *Implementation of the Turbidity Criterion for the Protection of Coral Reef and Hardbottom Communities*, dated [MONTH YEAR], which is incorporated by reference”
- Originally proposed to apply throughout the Florida Reef Tract, but will now only apply in areas where corals or hardbottom communities are found or have been demonstrated to have occurred since Nov. 28, 1975

Florida's Coral Reefs

- This graphic shows where most corals occur, but it is not tied to criteria and will not be incorporated by reference





Coral Turbidity Criterion Implementation Document

- Addresses application in dredging and beach nourishment permits
 - No longer addresses implementation in Impaired Waters Rule (IWR)
- Background variability can be established based on previously available data for the region, site-specific data from a previous project, and pre-project turbidity data collected at “baseline” stations for the project
- Permit limits expressed as an allowable increase between project background and compliance stations
 - Allowable increase calculated as upper confidence level related to the range of turbidity levels, with different statistical approaches for different types of data
- Provides incentive to collect site-specific data



Cyanotoxin Criteria

- EPA finalized national recommended recreational water quality criteria and swimming advisories for cyanotoxins in May 2019
 - Addressed both Microcystin (8 $\mu\text{g/L}$), and cylindrospermopsin (15 $\mu\text{g/L}$)
- Final recommended criteria were ~ double EPA's draft criteria because
 - EPA used an updated, lower incidental ingestion rate for children (0.21 L/day instead of 0.33 L/day), and
 - EPA increased the "Relative Source Contribution" (RSC) from 0.8 to 1, which assumes all exposure due to incidental ingestion during swimming



Cyanotoxin Criteria

(continued)

- **DEP received a petition requesting that we adopt EPA 2016 draft thresholds as water quality criteria (WQC)**
- **DEP requested public input on this issue and would like feedback from Blue Green Algae Task Force on the following:**
 - **Whether to adopt as WQC or recommend that Dept. of Health (DOH) adopt as swimming advisory threshold**
 - **And if adopted as WQC, whether to adopt draft or final criteria, or develop our own criteria**

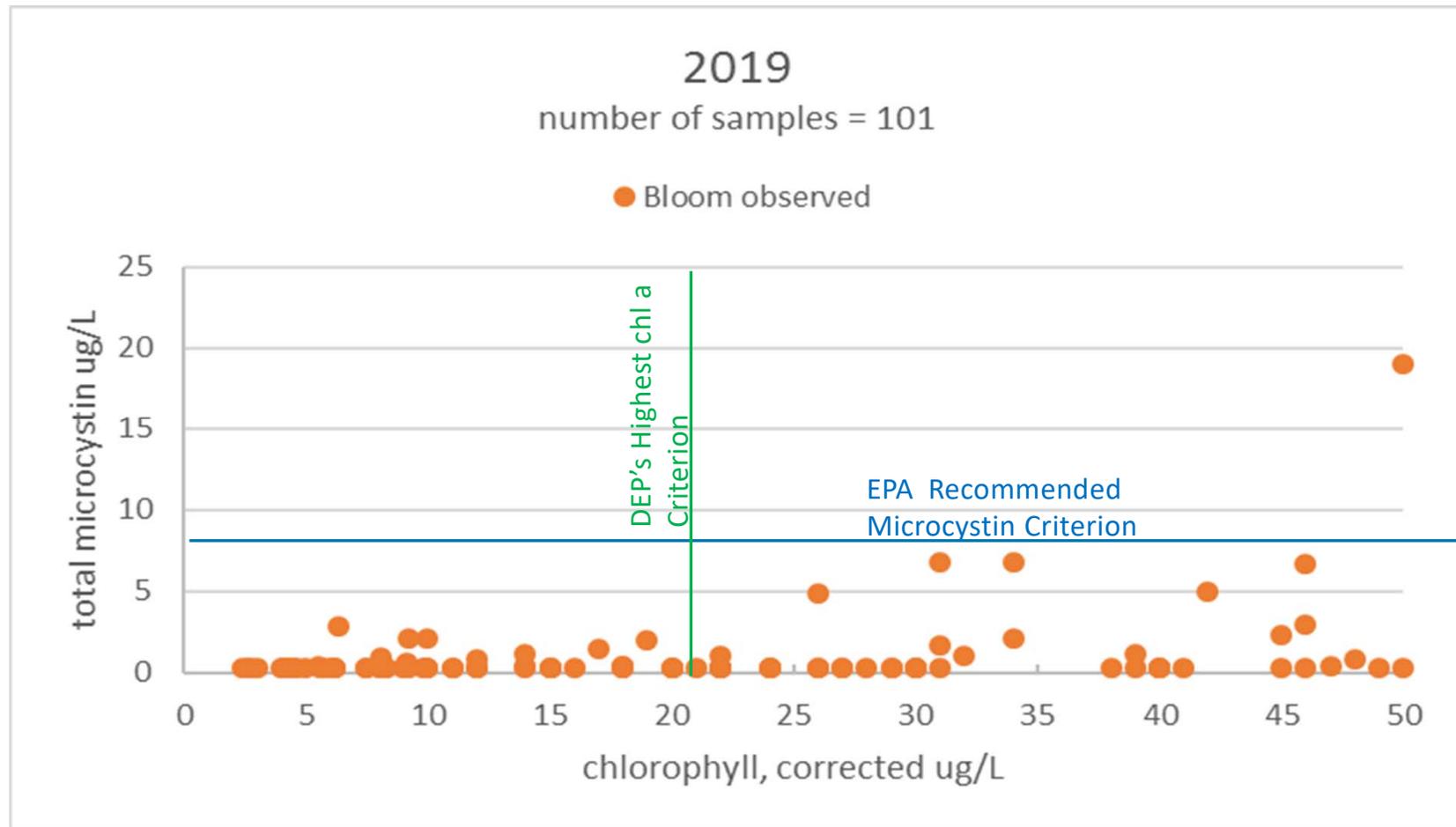


Cyanotoxin Criteria

(continued)

- EPA recommended cyanotoxin criteria are specifically designed to protect human health
- DEP has already adopted Numeric Nutrient Criteria (NNC) designed to be protective of aquatic life use support, which was determined to be most sensitive use
 - Adopted NNC for streams, springs, lakes and estuaries
- Our highest adopted chlorophyll *a* criterion is 20 µg/L (for colored lakes), and data indicate that microcystin concentrations are well below recommended cyanotoxin criteria at 20 µg/L chl *a*

2019 CyanoHAB Sampling Results





Proposed Changes to NNC Implementation Document

- **Proposing updates to the “Numeric Nutrient Criteria Implementation Document,” which was incorporated by reference in 2012**
 - **Want to clarify key issues, streamline document, and make corrections**
- **Plan to only incorporate specific portions**
 - **Floral Metrics (Sections 6.3 to 6.8), and**
 - **Stream Exclusions (Chapter 12)**
- **These portions were considered by EPA as changes to Florida water quality standards**



Changes to “Numeric Nutrient Standard for Streams”

(continued)

Section 6.3 – Floral Evaluation

- Propose that streams that fail Linear Vegetation Survey (LVS) be placed on Study List rather than Verified List (VL)
 - Need to evaluate if nutrients contributed to failure because exotic or tolerant plants can occur without anthropogenic nutrient enrichment
- Dropped proposal to require the two Rapid Periphyton Survey (RPS) and LVS to be conducted in different hydrological seasons
 - Will instead require that at least one of the temporally independent samples in October- April



Changes to “Numeric Nutrient Standard for Streams”

(continued)

Section 6.3 – Floral Evaluation (continued)

- Clarified floral assessment is based on two most recent samples
 - If both pass an evidentiary threshold, then passes
 - If both fail, then site fails
 - If one passes and one fails, then either look at third most recent assessment or conduct additional assessment, and determination based on 3rd assessment
- Adding language to address cases where most recent data are not representative of overall water quality
 - If at least 5 prior bioassessments and preponderance (> 66%) are contradictory with recent data, then based on older data



Proposed Changes to NNC Implementation Document

(continued)

Section 10 – Implementing the NNC in the IWR

- Added Section 10.1 to address assessment of floral metrics of the numeric nutrient standard for streams
- If any station within a WBID conclusively fails a floral evidentiary threshold, WBID is listed as impaired



Proposed Changes to NNC Implementation Document

(continued)

Section 10.4 Evaluation of Trends

- Use same statistical method (Mann-Kendall) and still looking at trends in annual geometric means (AGMs)
- No longer place waters on Study List to assess for “confounding factors” nor extrapolate into the future
- List on Verified List if
 - Increasing trend in nutrients or chl *a* over the Period of Record (POR) and last 7.5 years, and
 - Annual slope of trend over last 7.5 years is \geq 20% of difference between current levels and NNC
 - Goal is to ensure that slope is “ecologically relevant”



Proposed Changes to NNC Implementation Document

(continued)

Section 12 – Basic Info Needs for Distinguishing Flowing Waters (Stream Exclusion) (continued)

- **Stream Definition includes exclusions for**
 - Non-perennial streams, wetlands, lake-like portions of streams, and tidal creeks, and
 - Ditches, canals, and other conveyances that are man-made or predominantly channelized or physically altered, and primarily used for water management purposes and have marginal or poor stream habitat or habitat components
- **If excluded, narrative still applies, and water still assessed for nutrient impairment using nutrient impairment thresholds**
 - Impaired if Chl *a* > 20 µg/L for freshwater and > 11 µg/L for marine
 - Also assess “Other information” and Trends



Proposed Changes to NNC Implementation Document

(continued)

Section 12.1 – Non-Perennial Water Segments

- In initial document, could only demonstrate non-perennial based on taxa present, but propose to also demonstrate based on flow data
 - Can use either approach, but if have bioassessment data and flow data and results are contradictory, bioassessment results take precedence
- Previously proposed option that would have also allowed use of the HydroBioGeomorphic (HBG) classification system developed by John Kiefer to demonstrate non-perennial based on drainage area, but EPA said not sufficient as stand-alone basis
 - Will use as ancillary information



Proposed Changes to NNC Implementation Document

(continued)

Section 12.1.1 – Stream Flow as an Indicator

- Define several terms:
 - Perennial – measurable flow for at least 180 consecutive days in at least 90% of years
 - Likely Perennial – measurable flow for at least 180 consecutive days in at least 50% of years
 - Seasonally Perennial – measurable flow for at least 90 consecutive days in at least 75% of years
 - Non-perennial – flows less than any of the above
- Meet stream exclusion if neither perennial nor likely perennial
- Minimum flow record is five years and can estimate using nearby gages



Proposed Revisions to Chapter 62-303, F.A.C.

- **Propose variety of revisions to IWR, with most designed to clarify, but some new provisions:**
 - **Revising the trend test for nutrients and chlorophyll *a***
 - **Assessment of additional expressions of NNC to accommodate TMDLs**
 - **Revisions that incorporate portions of the NNC Implementation Document in the IWR Rule**
 - **Revising the listing methodology for the LVS floral metric**
 - **Revisions related to data uploads to WIN**
 - **Revising text for listings based on FDOH fish consumption advisories**



Schedule

- **DEP plans to hold another workshop to present latest changes**
 - **Will likely be one virtual workshop, using GoToWebinar**
- **Plan to bring to Environmental Regulation Commission (ERC) for adoption several months following workshop**
 - **45-day notice period prior to adoption hearing**

