Sutton, Kaitlyn

From: Sweeney, Pamela (RER) <Pamela.Sweeney@miamidade.gov>
Sent: Saturday, November 23, 2019 12:02 AM
To: Sutton, Kaitlyn
Cc: Thanner, Sara (RER); Spadafina, Lisa (RER)
Subject: Miami-Dade County comments re: FDEP's Triennial Review of Florida's Water Quality Standards 2019

Kaitlyn,

Please find below comments respectively submitted for your review on behalf of Miami-Dade County. Please contact me with any questions, and we look forward to working with you and the team on your next steps.

FDEP's Triennial Review of Florida's Water Quality Standards 2019

Comments:

Miami-Dade County would like to acknowledge DEP's efforts to improve or enhance existing crtieria in order to better protect Florida's natural resources. This includes establishing one-time sampling maximum values for bacterial indicators in marine waters as well as recognizing that the current standards which allow for turbidity levels of 29 NTUs above background are not protective of coral reefs and /or hardbottom communities. DEP has taken considerable steps toward revising these standards. Background turbidity levels offshore of Miami-Dade County are typically less than 1 NTU; therefore, the current standard of 29 NTUs above background could allow for turbidity impacts at nearly 30 times background levels. The suggested revisions are far better than existing standards and should be supported. However, the implementation document referenced in Paragraph 62-302.530(70)b could and should be improved. The following comments and questions are provided in response to the proposed changes:

- Would artificial reefs and structures like seawalls be protected under the definition of "Hardbottom Communities" 62-302.200(16) as they are a marine benthic community of organisms characterized by the presence of corals?
- The establishment of mixing zones and variances will still be allowed on/over corals and/or hardbottom communities similar to designated OFWs. Compliance is still intended to be determined at the edge of an authorized mixing zone. However, turbidity levels, both inside and outside of the mixing zone, must not have an adverse or acute impact on marine resources, recreational value or public safety (see page 8 of Implementation Document).
    - FDEP is proposing criteria in which background turbidity levels (or the calculated 90/95% CI) are not to be exceeded. They are also stating (as noted above) that turbidity within the mixing zone must not have an adverse impact on marine resources. Therefore, in my opinion, this means mixing zones should never be authorized if they extend over known areas with coral/hardbottom. How will this be adhered to/implemented especially for port dredging projects?
- The Implementation Document associated with the turbidity criterion establishes more 'extensive' data requirements for establishing background turbidity conditions than OFWs, but…
    - Only require samples across a minimum of 3 tidal cycles. This is not enough to account for weather, seasonal, or gulf stream influences (generally summer/calm seas lead to lower turbidity while winter/windy/rainy conditions lead to higher turbidity). The Implementation Document does say that sampling after extreme weather/wind events should be avoided, but more background samples should be collected to better reflect normal variability. The Technical Advisory Committee (TAC) to the Southeast Florida Coral Reef Initiative (SEFRCI) also shares concern with the small sample size.
- Calculation of background variability: The allowable increase in turbidity over pre-project background levels and associated permit-required turbidity limit shall be calculated, using data collected at the baseline station(s), as an upper confidence interval of the mean difference between minimum and maximum turbidity over a typical tidal

cycle. Compliance samples must be within the 90% confidence interval (CI) if background values are established based on <5 tidal cycles and 95% CI for ≥ 5 tidal cycles.
    - CI calculation assumes that the turbidity data will be normally distributed. However, it is more likely that the data is lognormal. Calculating standard CIs based on normal data when the data is actually lognormal will skew the upper CI in favor of increased turbidity and needs to be evaluated. The TAC also shares concern regarding the distribution of background samples.
    - Project compliance samples should be collected at background locations if at all possible.
- Implementation Document states that the turbidity criterion is designed to maintain the pre-project background turbidity magnitude, frequency, and duration (see page 11).
    - Despite acknowledging the role the duration of elevated turbidity can play, thresholds to protect against prolonged elevated turbidity levels was not outlined. A threshold needs to be established such that if measured turbidity is at or near the upper 90/95% CI for given time (i.e., 2 weeks) period then dredging/construction is to be shut down until levels drop. The TAC also shares concern regarding the duration of turbidity at the upper limits.
- The Technical Document acknowledged published literature which shows temperature and anthropogenic sedimentation additively affected coral health (see page 18-21).
    - Thresholds need to be established to protect corals against elevated turbidity levels during peak temperatures (degree heating weeks) such that dredging/construction should be adequately monitored.

Best regards,

Pamela Sweeney