



**Department of Environmental
Resources Management**

2300 North Jog Road, 4th Floor
West Palm Beach, FL 33411-2743

(561) 233-2400

FAX: (561) 233-2414

www.pbcgov.com/erm

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December 4, 2020

Mr. Daryll Joyner, Administrator
Water Quality Standards Program
Florida Department of Environmental Protection

Subject: Comments on Draft Coral Turbidity Criterion Implementation Document

Dear Mr. Joyner,

Palm Beach County continues to harbor significant concerns that the Florida Department of Environmental Protection's (Department) proposed revisions to Chapter 62-302 F.A.C. turbidity criterion and the associated Draft Implementation of the Turbidity Criterion for the Protection of Coral Reef and Hardbottom Communities will have dramatic impacts to the County's ability to protect its 47 miles of Atlantic shoreline against ongoing critical erosion and Sea Level Rise (SLR). In addition to the County's previous comments submitted November 22, 2019, the County has the following comments regarding specific aspects of the updated implementation criterion:

- Section 1.2, Page 1- "The implementation procedures presented in this document are intended to provide necessary protections to these critically important marine communities and help ensure that man-induced turbidity is not a limiting factor in the recovery of Florida's coral reefs. It is intended to help implement Executive Order 19-12 (Achieving More Now for Florida's Environment) by helping to ensure that Florida's valuable and vulnerable coastlines and natural resources are protected."
 - The well-meaning implementation procedures are intended to protect *specific* environmental communities within a complex ecosystem, but do not balance their potential impacts on maintenance of federally-designated critical marine turtle nesting habitat in areas the Department has identified as "critically eroded" (33 of the County's 47mi Atlantic coastline).
 - Executive Order 19-12 specifically identifies numerous directives designed to address nutrient loading in Florida's waterways, but does not address turbidity criteria at all; in fact, "Section 3: Ensure Florida's Valuable and Vulnerable Coastlines and Natural Resources are Protected" includes the Departmental directive to "A. Create the Office of Resilience and Coastal Protection to help prepare Florida's coastal communities and habitats for impacts from sea level rise by providing funding, technical assistance and coordination among state, regional and local entities.", which should prioritize cost-effective and environmentally sensitive beach nourishment as the primary existing tool in mitigating coastal impacts from SLR.



- Section 1.3, Page 2- “While the data indicate that the current turbidity criterion (29 NTU above natural background) is not protective of corals and hardbottom communities, there are insufficient data to establish the magnitude of a specific numeric criterion that would be protective of all coral species.”
 - Revised turbidity criterion documents make repeated reference to the insufficient nature of the available data required to establish a specific numeric criterion that would be protective. The Department indicates on Page 3 that a likely threshold would fall between 3 and 7 NTU. Despite this acknowledged lack of data, the Department’s proposed threshold for Palm Beach County waters is effectively 0 NTU.
- Section 1.3, Page 4- “Turbidity shall not be increased above background conditions within areas of the state where coral reef or hardbottom communities are currently found or have been demonstrated to have occurred since November 28, 1975.”
 - The County recently conducted a study of historical aerials from 1940 to 2018 located between R-132 and R-138 in South Palm Beach that found an average shoreline recession of 198 ft, and an associated increase in nearshore hardbottom exposure of approximately 11.6 ac. Given that 70% of the County is considered by the Department to be “critically eroded”, increasing reef exposure due to SLR and decreasing natural sand transport is already hampering the County’s ability to maintain critical beach and dune habitat. While increasing due to the above factors and ongoing shoreline hardening, the extent of “Coral Reef” exposure in the County is not contiguous in all areas and should be addressed on a project-by-project basis through the existing JCP permitting process.
- Section 1.3, Page 4- “However, worm reefs are not included in the definition applicable to the turbidity criterion because worm reefs typically occur in environments with highly dynamic natural turbidity conditions (FDEP, 2020).”
 - The County has historically hosted worm reefs throughout its Atlantic coastline. The County agrees with the Department that Palm Beach County coastal waters exhibit highly dynamic natural turbidity conditions to which native corals may be adapted. The County supports further research that may identify a specific threshold protective of corals found adjacent to site-specific shore protection projects.
- Section 1.5, Page 7- “For instance, offshore south Florida was historically known for “gin clear water.” While offshore coral reef specific water quality monitoring in the Florida Keys goes back approximately 25 years and less than 5 years in the Coral ECA, only recently has turbidity been included in either program.”
 - While County waters are known to be clear during ideal conditions, the Department’s subsequent acknowledgement of a lack of turbidity data and its associated relationship to regional corals is a further indication of the need for additional research prior to issuance of significant regulatory changes as proposed.
- Section 2.1, Page 8- “The turbidity criterion for corals (paragraph 62-302.530(70)(b), F.A.C.) will affect dredging, beach nourishment, and other projects that may generate turbidity in coastal waters where coral and/or hardbottom communities are present.” and “Beach restoration and nourishment have been the main methods of managing beach erosion and maintaining beach habitat.”
 - The Department indicates the proposed criterion will affect dredging and beach nourishment, which are widely acknowledged to be the most cost-effective and environmentally sensitive method of addressing storm protection and SLR currently available. The County recommends additional research and consideration of potential impacts to regional management of critical beach and dune habitat prior to proceeding with rulemaking.
- Section 2.2, Page 9- “Permit applicants have the ultimate responsibility to provide the information needed to establish the baseline turbidity, including the natural variability in baseline turbidity levels, for the area where the permitted activity will take place.”
 - The Department has not substantiated a specific turbidity standard that is protective of corals with appropriate regional research. The County supports additional research with that goal in mind, but does not support acquiring that research through the permitting process.



- Section 2.3, Page 11- “Because the pre-project data set requirements are relatively small in terms of sample size, the results are prone to undue influence from statistical outliers. Therefore, the turbidity results must be screened for outliers and any outliers shall be flagged for potential removal from the dataset before the calculation of background variability and calculation of permit-required turbidity limits. These outliers may be retained if the Department agrees that the values are representative of background conditions. For purposes of this analysis, an outlier shall mean any turbidity value that is greater than the mean of the data set plus three times the standard deviation, and the outlier analysis shall be conducted for each station and depth independently.”
 - Data outliers are expected due to the naturally dynamic wave climate found within the County. Excluding such outliers should only be considered due to confirmation of sampling error.
- Section 2.4, Page 11- “However, increases in the magnitude, duration or frequency (i.e., increased variability) of turbidity above background conditions have deleterious effects on the resident coral and hardbottom.”
 - It should be noted that such conditions are naturally and frequently found in County waters during prolonged passage of cold fronts and severe storms. Further research is needed to determine the natural variability prior to proceeding with rulemaking.
- Appendix A, Pages 19-22- Turbidity Interquartile Ranges representing Palm Beach County waters
 - Departmental data for County waters indicate a range of 0-1 NTU. Due to strong currents typically found adjacent to permitted offshore County borrow areas for major shore protection projects, the proposed standard of 0 NTU above background may effectively prohibit dredging activity altogether without establishing a direct link between project-based turbidity as a stressor of concern and speculative impacts to corals. The prohibition or severely restricted use of offshore borrow areas has the potential to immediately double or triple the cost of critical shore protection projects. Further research is needed prior to establishment of such a fiscally consequential rule as currently proposed.

While the County remains extremely concerned about the implications of the proposed turbidity criterion rule revisions and associated implementation guidance, it also remains committed to protecting and preserving its significant coral reef resources. The County supports further research that may establish regulatory thresholds directly linked to preventing harmful impacts from stressors of concern to coral reefs; however, this research should not be acquired through the permitting process and should be obtained prior to moving forward with rulemaking. Once additional studies are completed, the County reiterates its support of a review of the existing turbidity criterion to ensure the continued protection of our wide range of important coastal resources.

Sincerely,

Andy Studt, Program Supervisor
Coastal Resources Management

cc: Pepper Uchino, President, Florida Shore and Beach Preservation Association
Lisa Armbruster, Technical Director, Florida Shore and Beach Preservation Association