



**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



**Palm Beach County
Board of County
Commissioners**

Mack Bernard, Mayor
Dave Kerner, Vice Mayor
Hal R. Valeche
Gregg K. Weiss
Robert S. Weinroth
Mary Lou Berger
Melissa McKinlay

County Administrator

Verdenia C. Baker

*"An Equal Opportunity
Affirmative Action Employer"*

Official Electronic Letterhead

November 22, 2019

Ms. Kaitlyn Sutton, Environmental Consultant
2600 Blair Stone Road
Mail Station 6511
Tallahassee, FL 32399-2400

**Subject: Comments on FDEP Revised Turbidity Criterion
Rule 62-302, F.A.C.**

Dear Ms. Sutton,

Palm Beach County is responsible for managing and protecting 47 miles of Florida's easternmost Atlantic shoreline, which includes four regularly maintained inlets and a complex mix of sensitive natural resources. In addition to extensive tracts of natural hardbottom and reefs, the County hosts some of the most densely nested marine turtle habitat in the nation. This unique area of Florida's heavily developed southeastern coastline is also situated near the center of the historical Atlantic hurricane track record, making cost-effective and environmentally sensitive shore protection projects a necessity. These projects have been carefully negotiated with State and Federal regulators for decades to ensure a balance of protection for all of these vital resources.

The Florida Department of Environmental Protection's (Department) draft revisions to Chapter 62-302 F.A.C. turbidity criterion would greatly impact the County's ability to protect its coastal resources- not only financially, but environmentally as well. With its extensive mix of sensitive coastal resources, persistent exposure to severe storms, and strong nearshore water currents, Palm Beach County would be particularly hard-hit by turbidity criterion changes as currently drafted. The County has the following comments regarding specific aspects of the proposed rule changes and implementation criteria:

Rule 62-032.200, F.A.C. Definition Changes

The County does not support the alteration of the Hardbottom Community definition to include worm reefs created by the genus *Phragmatopoma* as there is no data or scientific research to show the effects of turbidity levels on worm reefs.

Rule 62-302.530(70)(a), F.A.C.

The addition of the narrative statement provides little functional guidance in the protection of aquatic resources. Florida possesses many unique ecosystems that each deserve appropriate consideration for the effects of turbidity on its flora and fauna. The narrative addition to the current turbidity criterion allows for subjectivity in its interpretation. The narrative should provide more objective and scientifically supportive language to determine numerical criteria for each waterbody's species-



specific tolerances that could result in negative effects. A transparent and clearly stated process for determining if a turbidity level is in exceedance or not needs to be added.

Rule 62-320.530(70)(b), F.A.C.

FDEP Policy Document: “DRAFT Revised Turbidity Criterion to Protect Florida Coral and Hardbottom Communities”

The report sets out laudable goals that are clearly designed to protect Florida’s coral and hardbottom communities through a sharp reduction in one narrowly defined metric- turbidity. The challenge with the proposed rule change is twofold: the lack of supporting data and research needed to set a meaningful standard applicable to Florida’s coastal hardbottom communities; and the need to consider the impacts on necessary environmental restoration projects.

The Department makes clear throughout the report that it feels there is not enough data to support the establishment of a scientifically defensible turbidity standard at this time:

- Section 6.0, Page 21- “The data on how turbidity effects the full life cycle of Florida corals are extremely limited...”
- Section 6.1, Page 22- “There are currently insufficient data and information to support specific numeric thresholds that are protective of sensitive coral community species including all life stages.”
- Section 6.1.1, Page 27- “The tolerance levels of the reef-building tubeworm larvae and other organisms that live alongside the worms have not been determined...”
- Section 6.2.2, Page 28- “As previously stated, the literature to support a specific turbidity or SSC threshold in Florida water is limited...”
- Section 6.4, Page 39- “...there is currently a lack of sufficient scientific studies to demonstrate a scientifically defensible threshold.”

Along with these acknowledgements, the Department undercuts the current threshold of <29NTU above background by citing a lack of supporting data for its establishment:

- Section 2.0, Page 7- “The basis of the criterion is only conjecture at this time because there is no available documentation supporting the 1962 Sanitary Code.”

The County contends that the establishment of a new standard without sufficient supporting data and research would generate a rule that is vulnerable to challenge, or will require so many regulatory exemptions that it limits the effectiveness of the rule.

Large-scale shoreline stabilization and protection projects are an absolute necessity in the management of our 33 miles of state-designated critically eroded coastline. The revised turbidity criterion as currently drafted would sharply limit the County’s ability to manage its coastal resources in a balanced manner. As proposed, the restriction of zero increase in turbidity levels above natural background would significantly impact the ability to use offshore borrow areas as sand sources due to strong currents generated by the close proximity of the Gulf Stream. While these powerful currents aid in the rapid attenuation of turbidity generated by offshore dredging activity, they also carry lower-level turbidity beyond even the most expansive currently permitted mixing zones and would result in shutdowns likely to increase project costs. Nearshore currents and seasonal weather patterns during the typical winter dredging season make the placement of any material, whether dredged or truck-hauled from upland mines, a difficult if not impossible proposition while maintaining a compliance standard of zero NTU above natural background outside of the permitted mixing zone. The potential effect of this newly limited and costly ability to approximate a native beach and dune system along Southeast Florida’s heavily developed



coastline will invariably lead to a reduction in critical marine turtle and shorebird nesting habitat. It will also decrease storm protection for \$6 billion in beachfront real estate and reduce resilience to climate change and sea level rise.

FDEP Implementation Guidance: “DRAFT Implementation of the Turbidity Criterion for the Protection of Coral Reef and Hardbottom Communities”

The implementation guidance is a well-meaning component to the above-referenced report that will establish a natural background compliance value for each coastal area; however, the guidance appears to be designed to gather data in search of a defensible turbidity threshold and to acquire that data in conditions that favor the proposed turbidity standard by excluding data from locations and naturally occurring events that generate elevated levels of turbidity. The County has the following comments to excerpts from the Guidance document

- Section 2.1, Page 9- “Paragraph 62-302-530(70)(b), F.A.C., and the requirements described in this Implementation Document apply to all permitted dredging and beach nourishment projects conducted in the FRT [Florida Reef Tract] regardless of the presence of coral or hardbottom communities.”
 - The blanket application of this standard to all areas within the FRT will greatly limit the ability of local governments to protect their coastlines through carefully negotiated and permitted shore protection projects. While the FRT includes extensive reef communities, it is not contiguous within the newly proposed regulatory area. Existing projects have been and will continue to be painstakingly designed to avoid impacts to benthic resources to the maximum extent possible.
- Section 2.2, Page 9- “Pre-project baseline conditions shall be established no more than three months before the beginning of the project.”
 - Coastal dredging and renourishment projects in the County are planned to avoid marine turtle nesting season. The typical construction window (November-March) coincides with the most adverse weather, wave, and turbidity climate annually. Establishing baseline conditions no more than three months before a given project would not accurately characterize conditions experienced during construction. Additionally, this condition is not practical due to contract solicitation and scheduling that typically occur 6-8 months ahead of construction.
- Section 2.2, Page 10- “Applicants must avoid sampling when weather fronts are moving through the area or when wind speed or direction are expected to change significantly. Extreme weather conditions such as tropical storms are not considered typical and must be avoided. Data collected during these periods of changing or extreme weather conditions shall not be used or considered in the establishment of the baseline condition. 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 removed from the dataset prior to the calculation of background variability and calculation of permit-required turbidity limits.”
 - The purpose of this document is to accurately characterize natural conditions at a given location. Weather fronts, changes in wind speed and direction, and extreme weather *are typical* within coastal County waters. The County has regularly experienced significant coastal impacts due to extreme weather over the past decade including Hurricane Sandy (2012), Hurricane Matthew (2016), Hurricane Irma (2017), Hurricane Dorian (2019), and numerous other tropical systems along with multiple cold fronts during the winter construction season. While the County does not propose sampling when conditions are unsafe, the exclusion or failure to characterize naturally (regularly occurring non-anthropogenic conditions) occurring high levels of turbidity does not provide an accurate baseline for assessment of impacts to the resource of concern.



- Section 3.3, Page 17- “Stations within 200 meters of shore may be influenced by tidal or wave action and shall be excluded from IWR [Impaired Waters Rule] assessments.”
 - The influence of tidal and wave action within 200 meters of shore is a primary driver of turbidity within the coastal system. Excluding these stations biases the dataset in favor of ideal conditions, rather than characterizing natural conditions.

Cost Implications of Draft Revised Criterion

The use of offshore sand sources is critical to the fiscally responsible and environmentally sensitive management of each of the County’s major shore protection projects. Utilizing offshore borrow areas for beach renourishment is by far the most cost-effective method of stabilizing critically eroded shorelines. Each of the County or its municipal partners’ currently permitted projects is carefully designed to avoid impacts to adjacent resources through rigorous regulatory review. Preliminary examinations of the potential increase in cost to well-established shore protection projects have indicated that individual project costs could be doubled. Countywide, at least 12 shore protection projects planned for FY2020-2021 carry an estimated cumulative project cost of \$95,261,000 to place over 5,667,470 cubic yards of sand restoring storm-induced erosion. Switching the sand source for these projects to upland sand with the hope of minimizing dredging-related turbidity would immediately double project cost under current market conditions, and potentially drive the costs even higher due to greatly increased regional market demand. These cost implications will also substantially impact the list of State-funded projects that receive funding each year.

Conclusions

The County understands the critical importance of its extensive coral and nearshore hardbottom communities, so much so that the Board of County Commissioners recently passed a resolution supporting Senate Bill 2429, the Restoring Resilient Reefs Act of 2019, and similar legislation. The County also has an obligation to balance the needs of its coastal resources, residents, and economy. The sharp focus on one metric that affects recruitment and survivorship of hardbottom communities ignores impacts to the County’s ability to maintain an approximation of a native beach and dune system along this historically developed and critically eroded portion of Florida’s coast. Maintaining critical nesting habitat for marine turtles and shorebirds, recreational space for residents and tourists, and carefully considering impacts to adjacent benthic resources is something Palm Beach County has effectively managed for decades. Our ability to continue this delicate balance is of the utmost importance to each of these interests and can only be accomplished through diligent consideration of the extensive rules and regulations that govern this region. The County’s hope is that this Triennial Review will help interest additional Florida researchers in studying the effects of sedimentation and turbidity in the Southeast Florida Coral Reef Ecosystem. Once additional studies are completed, the County could support a review of the existing turbidity criterion to ensure the health of our coral reefs and to aid in the construction of successful beach and dune restoration projects for coastal resiliency.

Sincerely,

A handwritten signature in blue ink, appearing to read "Deborah Drum".

Deborah Drum, Director
Environmental Resources Management

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