

November 20, 2019

Kaitlyn Sutton
Water Quality Standards Program
Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
3900 Common Wealth Boulevard
Tallahassee, FL 32399

RE: Triennial Review of Florida's Water Quality Standards

Dear Ms. Sutton,

Please accept the following comments from the Surfrider Foundation on proposed changes to Florida's water quality standards in 62-302 and 62-303, Florida Administrative Code under the Triennial Review.

Surfrider maintains a large network of more than 250,000 supporters, 84 chapters and 50 academic clubs nationwide, including 11 chapters in Florida. Our members come from all walks of life – surfers, paddlers, beach-goers, young families and retirees – that are united in their desire to ensure clean water, protect public access and to preserve healthy beaches and coastal ecosystems. As such, the Surfrider Foundation is deeply concerned about water quality and its impact on human and ecological health.

Turbidity

Existing turbidity standards do not adequately protect Florida's hardbottom species, as evidenced by widespread and ongoing impacts to coral reefs and nearshore hardbottom from dredge and fill operations.¹ We applaud the DEP for proposing more stringent limits on turbidity for coral reefs and other hardbottom species. These important communities require, "clear water, low turbidity, low nutrients and low incidence of siltation and smothering."² We also strongly support the inclusion of worm reefs in these additional protections. Nearshore hardbottom communities from Palm Beach County to the north show lower coral diversities, but an abundance

¹ See generally, *Threatened Corals See Effects of Sedimentation Stress in Early Life Stages*.
<https://www.aoml.noaa.gov/threatened-corals-see-sedimentation-effects/>

² Wanless, Harold R., Maier, Katherine L. *An Evaluation of Beach Renourishment Sands Adjacent to Reefal Settings, Southeast Florida*. Southeastern Geology, 2008. 25-42.

of other invertebrates, algae and fish associated with worm reef structures.³ One study of nearshore hardbottom habitat at Sebastian Inlet, predominantly worm rock, recorded 263 animal species and 65 algal species.⁴ In order for the new narrative criteria to better protect coral reefs and other hardbottom communities, like worm reefs, we suggest that 70(b) should read, “or other areas of the state where coral reef OR hardbottom communities are currently found.” To that end, the definition of “hardbottom community” could be further expanded to cover all five types of non-anthropogenic marine hard substrata 1) worm rock (live or dead), 2) Anastasia formation limestone, 3) reef-rock, 4) sandstone of different origins, and rubble.⁵ Even without coral or worm colonies, hard bottom is important habitat and can be covered by fishes, invertebrates, and algae, which could be impacted by elevated turbidity. Finally, we encourage the DEP to continue data collection with the goal of eventually determining a specific turbidity threshold that is adequately protective of hardbottom species. In the absence of such a value, however, we support the additional narrative criterion.

Micrcystins & Cylindrospermopsin

DEP should adopt criteria for cyanotoxins based on EPA’s 2016 Draft Guidelines, which are more protective of human health than EPA’s final recommended values. Harmful algal blooms have become distressingly commonplace in Florida. The blooms are increasingly frequent, long-lasting, and severe. Human exposure to cyanotoxins can lead to significant short and long-term health effects. Cyanotoxins can impact multiple organs and systems through ingestion, dermal contact, and inhalation.⁶ Gastrointestinal, respiratory, neurological, and dermatologic health effects are well established. An analysis of health impacts from HAB outbreaks in freshwater lakes included: rash, sores, gastrointestinal symptoms, neurologic symptoms, ear symptoms, eye irritation, and respiratory symptoms.⁷

³ Lindeman, Kenyon C., et al. *Ecological Functions of Nearshore Hardbottom Habitats in East Florida: A Literature Synthesis*. 2009.

https://www.researchgate.net/publication/287819803_Beach_nourishment_and_hard_bottom_habitats_The_case_for_caution

⁴ Nelson, Walter. *Beach nourishment and hard bottom habitats: The case for caution*. 1989. 109-116
https://www.researchgate.net/publication/287819803_Beach_nourishment_and_hard_bottom_habitats_The_case_for_caution

⁵ FDEP, Standard Operation Procedures for Nearshore Hardbottom Monitoring of beach Nourishment Projects. <https://floridadep.gov/sites/default/files/SOP-NearshoreHardbottomBioMonitoring.pdf>

⁶ Hilborn Elizabeth, et al. Algal bloom-associated disease outbreaks among users of freshwater lakes--United States, 2009-2010. *MMWR Morb Mortal Wkly Rep*. 2014;63(1):11–15.

⁷ *Id.*

The EPA's final recommended values assume exposure only from ingestion (based on estimated average pool water ingestion), and fail to account for multiple exposure pathways (dermal contact, inhalation, and ingestion through contaminated seafood). One study found significant levels of cyanotoxins in a number species that are commonly consumed— mussels, rainbow trout, and blue crab, noting, “the population living in the coastal areas . . . likely being strong seafood consumers can be considered the most vulnerable.”⁸ Another study notes that, while exposure from water exceeded potential exposure from fish, that “fish can represent a significant and sometimes dominant source of microcystin to consumers.”⁹

Additionally, last month Governor DeSantis' Blue-Green Algae Task Force issued “Final Consensus Document #1,” which recommended, “*defensible water quality criteria should be established by the Department of Environmental Protection.*” In keeping with these recommendations, DEP should adopt standards for microcystins and cylindrospermopsin based on EPA's 2016 draft recreational guidelines (of 4 micrograms per liter for microcystins and 8 micrograms per liter for cylindrospermopsin).

Conclusion

Protecting water quality and the designated uses of Florida's surface waters is of the utmost importance to our economy, natural resources, and quality of life. Thank you for considering the public interests represented by the Surfrider Foundation. Please feel free to contact me at hparker@surfrider.org or 850-567-3393 if you have any questions.

Sincerely,



Holly Parker Curry
Florida Regional Manager
Surfrider Foundation

⁸ Manganelli, Maura, et al. Emerging health issues of cyanobacterial blooms. *Ann Ist Super Sanita*, 2012. 415-428 <http://old.iss.it/publ/anna/2012/4/484415.pdf>

⁹ Poste, Amanra, et al. Evaluating microcystin exposure risk through fish consumption. *Environ Sci Technol*. 2011;45(13):5806–5811. doi:10.1021/es200285c
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3148776/>