

October 17, 2011

Mr. Eric Shaw
 Environmental Manager
 Standards & Assessments Section
 Florida Department of Environmental Protection
 2600 Blair Stone Road, MS 6511
 Tallahassee, FL 32399-2400

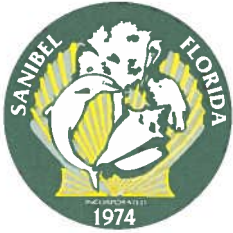
Re: City of Sanibel Comments on Proposed Revisions to Chapters 62-302 and 62-303, F.A.C., Estuarine Numeric Nutrient Criteria

Dear Mr. Shaw:

The City of Sanibel submits the following comments regarding the Florida Department of Environmental Protection's proposed revisions to Chapter 62-302 Surface Water Quality Standards and Chapter 62-303 Impaired Waters Rule, specifically pertaining to estuarine numeric nutrient criteria. We fully support the development of numeric nutrient criteria for freshwater lakes and streams and estuarine waters. Regardless of whether these numeric criteria are developed at the federal or state level, criteria must be science-based, be fully protective of the natural systems that they are intended to protect, provide a reasonable timeframe for compliance, and must be enforceable.

While we would like to see estuarine numeric nutrient criteria implemented as soon as possible, we are concerned that the two-week comment period provided is inadequate for meaningful stakeholder input, especially for those who did not participate in the National Estuary Program (NEP) process. Furthermore, it was not clear from the beginning of the NEP process that it would be the only opportunity for stakeholder input prior to rulemaking. Therefore, we request that a minimum 30-day public comment period be provided for meaningful stakeholder input on the proposed rule changes to estuarine numeric nutrient criteria.

In reviewing the proposed estuarine numeric nutrient criteria for Charlotte Harbor, we feel that using seagrasses as the sole indicator of ecosystem health, without using chlorophyll-a as a threshold for impairment, would result in mischaracterizing some estuaries as "healthy well-balanced" systems when in fact they are actually impaired. Therefore, we suggest that chlorophyll-a concentrations proposed by Janicki Environmental (for the CHNEP study area) be used as thresholds for impairment, rather than just a means to list waterbodies on the Study or Planning lists. While it is often difficult to establish strong regression relationships with chlorophyll-a and total nitrogen because of confounding variables such as residence time, turbidity, colored dissolved organic matter, etc., we feel that chlorophyll-a is a much



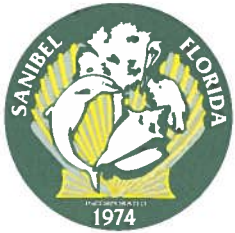
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better indicator of ecosystem health on smaller temporal scales (i.e. weeks to months) than seagrasses. For example, criteria proposed for San Carlos Bay include thresholds for TP of 0.07 mg/l, TN of 0.56 mg/l, and Chl-a of 3.5 µg/l. An evaluation of six years of San Carlos Bay data (2002–2008) from the CHNEP Water Quality Monitoring Network using ~45-60 random samples per year averaged over the entire stratum suggest that the TN threshold of 0.56 mg/l would not have been exceeded over the entire six-year period (Fig. 1).

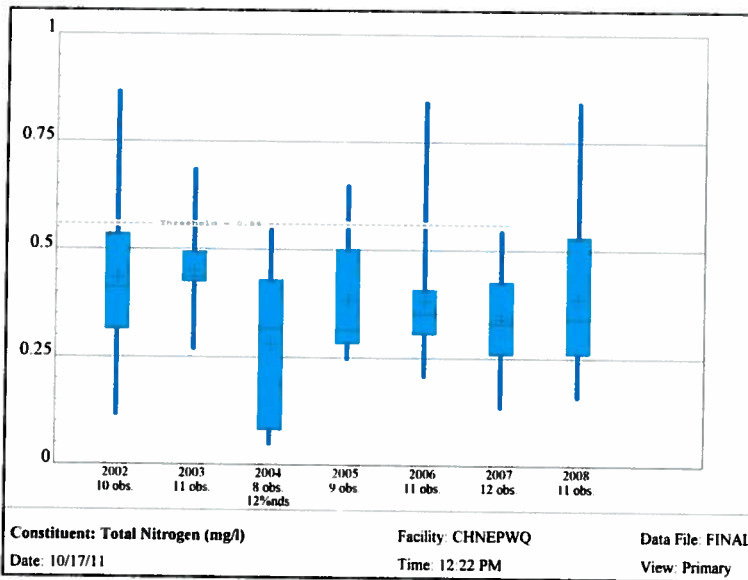


Figure 1. San Carlos Bay TN Data 2002-2008

However, chlorophyll-a data collected along with TN as part of the same sampling program indicate that San Carlos Bay would have exceeded chlorophyll-a thresholds in 2005, 2006 and 2008 (Fig. 2).

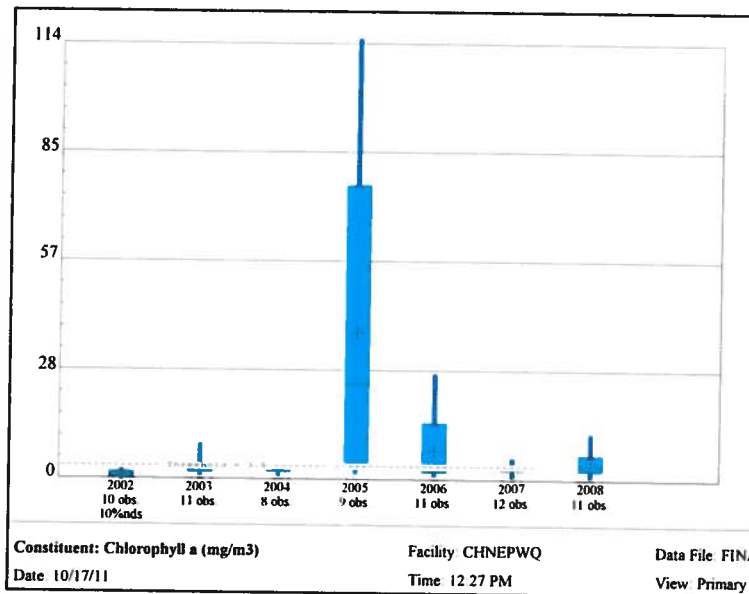


Figure 2. San Carlos Bay Chl-a Data 2002-2008



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Chlorophyll-a data suggest that an ecological imbalance occurred in San Carlos Bay in 2005, 2006 and 2008, with annual arithmetic averages exceeding 3.5 µg/l (Fig. 2). Notice that in 2005 maximum monthly chlorophyll-a concentrations, averaged over the entire SCB stratum (including 5 randomly selected stations), exceeded 114 µg/l (Fig. 2). This was corroborated by extensive phytoplankton and macroalgae blooms occurring throughout the Caloosahatchee Estuary and San Carlos Bay from 2005-2007. Bloom events within the Caloosahatchee and San Carlos Bay were well documented by scientists^{1,2} and were attributed to excessive nitrogen loading associated with regulatory discharges from Lake Okeechobee and stormwater runoff from the Caloosahatchee watershed. This example supports our position that seagrasses do not respond in a timescale that is fully protective of ecosystem health and function and suggests that another, more sensitive, indicator such as chlorophyll-a should be used along with seagrasses as a threshold for impairment.

All thresholds developed as numeric criteria for either freshwater or estuarine waterbodies need to be fully protective of ecosystem health and function and should not be set at a level that is reactive, where an impairment is identified after the damage has already been done and the ecosystem is already in decline. We ask that you make sure that all criteria developed under this rule be fully protective and that thresholds not be set at a level where ecosystems are impacted prior to initiating regulatory action.

In the proposed rule, Ch. 62-303.150(1), you have included language that creates a Study List for waterbodies where the causative pollutant(s) or other factors contributing to the impairment of the waterbody cannot be determined. *"In cases where a waterbody on the planning list is determined to be impaired but the Department cannot determine the cause of the impairment, the waterbody shall be placed on a study list for further analysis to determine the causative pollutant(s) or other factors contributing to the impairment."* However, the rule does not specify a mechanism for funding the studies necessary to further evaluate potential impairments or a timeline for completing the necessary studies. This could result in waterbodies sitting on a Study List for long periods of time before action is taken to identify causative pollutants or factors contributing to the impairment. We would like to see additional language included in the final rule that specifies a funding mechanism for conducting necessary studies and a timeline for completing these studies in a timely manner.

¹ Lapoint, B.E., B.J. Bedford 2006. Drift rhodophyte blooms emerge in Lee County, FL: Evidence of escalating coastal eutrophication. *Harmful Algae* 6(3): 421-437.

² Loh, A., L.E. Brand, D.W. Ceilley, M. Charette, L. Coen, E.M. Everham III, D.C. Fugate, R.E. Grizzle, E.C. Milbrandt, B.M. Riegl, G. Foster, K. provost, L.L. Tomasello, P. Henderson, C. Breier, Q. Liu, T. Watson, M. Parsons. 2011. Bioavailability and sources of nutrients and linkages to nuisance drift algae. Final Report, pp. 172.



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In Ch. 62-302.531 of the proposed rule you indicate that you are not setting criteria for South Florida flowing waters. While we understand that many waterbodies in the south Florida water management system are highly altered, not developing criteria for all Florida waters is unacceptable and does not meet the spirit of EPA's directive to develop numeric standards for all Florida waterbodies. We suggest translating narrative standards to numeric standards, similar to what you have done in other ecoregions throughout the state. If narrative standards can be interpreted for enforcement purposes, we see no reason why these same thresholds cannot be used to developed numeric values for south Florida flowing waters.

Finally, scientifically-defensible Downstream Protection Values (DPV) are necessary to fully protect downstream waterbodies and should be included in the final rule. This will encourage source control in upstream waterbodies and will ensure that the burden of cleanup is not shifted to coastal communities.

We would like to thank you for providing us with an opportunity to comment on the proposed rule changes and hope that you will carefully consider our comments and incorporate them into the final rule.

Sincerely,


James Evans, Environmental Biologist
Department of Natural Resources