

Main Concerns with the Environmental Protection Agency's Proposed Numeric Nutrient Criteria for Florida's Lakes and Flowing Waters published January 26, 2010

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EPA's stream criteria for protection of downstream estuaries are not scientifically valid

- Proposed criteria are based on inappropriate application of USGS' SPARROW model
 - USGS acknowledges that model not applicable in areas with significant groundwater inputs, which includes much of Central and Northeast Florida (in addition to South Florida)
 - Site-specific determination of Downstream Protection Values (DPV) not appropriate given that model was calibrated at regional scale and given course hydrology
- Model estimates of in-stream nitrogen losses are too low due to error caused by lack of nitrogen loading from all sources and inaccurate stream velocities
- Method to determine allowable load is not scientifically valid
 - Presumes all Florida estuaries are impaired, and existing data and research demonstrates this to not be accurate
 - Target established for protection of coastal waters is arbitrary based on mid-point between current loads and oversimplified calculation of background loads
- Resultant DPVs are more stringent than necessary
 - Over 80% of DEP's "reference" or pristine sites exceed the criteria and would be deemed impaired
- Initial assessments by FDEP suggest the in-stream criteria are inherently protective of downstream waters making it un-necessary to have independent downstream protection values.

EPA's Application of "Reference Approach" for stream criteria is not appropriate

- EPA did not fully acknowledge basic limitation of "reference approach", that there is no link between criteria and impairment (no "dose-response" relationship)
 - Should require biological validation before listing as impaired and should provide clear SSAC process
- EPA's regionalization for Bone Valley is too large, and criteria are not adequately protective for some areas in the Tampa Bay area
- EPA's selection criteria for reference waters focus solely on whether aquatic life use in the stream is attained. The Department's more stringent selection process, which excluded sites with potential anthropogenic sources of nutrients, provided additional assurance that the criteria are inherently protective of downstream waters
- Given that all sites have been demonstrated to meet aquatic life use support, EPA should either set the criteria at a higher percentile (i.e., 90th), rather than 75th, or require biological validation before declaring impairment
 - 35% of Florida's most pristine surface waters will fail EPA's proposed in-stream criteria

EPA's Nitrate-Nitrite Criterion for Springs is not adequately protective

- EPA's criterion is based on DEP's draft criterion, but EPA changed expression from monthly value to annual geometric mean
- Not consistent with the timeframes of observed biological effects contained in the studies used to derive criteria
 - Biological impacts could occur for months without exceedances of criteria

EPA's Chlorophyll a Criteria for clear, acidic lakes is not linked to a biological response

- Criterion designed to maintain natural background, rather than preventing biological impairment
- Proposed alkalinity threshold of 50 mg/L CaCO₃ that defines clear, acidic lakes includes many lakes with naturally higher chlorophyll a values

EPA's method to establish stream criteria for Protection of Downstream Lakes is too simplistic

- Equation is too simplistic as it does not include settling terms or other sources of nutrients to lakes like groundwater and atmospheric deposition

EPA's Chlorophyll a Criteria for South Florida Canals is not appropriate

- Not clear what biological community the criteria are designed to protect
 - Chlorophyll *a* in the water column is not an appropriate indicator of algae growth in canals due to the unique dynamics of algae in canals.
 - No relationship between proposed criteria levels and biological response in canals
 - Should require biological validation before listing as impaired and should provide clear SSAC process

EPA's estimate of economic costs is inadequate

- EPA inappropriately used DEP's draft criteria to establish baseline costs
 - DEP's criteria were never adopted
 - EPA's estimate of incremental costs (\$5 to 10 million) is a gross underestimate given how much lower the proposed downstream protection values are than DEP's draft criteria
- EPA's estimate of baseline and incremental costs much too simplistic
 - Assumed that entities would be granted variances or receiving waters would be downgraded, which is not likely
 - Criteria are not achievable for domestic wastewater, and will require alternative disposal methods
 - If reuse systems are chosen as an alternative, they would need to have a back-up surface water discharge or deep-well injection
- EPA's analysis seems dependent on their statement that "rule does not establish any requirements directly applicable to regulated entities or other sources of nutrient pollution", which is clearly misleading