

Florida Department of Environmental Protection



Water Quality Standards Program

Relationship between Adopted Nutrient TMDLs and Numeric Nutrient Criteria

**Division of Environmental
Assessment and Restoration**





Concept of Adopted NNC

- **Maintain the narrative nutrient criterion and numerically interpret it using best available information on a site-specific basis using a systematic, hierarchical approach**
 - Narrative states that “in no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora or fauna.”



Hierarchical Approach

**Nutrient Total Maximum Daily Loads, Site Specific Alternative Criteria ,
Estuary-specific Criteria, and
Level II Water Quality-Based Effluent Limitations (WQBELs)**



Stressor-Response Relationships (lakes & springs)



**Reference-based thresholds (streams)
combined with biological data (flora and fauna)**



**Narrative (wetlands, intermittent streams,
South Florida flowing waters)**



TMDLs as NNC

- **TMDLs at top of hierarchy because did not want NNC to supersede nutrient TMDLs**
 - **TMDLs are site-specific interpretations and considered better than the generally applicable NNC given the many natural factors that affect the expression of nutrient loadings on a waterbody**
 - **Many stakeholders have already made huge investments to implement TMDLs and we did not want to undermine restoration efforts**
 - **BMAPs will continue to be written to implement TMDLs**



TMDLs as NNC

- **TMDL can be written to determine loads that achieve NNC (chl a, TN, and TP), or can establish site-specific biological target and determine load/concentration to achieve site-specific target**
 - **If site-specific target, DEP will clearly identify and document basis for why the target ensures balanced flora and fauna**



TMDLs as NNC

(continued)

- **Only state-adopted nutrient TMDLs eligible as NNC**
 - Must be based on prevention of imbalances
 - DO can be basis if linked to imbalance
- **TMDL can be expressed as load or concentration**
 - TMDLs expressed as % reduction are not eligible
- **Nutrient TMDLs must be publicly noticed as numeric interpretations of the narrative nutrient criterion and submitted to EPA as changes to WQ standards**
 - EPA will review both as a TMDL and as a change to water quality standards



TMDLs as NNC

(continued)

- **TMDL will supersede generally applicable NNC, but only for parameters addressed by TMDL**
 - For example, if a lake TMDL is for TP only, the lakes NNC for TN will continue to apply
 - If TMDL based on a chlorophyll a target, the target will become applicable NNC for chlorophyll a if target is included in rule language for the TMDL (and approved by EPA)



TMDLs as NNC

(continued)

- **Hierarchy is very parameter specific**
 - Nitrate-nitrite TMDLs for spring runs do not supersede streams TN standard, and spring runs would have NNC for NO₂/3, TN, and TP
 - Nitrate-nitrite TMDL for springs supersede spring vents nitrate-nitrite NNC at the vent
 - Expression of NO₂/3 TMDL usually monthly average, while spring vent NNC is annual geometric mean, and as such, the applicable NNC would change even if the magnitude of the TMDL is same as the NNC (0.35 mg/L)



For More Information

<http://www.dep.state.fl.us/water/wqssp/nutrients>

