Nutrient Criteria Development Process

Based on Designated Use(s) for Waterbody, Select Management Goal(s)

Refine Management Goal(s)

* Narrative statement reflective of protecting designated use(s)

Evaluate Potential Criteria

* Come up with way(s) to protect the use (numeric, narrative, both) measurable & most sensitive

> * Generate a recommended indicator list

> > * Data gap analysis



Develop Estimates for Criteria & Assessment Protocols

Analysis/Approach

* Select approach to derive criteria: reference conditions, stressor-response, mechanistic model, other...reflective of protecting designated use(s)

* Fulfill any data/research needs

Develop Conceptual Model

* Shows relationship between nutrients and criteria - EX: algal blooms, organic carbon, dissolved oxygen, chlorophyll a, etc.

Evaluate Feasibility of Accomplishing Criteria

DWR Selects Scientifically Defensible, Feasible Criteria



Begin Adoption of Recommendations into Water Quality Standards

Draft Rule, Fiscal Note, Public Hearings, etc.

Definitions and Acronyms

- Analysis/Approach Select an approach to derive criteria (Ex: Reference condition approach, Stressor-response approach, Mechanistic modeling, etc.) that allows you to compute criteria.
- Criteria Elements of state water quality standards expressed as constituent concentrations, levels, or narrative statement, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use. (See: 15A NCAC 02B)
- **CIC Criteria Implementation Council.** Advises DWR on nutrient criteria implementation challenges and costs
- **Conceptual Model -** A visual representation of key relationships between nutrients and assessment endpoints. Illustrates linkage between causal and/or response variables and what is being protected (i.e., designated use).
- **Designated Use(s)** Those uses specified in state water quality standards for each waterbody or segment such as: recreational uses; water supply; the propagation and growth of a balanced, indigenous population of aquatic life; and protection of wildlife; are generally stated as "fishable and swimmable" uses. North Carolina refers to the designated use as a "surface water classification". (See: 15A NCAC 02B)
- DWR [North Carolina] Division of Water Resources
- **Management Goal** Narrative criteria or statement reflective of protecting a designated use. (*Ex: The lake shall not be green b/c people don't like to swim in green water, The ecosystem shall be able to support and maintain biological integrity*)
- **SAC Scientific Advisory Council.** Advises DWR on the linkages between causal factors (nitrogen and phosphorus) and response factors (e.g. chlorophyll a, dissolved oxygen) that indicate nutrient stress on a waterbody.
- Standards State regulations or rules that define the goals for a waterbody by designating its uses (classifying the water), setting criteria (either numeric or narrative) to protect those uses, and establishing provisions such as antidegradation policies to protect lakes, rivers, streams and other surface water bodies from pollutants. Water quality standards protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. (See: 15A NCAC 02B)

NOTES:

- Stakeholder process should be continual as to maintain transparency.
- CIC members should be engaged throughout process to understand SAC recommendations and weigh-in on feasibility of implementing proposed criteria.
- Comments will be accepted from CIC members and stakeholders throughout the process.