NC’s Nutrient Criteria Development Plan: A Summary and Status Update

Talking Points

- History and background of nutrient criteria development in NC
- Roles of the Scientific Advisory Council and Criteria Implementation Committee
- Current Status of NCDP
  - High Rock Lake
  - Central Cape Fear
  - Albemarle Sound
**Nutrient Criteria Development in NC**

- 2001 - Federal Register notice, states encouraged to develop nutrient management plans.
- 2004 - NC developed the Nutrient Criteria Implementation Plan (NCIP)
- 2011 - EPA memo to regions placing new emphasis on nutrient reductions
- 2012 - NC Forum on Nutrient Over Enrichment
- 2014 - Nutrient Criteria Development Plan (NCDP)

**Nutrient Criteria Development Plan**

- Links nutrient concentrations with protection of designated uses including downstream uses
  - Fishable, swimmable, boatable
  - Trout waters, public water supply, primary nursery areas, etc.
- Evaluate causal and response variables (nutrients, chlorophyll $a$, pH, dissolved oxygen, etc.)
- Express numerically or in narrative form with a numerical translator
  - Concentration
  - Mass quantities or loadings
Nutrient Criteria Development Plan

- Develop criteria for three water body types
  - Landscape position, flow dynamics, sensitive species
  - Lakes/reservoirs, rivers and streams, estuaries
- Specific water bodies
  - High Rock Lake
  - Central Cape Fear River
  - Albemarle Sound

SAC and CIC

- Scientific Advisory Council (SAC) created
  - Tasked with developing scientifically-defensible nutrient criteria
  - Made up of experts in water quality, nutrient management, nutrient abatement
- Criteria Implementation Committee (CIC) created
  - Tasked with commenting on the social and fiscal impacts of draft nutrient criteria on stakeholders
  - Made up of economists, stakeholder representatives, and academics
Status Update: High Rock Lake

- SAC has met 16 times with discussions focused on High Rock Lake (HRL)
- Supporting research efforts completed
- Conceptual model developed
- Working through criteria development for each parameter

Estimated HRL Timeline

- Complete draft numeric nutrient criteria in mid to late 2018.
- CIC input by Spring 2019.
- Presentation of draft criteria to EMC in late 2019.
- Adoption of criteria into administrative code by July 2021.
**Status Update: Central Cape Fear**

- SAC beginning discussions of nutrient criteria development for Central Cape Fear River (CCFR)
- DWR Nutrients/DO model development to support NCDP
- Monitoring for model to begin January 2018
- Periphyton monitoring project started Fall 2017
- Applied university research underway

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**Estimated CCFR Timeline**

- Nutrient monitoring and bioassay studies to begin late 2017-early 2018
- Criteria evaluations begin late 2018
- CIC input by mid 2021
- Draft criteria presentation to EMC by late 2021
**Status Update: Albemarle Sound**

- Two Phase approach identified in NCDP document
- Phase I
  - Each potential criteria parameter to be discussed and prioritized
  - Additional research needs to be identified during evaluation process
- Albemarle-Pamlico National Estuary Partnership (APNEP) began Phase I in mid-2014
  - Met 9 times
  - Phase I report pending

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**Status Update: Albemarle Sound**

- Additional research underway with priority areas of investigation including bioassays, investigation of light attenuation models
- Phase II reevaluation of Albemarle Sound criteria to be conducted by SAC/CIC beginning mid-late 2018.
Questions?

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