High Rock Lake
Nutrient Management Strategy
Status Update

EMC Water Quality Committee
September 8, 2010
PURPOSE

Provide information about status of nutrient management strategy development for High Rock Lake.
AGENDA

• Regulatory Driver
• History
• Development of Models
• Data Collection Efforts
• Next Steps
Session Law 2005-190 (aka SB981)

4. Other drinking water supply reservoirs
   – If DWQ has prepared or updated a calibrated nutrient response model since July 1, 2002 for an impaired drinking water supply reservoir,
   – There can be no new or increased wastewater nutrient loading allocation,
   – Until permanent rules to implement the nutrient management strategy become effective...
Statutory Requirements

• **SL 2005-190 (“Senate Bill 981”)**
  The nutrient management strategy shall be based on a calibrated nutrient response model that meets the requirement of G.S. 143-215.1(c5)

• **G.S. 143-215.1(c5)**
  A calibrated nutrient response model shall be developed by the Department in conjunction with the affected parties and is subject to approval by the Commission
High Rock Lake Watershed
History

• 1928 - Dam construction completed
• Dam owned and operated by Alcoa Power Generating, Inc
History

- First listed for chlorophyll-α in 2004
- Entire lake currently impaired for chlorophyll-α
- DWQ formed Technical Advisory Committee (TAC) in 2005
High Rock TAC Members

- Winston-Salem
- Salisbury
- Kernersville
- Duke Energy
- Alcoa
- Yadkin Riverkeeper* (since Mar 2009)

- DWQ
- DOT
- DSWC
- Piedmont-Triad COG
- Keep Iredell Clean
- DEH* (since Sept 2009)
Development of Models

- TetraTech under contract for both watershed and nutrient response model development
- Coordination with DWQ/EPA/TAC
Updated Land Cover

- 319-Funded Updated Land Cover awarded to NC Center for Geographic Information and Analysis in FY-2007
  - 2006 and 2007 imagery
  - Percent imperviousness estimation
  - GIS Tools and Input Layers for Modeling
Updated Land Cover

47% Forest
30% Pasture/Hay
18% Developed
Monitoring

• 319-Funded Intensive Monitoring awarded to Yadkin Pee-Dee River Basin Association (YPDRBA) FY-2007
  – April 2008-March 2010
  – Many partners/cooperative effort
  – Included both lake and watershed
  – Included storm events
  – Database development
High Rock Lake Next Steps

- DWQ expects draft models and documentation around end of 2010
- Review by DWQ/EPA/TAC
- TetraTech to finalize models
- Turn models over to DWQ
High Rock Lake Next Steps

• DWQ runs reduction scenarios
• Final model coming to WQC for approval to take to EMC sometime in mid-2011
• Stakeholder/rulemaking process
Questions?