



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)

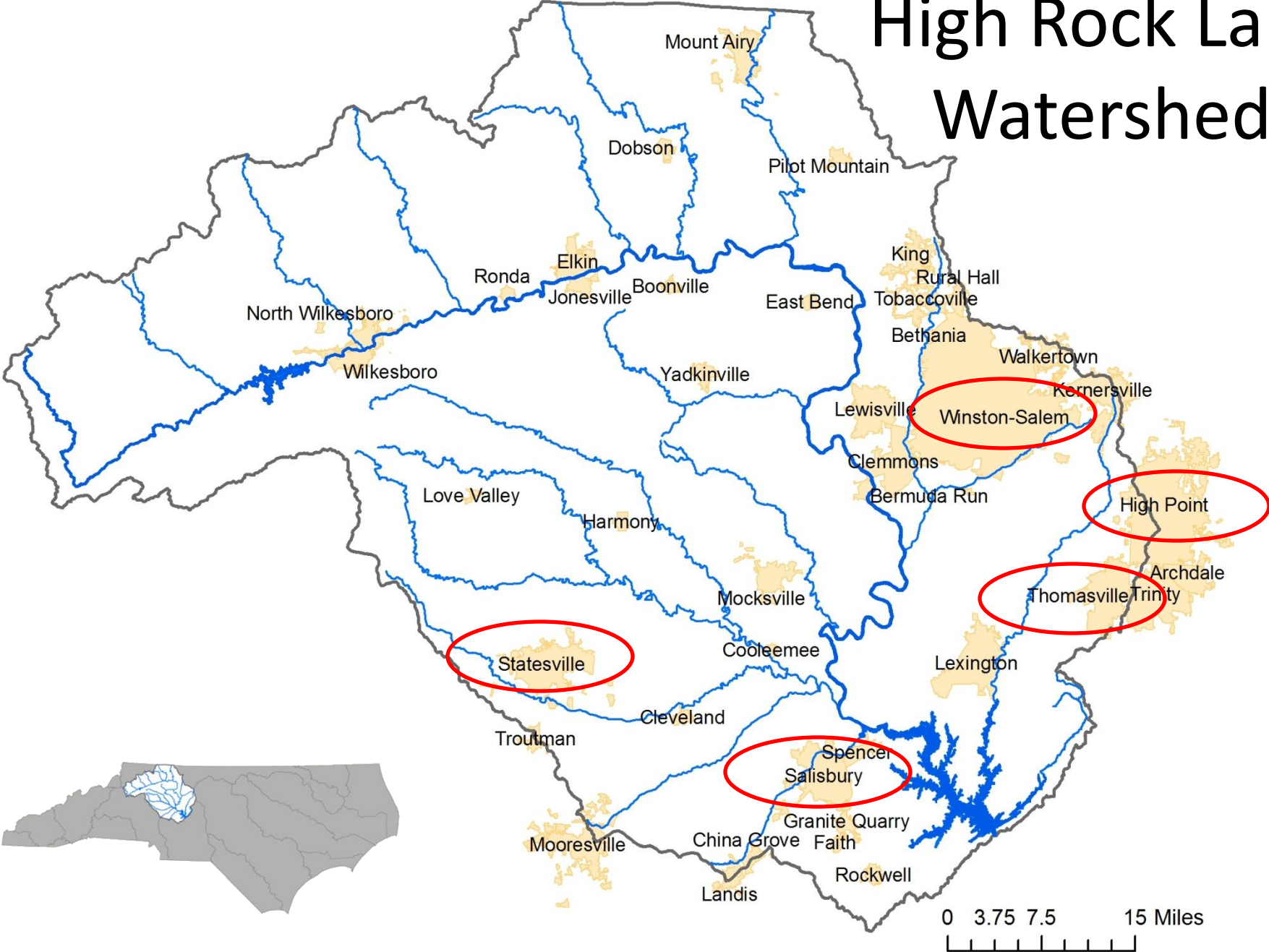
- G.S. 143-215.1(c5)

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



High Rock Lake Watershed



History

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



History

- First listed for chlorophyll-*a* in 2004
- Entire lake currently impaired for chlorophyll-*a*
- DWQ formed Technical Advisory Committee (TAC) in 2005

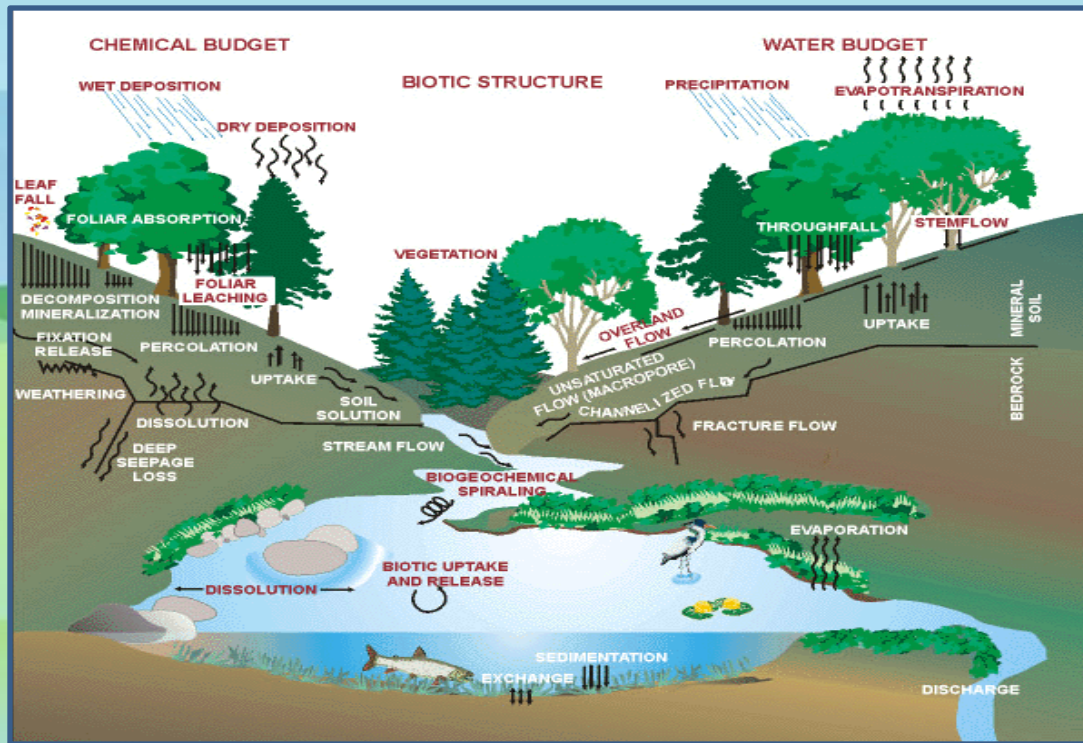


High Rock TAC Members

- 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

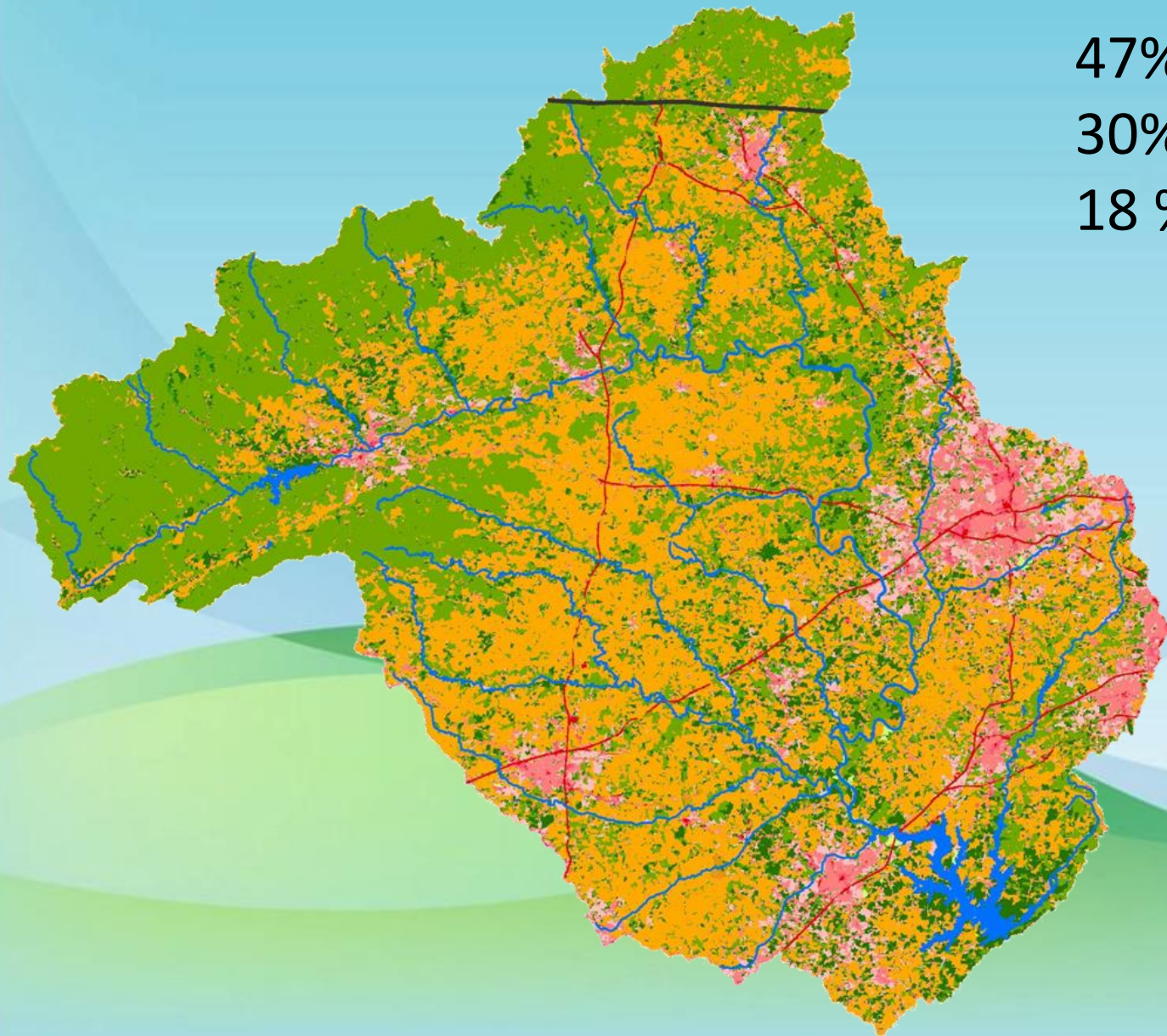


Updated Land Cover

- 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



Legend

 NC State Border

2007 Land Cover

GRIDCODE

-  11 Open Water
-  21 Developed, Open Space
-  22 Developed, Low Intensity
-  23 Developed, Medium Intensity
-  24 Developed, High Intensity
-  31 Barren Land
-  41 Deciduous Forest
-  42 Evergreen Forest
-  43 Mixed Forest
-  52 Shrub/Scrub
-  71 Grassland
-  81 Pasture/Hay
-  82 Crops
-  90 Woody Wetlands
-  95 Emergent Herbaceous Wetlands

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?