Lower Catawba Basin
Nutrient TMDL Update

South Carolina Department of Health and Environmental Control
Promoting and Protecting the Health of the Public and the Environment
Lower Catawba Basin
Background

• History of nutrient overload
• Effects expressed in SC lakes
  – Impaired water quality: Phosphorus, Nitrogen, Chlorophyll, pH, Dissolved Oxygen
  – Increased DO depletion in bottom waters
• Water quality management concern since at least 1990s
  – Modeling studies (Duke, USC, SCDHEC, NCDWQ, et al.)
  – SC numeric nutrient criteria (2001)
  – NPDES permitting
    • SCDHEC begins limiting Phosphorus in permits (2001)
    • Settlement agreement SCDHEC, NCDWQ, Charlotte (2002)
    • NC NPDES Phosphorus load reductions (2006)
Background (cont.)

• SCDHEC TMDL effort
  – Additional modeling, stakeholder meetings, model review, technical comments (2005-2008)
  – TMDL development paused
    • Other projects
    • System changing/model updates needed
    • Declining resources
Total Phosphorus Loads Discharged into Lower Catawba Basin - Fishing Creek Reservoir from Major NC & SC Dischargers

![Graph showing Total Phosphorus Loads Discharged into Lower Catawba Basin - Fishing Creek Reservoir from Major NC & SC Dischargers](image-url)
Total Phosphorus Concentrations in Fishing Creek Reservoir at SC-9 and at Dam

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<th>Lake Standard</th>
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TP (mg/L)
Total Phosphorus Concentrations in Lake Wateree at Headwater (Cedar Creek Reservoir TR) and at Dam

Date

TP (mg/L)

TP Standard

Dam

Headwater

Lake Standard
303(d) List of Impaired Waters

• 2012 List
  – Data 2006-2010 plus legacy sites
    • Lake Wylie, SC not impaired
    • Fishing Creek Reservoir: P, N, pH, chl-a
    • Great Falls Reservoir: P, N, chl-a
    • Cedar Creek Reservoir: P, N, DO
    • Lake Wateree: P, pH, DO

• 2014 List
  – Data 2008-2012 plus legacy sites
  – Draft for public comment February 2014
TMDL Development Resumed

• Model updates
  – EPA 319 NPS Grant funds used to contract Systech Water Resources, Inc.
  – Extend WARMF model to 2012 (completed June 2013)
  • Good response to our data requests
  – Model calibration (scheduled completion April 2014)
Looking Ahead

- Web page – coming soon
  - Information, reports, model files
- Stakeholder information meeting – Nov 19th
  - Rock Hill Operations Center
  - Email announcement soon
- Model calibration review – Jan-Feb 2014
  - Draft calibration report and model files available
  - Comments requested
  - Final calibration report – Apr 2014
- Stakeholder review and coordination – 2014-2015
  - Load Scenarios ➢ Allocations ➢ TMDL
Summing Up

- Significant Phosphorus reductions have been implemented by NC and SC facilities
- WQ improvements in SC lakes have occurred
- Goal of the current modeling effort is to determine what more is needed, considering all sources, to achieve WQ standards
- Coordination with NCDWQ and EPA Region 4 has begun and will expand to include stakeholders prior to drafting the TMDL
- Questions?
• For more information
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