

Falls Lake Nutrient Management Strategy Development Process March 2010 EMC

In 2005 the NC General Assembly passed SL 2005-190 (S981), which includes a requirement for the Commission to adopt a nutrient strategy for Falls Lake. The 2009 regular session produced Senate Bill 1020, a bill devoted to water quality improvements in Falls Lake. This bill revises the EMC adoption deadline to January 15, 2011 and adds certain requirements aimed at water quality improvement in the watershed. The bill was ratified and signed into law on August 26, 2009. A stakeholder meeting process began in late 2008 to provide input on draft rule language. The ninth and final stakeholder meeting was held on January 21, 2010 to review proposed draft rule language and receive additional comments. Staff plans to request approval to take draft rules to public hearing at upcoming March 2010 EMC meeting.

Lake Background: Following questions in 2004 over the condition of Falls Lake, DWQ began more intensive sampling for use support assessment. A Falls Lake Technical Advisory Committee (TAC) was formed in July 2005 to assist DWQ with the review and modification of the monitoring strategy and developing levels of confidence for decision making associated with the monitoring and lake modeling activities. The field study was completed in fall 2007. Based on water quality data collected between 2002 and 2006, Falls Lake was listed as impaired for chlorophyll *a* on the draft NC 2008 303(d) list. The portion of the lake above I-85 was also listed as impaired for turbidity.

Stakeholder Process: A watershed and lake model were completed by DWQ staff in November 2008 and February 2009 respectively and presented to the TAC for their review. A stakeholder process conducted through a joint effort between the Triangle J Council of Governments (TJCOG) and DWQ began meeting in August 2008 to provide stakeholders an opportunity for input on development of a nutrient strategy for the lake. The stakeholder group has convened nine times over the past year. The group has gained an understanding of lake issues, modeling basics and results, and grappled with strategy design issues and options. Presentations and meeting summaries are posted to a Falls Lake stakeholder website hosted by TJCOG. An online discussion forum, known as a “wiki”, was also created to provide stakeholders an open forum to raise questions and exchange information between meetings.

The stakeholder group broke into four smaller subcommittees that held a total of twelve meetings between September 17th and December 7th, 2009 to work on detailed nutrient reduction rule ideas by source type. In late November and early December draft rules addressing new development stormwater, existing development, agriculture, and point sources were provided to stakeholders for their review with comments due back to the Division by December 23, 2009. DWQ made further revisions to the draft rules based on these comments and provided revised rules to stakeholders on January 14th. The full stakeholder group reconvened on January 21, 2010 to review the revised rule language and provide further input. After the meeting, stakeholders had the opportunity to provide additional written comments to DWQ by January 29, 2010. Additional revisions have been made to the rules based on this latest round of stakeholder comments and are reflected in the draft rules submitted to the March 2010 Environmental Management Commission for approval to go out to public hearings.

Draft Falls Lake Rule Requirements

Strategy Goal

Meet chlorophyll-a standard lake-wide via reductions in nitrogen and phosphorus loading to surface waters by 30% and 70%, respectively which equates to a 40% and 77% reduction from the 2006 baseline by all regulated sources.

Staged Approach

Given the large reduction needs, DWQ proposes an adaptive / staged approach:

- Stage 1: Initial reductions watershed-wide to ensure the chlorophyll-a standard is met in the lower lake. 10 years.
- Stage 2: Additional reductions in upper watershed (above NC 50) to ultimately achieve the chl a standard lake-wide. Additional 20 years.

Lake Water Quality Monitoring

- Use support assessment every 2 years on Integrated Report cycle
- Data window = 5 years preceding assessment
- Example: 2016-2020 data => 2021 assessment (for 2022 IR)
- Utilize use support determination to judge progress on and compliance with the strategy goal

Rule Stages by Source Type

New Development Stormwater

- Applies to all local governments
- Achieve nutrient export rate targets: **2.2 lbs/ac/yr TN and 0.33 lbs/ac/yr TP**
 - Based on 40% TN and 77% TP reductions from acreage weighted average export rate from buildable land in watershed
- At least 50% removal of N and 60% removal of P from the untreated condition onsite, remaining reduction can be achieved offsite
- Low Impact Development Option

Existing Development

- Each local government achieves load reduction goals from existing developed lands
- Stage 1
 - Reduce existing development load to 2006 baseline levels
 - By 2021 (10 yrs)
- Stage 2
 - Possible options:
 - Local government proposes compliance timeframe, plan shall meet explicit criteria; or
 - At least half of reductions by 2036 (+15 yrs) before
- Both options require submitting revised plans for EMC approval every 5 years

Point Sources

- Each nutrient-producing point source achieves reductions in load
 - Waste load allocations for large facilities (>0.1 MGD)
 - Small facilities (<0.1 MGD) implement O&M measures to get reductions
- Stage 1
 - Mass allocations for 3 large facilities in upper watershed based on 20% TN / 40% TP reductions using equivalent concentrations at current flow + 10%
 - Implement Biological Nutrient Removal (BNR) technologies at 2 large package plants in lower watershed.
 - Achieve by 2016 (5 years)
- Stage 2
 - Mass allocations for 3 large facilities in upper watershed based on 40% TN / 77% TP reductions using equivalent concentrations at full permitted flow
 - Achieve by 2031 (+15 years)

Agriculture

- Stage 1
 - Achieve collective N & P reduction goals of 20% TN and 40% TP
 - Residuals application uses RYE N rates and run, comply with PLAT
 - Achieve by 2021 (10 years)
- Stage 2 (if Stage 1 goals achieved)
 - Achieve collective N & P reduction goals of 40% TN, 77% TP
 - Achieve by 2036 (+15 years)
- Stage 2 (if Stage 1 goals not achieved)
 - Buffer all cropland and buffers and exclusion on all pasture, *and*
 - Achieve collective N & P reduction goals of 40% TN, 77% TP
 - Achieve by 2036 (+15 years)

State and Federal Entities

- Similar approach as Jordan requirements
 - Non-NCDOT state and federal entities meet requirements of new development and existing development rules
 - NCDOT
 - New non-road development meets requirements of new development rule
 - New road projects meet Neuse buffer protection rule
 - Existing development - Implement at least 6 retrofit projects a year

Nutrient Trading Rule

- Similar approach as used in Jordan - provides overarching open trading across all sources
- Included ability to purchase nutrient offset credits from EEP, private banks, and third party sellers.
- Allows local governments to combine point source and existing development reduction needs and meet them jointly using a “jurisdictional approach”
- Restrictions:
 - Impacts in the upper watershed may only be offset by loading reductions achieved in the upper watershed

- Impacts in the lower watershed may be offset by loading reductions achieved anywhere in the watershed.

Buffer Requirements

- No new rules - Existing Neuse Buffer Rules continue to apply

Links to More Information**Senate Bill 1020**

<http://www.ncleg.net/Sessions/2009/Bills/Senate/PDF/S1020v4.pdf>

Session Law 2005-190

<http://www.ncleg.net/Sessions/2005/Bills/Senate/PDF/S981v5.pdf>

Falls Lake Stakeholder Website

<http://www.fallslakestakeholder.org>

Falls Lake Stakeholder Online Wiki

<http://fallslakestakeholder.wikispaces.com>

Watershed Model Report

<http://h2o.enr.state.nc.us/tmdl/documents/July09DraftFallsLakeWatershedModelReport.pdf>

Lake Model Report

http://h2o.enr.state.nc.us/tmdl/documents/FallsLakeDraftReport8_full.pdf