

August 16, 2010

John Huisman
DWQ Planning
1617 Mail Service Center
Raleigh, N.C. 27699-1617

Dear Mr. Huisman:

On behalf of the Upper Neuse Clean Water Initiative (UNCWI), a regional watershed partnership of six land trusts, I respectfully submit comments on the draft Falls Lake rules. We would like to thank you for the opportunity to comment on the proposed rules and hope our input will be helpful in developing a comprehensive watershed strategy for protecting and restoring Falls Lake.

In response to the growing development pressures on the region's water quality and quantity, and recognizing the potential to use land conservation as an effective practice in conserving the area's water supplies, the UNCWI was created in late 2005. UNCWI is a partnership effort to prioritize and protect those lands most critical for the long-term health of all drinking water supplies in the Basin. Partners include land trusts, watershed associations, local governments, landowners, utilities, state agencies, elected officials and more. In 2006 UNCWI completed a Geographic Information System (GIS) model and conservation plan with the oversight of a technical team of agency and resource experts and with the input of stakeholders from across the Basin. The conservation model, which prioritizes parcels based on their effectiveness in protecting water quality if conserved, has helped guide the land conservation efforts of the Initiative partners.

Since the inception of the UNCWI, the region's six land trusts (Eno River Association, Ellerbe Creek Watershed Association, Tar River Land Conservancy, Triangle Greenways Council, Triangle Land Conservancy, and the Trust for Public Land) have worked with partners to conserve and restore over 4,475 acres of priority riparian buffer along 46 miles of streams in the Basin, and are currently working to conserve an additional 2,267 acres and nearly 29 miles of riparian buffers.

The basis for the UNCWI's approach is the extensive research that recognizes the role conservation of established riparian buffers, wetlands, floodplains and headwater areas plays in protecting water quality. Specific to riparian forest buffers, the Environmental Protection Agency (EPA) notes that "riparian buffers of various types are effective at reducing nitrogen in riparian zones, especially nitrogen flowing in the subsurface"¹. According to a study conducted in the Chesapeake Bay, cited by the EPA, forested buffers (of 95 feet width) have a potential nutrient reduction rate of 97.4% for general sediment, 80.1% for nitrogen, and 77.2% for phosphorus².

Recognizing the importance of maintaining high quality water supplies, communities are focusing on protecting significant water supply lands, including wellhead areas, stream buffers, lands overlying high yield aquifers and reservoir watersheds. The closer a community and its development patterns can mimic and take advantage of existing natural ecosystems, the more effective and less costly their water resources

1 Paul M. Mayer, et al., "Riparian Buffer Width, Vegetative Cover, and Nitrogen Removal Effectiveness: A Review of Current Science and Regulations." EPA (October 2005), 17, <http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=2000O182.txt>

2 "Riparian Forest Buffers: Linking Land and Water." EPA (March 1999), 5, <http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=2000W45Y.txt>

protection efforts will be. A study of 27 water suppliers conducted by Trust for Public Land and American Water Works Association in 2002 found that more forest cover in a watershed results in lower water treatment costs. According to the study, for every 10% increase in forest cover, treatment and chemical costs decreased approximately 20%³.

In addition to maintaining a more resilient and functioning watershed, strategic land conservation benefits myriad variables affecting the region's quality of life. For example, land conservation can protect biological diversity, as well as cultural and historical sites, and provide recreational opportunities. It can also help conserve productive working lands for local production of food and fiber, allowing a landowner to realize income while conserving the resource and maintaining jobs that are compatible with watershed health. Land conservation can also reduce local governments' flood control costs, improve air quality, and play a vital role in the emerging global market to capture and sequester atmospheric carbon as biomass.

In order to attain an improved water quality status, not only must the water supply be improved through reduction of existing sources of nutrients and sediment, but the prevention of potential new sources must also be addressed. Reduction of nutrient and sediment loads should involve managing growth and protecting sensitive areas, otherwise new sources of nutrients and sediments will be added to the system offsetting many of the benefits gained through measures to improve existing water quality problems. Projections for the Triangle area suggest a sharp increase in the general population, which will result in continued land development. When considering the current levels of development and building in the Falls Lake watershed as a baseline, the projected increase in impervious surfaces, loss of vegetated cover and soil compaction will only weaken the watershed's natural ability to process and filter harmful concentrations of nitrogen and phosphorus, resulting in increased deposits of these nutrients into Falls Lake. Additionally, loss of vegetated, undeveloped land affects the overall hydrologic functioning of the watershed – buffers become disconnected from the floodplains, stream banks erode and the system's capacity to process nutrients is reduced.

A growing understanding of the role that natural lands play in filtering pollutants and maintaining water quality has led many municipalities and water suppliers, particularly those in growing communities, to consider land protection as part of a "multiple-barrier" approach to providing safe drinking water. In Falls Lake, much of the pollution reduction will involve changes in land use practices, implementation of more stringent Best Management Practices (BMP) for new development and retrofitting of existing development. However, some engineering practices and BMP's are relatively new technologies that are as yet untested and could be prone to management problems. Land conservation of existing vegetated lands is a known asset in the watershed, acting as a sink or trap for nutrients and sediments from adjacent runoff. While land conservation does not operate like a newly installed BMP or other engineering project in reducing the runoff load to the Lake, is a complementary practice that minimizes further degradation of the Lake's water quality. For a comprehensive multiple barrier approach, UNCWI recommends adding targeted land conservation to the list.

In response to the Commission's request for public comment on the option to include land acquisition and conservation as an option for achieving nutrient reduction credits (under 15A NCAC 02B. 0282), the UNCWI proposes that the Falls Lake Nutrient Management Strategy incorporate targeted land conservation as an acceptable practice toward meeting the nutrient reduction requirements and achieving attainment of the full classified uses of Falls Lake.

While many details remain to be discussed and resolved regarding the administration of land conservation as a practice (criteria for qualification, geographic context, credit ratio, among others), the UNCWI

³ Chris S. Crockett and Chad E. Pindar, *Tools and Techniques for Modernized Source Water Protection*.
http://www.tpl.org/content_documents/protecting_the_source_04.pdf.

recommends including language in the Rule that allows for further discussion and development of an approved framework for incorporating land conservation as an acceptable practice in the Falls Lake rule. We would be happy to participate in that process and would also propose the development of a demonstration project that could serve as a basis for reviewing and assessing various ecological and programmatic aspects of integrating land conservation into the overall Falls Lake implementation strategy.

There are a number of existing examples and resources that could help establish a framework for a land conservation practice. The North Carolina Environmental Management Commission recently had the concept of preservation of forested buffers incorporated into the consolidated buffer mitigation rule, along with a proposed credit ratio and hydrologic criterion. The draft states “Preservation sites shall have the objective of maintaining existing buffer conditions that maximize nutrient removal and other buffer functions”. While this has not been noticed as a proposed rule for comment, it does demonstrate the Commission’s recognition that preservation contributes to water quality protection.

Additionally, land trusts worked under contract with the North Carolina Ecosystem Enhancement Program for three years, providing preservation sites for mitigation. The project resulted in a rigorous process for identifying, crediting and demonstrating development threats as part of the review and approval of preservation mitigation sites. The Upper Neuse River Basin is also fortunate to have a number of watershed protection plans in place – EEP local watershed plans, county-based watershed improvement plans, and the UNCWI conservation plan, among others - which identify the highest priority parcels for water quality protection and restoration. In this instance, a potential criterion for considering a proposed preservation project could be a requirement that it be identified in an existing watershed plan, which could be further validated by the Department of Water Quality.

Please do not hesitate to contact me if you would like to discuss any of the information we have provided. Including land conservation as an acceptable practice in the Falls Lake rule, through an approved and strategic process, would complement the traditional practices recognized in the draft rule, help ensure watershed integrity, and create a more functional watershed for the long-term.

Sincerely,



D. Reid Wilson
Executive Director
Conservation Trust for North Carolina

On behalf of Upper Neuse Clean Water Initiative land trusts:
Ellerbe Creek Watershed Association
Eno River Association
Tar River Land Conservancy
Triangle Greenways Council
Triangle Land Conservancy
Trust for Public Land