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John Huisman
NC DWQ
1617 Mail Service Center
Raleigh, NC 27699-1617

RE: Comments on Falls Rules

Dear Mr. Huisman,

We are writing with brief comments on the proposed Falls Lake Rules. We place emphasis on the need to provide adequate time and resources to develop and assess the science and policy strategies required for this complex and multi-layered issue. This is a difficult problem given the uncertainty of the science and in predictions of water quality outcomes, the multiple jurisdictions sharing the same watershed, and the split in potential costs and benefits of restoration activity. These issues are not limited to the Triangle, but are nationwide. The US EPA is currently considering a similar set of issues in revising storm water permitting as part of the National Pollutant Discharge Elimination System (NPDES). A National Research Council report (commissioned by the EPA) that one of us (Band) contributed to addressed many of the issues involved, including an assessment of current modeling tools, examples from around the country of new build and retrofits to existing development to improve stormwater quality, and proposals for revised stormwater permit development, and the collaboration in multiple jurisdictional watersheds. There are a set of interesting examples of innovative restoration to both new and existing built in several cities. The report can be found at:

http://www.epa.gov/npdes/pubs/nrc_stormwaterreport.pdf

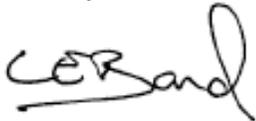
The science and art of stormwater quality modeling is developing, and requires thorough interpretation. There is inherent uncertainty in process based models on prediction of land use and infrastructure controls of nutrient export. Careful testing and interpretation of results in comparison to available water quality data is required, and often must be supplemented by additional data collection. Note that I have reviewed the Chesapeake Bay Watershed Model for the Chesapeake Bay Foundation twice. This model has been under development for much longer than the Falls Lake watershed model, and with significantly greater resources. Nevertheless, there is still large uncertainty in the Chesapeake Bay Watershed Model. The North Carolina

DWQ has done a very good job of developing and applying a complex watershed model in a short period of time, with limited resources. In other jurisdictions, this is followed by a “peer review” to suggest improvements and aid in interpretation (the Chesapeake Bay program is an example). Given the complexity of the process, the request from DWQ for an additional year to carry out further model development, testing and development was reasonable. While there is interest and reason to develop strategies to mitigate the water quality problems that have developed in Falls Lake as soon as possible, it may be counterproductive not to take the time required to better evaluate results and plans. This cannot result in indefinite delays in taking necessary action, but should provide an ongoing activity to adaptively evaluate and manage a significant regional water quality problem. In fact, the additional time would lead to more reliable model outputs and reduced uncertainty which can lead to increase prospects for agreement and enhance cooperation.

The issue of multi-jurisdictional watersheds, with downstream areas benefiting from clean water supplies and costs borne by upstream users is common. The classic case is the NYC watershed in which the water supply reservoirs were constructed below other communities. While of vastly different scales in terms of the size of the system, the distance between water users and water suppliers, and the asymmetry in population and wealth, NYC has invested significantly in stormwater controls, land conservation and other BMPs in Catskill and Westchester County watersheds for some time, and benefits through avoidance of dramatically increased water treatment costs.

While we are not making explicit policy recommendations for these difficult decisions, we are emphasizing the need to be aware of national trends and developments on these topics, the lessons we can learn from previous examples, and the need for ongoing and expanded data collection, model development and independent evaluation within a well thought out adaptive management strategy.

Sincerely,



Lawrence E. Band, Ph.D.
Voit Gilmore Distinguished Professor
Director, UNC Institute for the Environment



Phillip Berke, Ph.D.
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