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ORANGE COUNTY BOARD OF COMMISSIONERS
 POST OFFICE BOX 8181
 200 SOUTH CAMERON STREET
 HILLSBOROUGH, NORTH CAROLINA 27278

June 28, 2007

Dr. David H. Moreau, Chair
 Environmental Management Commission
 1617 Mail Service Center
 Raleigh, NC 27699-1617

Re: Comments on the proposed *Jordan Reservoir Water Supply Nutrient Rules, June 15, 2007*

Dear Dr. Moreau:

Thank you for the opportunity to provide comments on the proposed nutrient management rules for Jordan Lake Reservoir. Orange County appreciates the work to date by the Environmental Management Commission (EMC) and the North Carolina Division of Water Quality (NCDWQ) staff to address the goal of reducing nutrients, and is supportive of this goal. However, we do have some concerns about the proposed implementation method of non-point source reductions, especially in the Upper New Hope Arm of the lake.

As you know, Orange County has a long history promoting proactive measures for watershed protection. The County implemented watershed protection measures in its 1981 Land Use Plan and associated Zoning Ordinance and Subdivision Regulations, and also implemented an Erosion Control Ordinance in 1975. Both of these actions were firsts for counties in North Carolina at that time. In addition, the Erosion Control ordinance mandates that any land disturbance in University Lake Watershed (later extended to other watersheds) require a building permit approved by the Erosion Control Division.

For the last 25 years, and beyond, County policy has consistently focused substantial emphasis on watershed protection, relying primarily on land use and non-structural measures to protect water quality. On-site infiltration of the first one-inch of stormwater runoff, extensive stream buffers that exceed state minimums (measured from the edge of the FEMA mapped floodplain, if present, and not the stream bank), and protection of riparian buffer lands and floodplains are among some of the many watershed protection techniques Orange County uses in this and other watersheds in our jurisdiction. The reason for this long-standing policy is a fundamental belief that addressing water quality protection at the source by limiting nutrient loading at the outset is preferable to relying on structural controls after the fact.

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The portions of the Jordan Lake watershed in Orange County reflect this proactive approach to water quality protection. Within the Upper New Hope Arm of this watershed, Orange County has instituted far-reaching land use or non-structural controls, as shown on the attached map.

There are three sub-basins draining to the Upper New Hope Arm in the County's jurisdiction. The University Lake watershed (part of Morgan Creek) has, since 1989, included a minimum lot size of five-acres for each new lot, with impervious surfaces limited to as little as 4% in some cases. These measures were instituted after a comprehensive watershed technical study and extensive community dialogue. The Upper New Hope Creek basin, north of Chapel Hill and Carrboro, is part of an area known as the "Rural Buffer," which has two-acre minimum lot sizes and over 2,000 acres of protected land. This protected land also includes over 7,000 linear feet of New Hope Creek in the County's jurisdiction. A small portion of Morgan Creek downstream of University Lake and south of Chapel Hill also has two-acre lot zoning, and significant protected lands.

Orange County also enforces flood damage prevention regulations, which supplement stream buffer standards. Both of these prohibit any new structures or septic drain fields near surface water bodies.

As an example of the effects of Orange County watershed standards, our staff has used an adaptation of the Upper Neuse Basin Site Evaluation Tool (SET) for a recent development in the University Lake watershed. On an 80-acre site with a natural nitrogen-loading rate of 0.66 pounds per acre per year, unrestricted development would produce an estimated 5.17 pounds per acre per year. Orange County regulations dropped that estimated nitrogen loading rate to 1.81 pounds per acre per year. Larger lot sizes required in this watershed appear to be the primary cause.

Orange County is – and has always been - very supportive of attempts to reduce nutrient loading and protect water quality in Jordan Lake. However, the method of the proposed implementation for the non-point source rules in the Upper New Hope Arm may not be practical or equitable for a rural jurisdiction, especially since significant protective measures have been instituted for many years.

In particular, Orange County would like to offer the following points for the Commission's consideration:

1. Reductions for existing development are not "performance" based.
 - a. The proposed reductions for nitrogen and phosphorus are represented as percentage loading reductions. This "one size fits all" approach does not acknowledge the very different loading rates and land use patterns between urban and rural portions of this area; nor does this approach take into consideration the resultant difficulty in achieving a percentage-based reduction by jurisdiction.
 - b. As described above, Orange County already employs watershed protection measures that account for relatively low nutrient loading rates. In order to

achieve the proposed 35% reduction in total nitrogen in the Upper New Hope Arm, it is conceivable that forested areas may have to be converted to some sort of structural stormwater control, counter to the County's long-term policy. With forestry outside of the realm of local government regulation, Orange County may not be able to enforce any provisions related to forestry.

- c. A 35% reduction for rural watersheds with relatively low nutrient loadings will not be as effective as a 35% reduction applied to urban watersheds.
 - d. While stormwater retrofits may be a logical approach in urban areas where loading rates are higher, it does not seem practical or equitable to hold rural areas to the same percentage reduction goal, when protective measures are already in place.
 - e. An in-stream nutrient level goal for each sub-watershed of Jordan Lake, and a corresponding nutrient delivery model to sustain the goal, may be a more effective method to equitably address reductions.
2. Loading rates by jurisdiction may not be equitable.
- a. Because of the location of the monitoring stations further downstream in both the Morgan Creek and New Hope Creek sub-basins, it is impossible at this time to accurately project loading rates by jurisdiction and validate what are very different land use patterns and non-point source loading between jurisdictions.
 - b. As such, it is difficult for each jurisdiction to determine whether the costs of reduction are being equitably borne by the jurisdiction where loading is occurring. If this type of reduction approach is pursued, further assessment of the costs of implementing the rules - calibrated as best possible to the loading coming from each jurisdiction - would be instructive to help ensure that benefits and costs are equitably shared. A program that provided reciprocal benefits to jurisdictions with low loading rates but high levels of protection is essential to meeting equity concerns raised by heightened regulation. The City of Raleigh's efforts to fund upstream watershed protection in the Upper Neuse is reflective of a proactive realization of such an obligation.
3. Non-point source reductions were not calibrated to the Jordan Lake model.
- a. It is our understanding that the non-point source reductions called for in the rules were not calibrated to the specific Jordan Lake model, as was the case with the point-source loading. The non-point source reduction rates were instead estimated from other modeling and land use projections.
 - b. Therefore, it is not as clear whether the proposed rules for non-point sources will achieve the stated goals, and it may be impossible to know if the reduction targets will work until substantial time, funding and other resources are expended on feasibility studies and implementation.

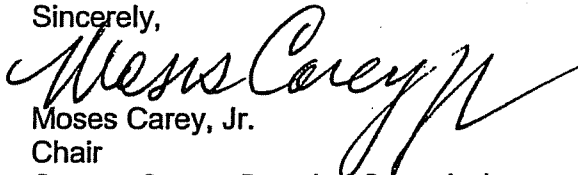
- c. There are also efficiency, cost and feasibility concerns regarding the splitting of nitrogen reductions for non-point and point sources. Nutrient reductions from non-point sources are more complicated and costly to obtain.
4. There is very little agriculture in the New Hope Creek basin.
 - a. While this portion of the County is rural, this will greatly limit the ability to achieve percentage-based reductions for agriculture.
5. Existing development may have lower loading rates than new development.
 - a. The rules as proposed may unintentionally require existing development to have lower loading rates than new development. Under the proposed rules, new development will have the option of paying a one-time offset fee in lieu of reducing nutrient loading on-site. This potentially means that new development will have higher actual loading rates.
6. Burden of cost falls on local governments.
 - a. If the rules are implemented, local government will be asked to shoulder the brunt of what may approach a \$1 billion price tag for the nutrient strategy.
 - b. Since the water issues in Jordan Lake are not new in terms of real or expected results, it would be critical to have State funding assistance to help local governments address these measures.
 - c. The current state of Jordan Lake water quality is markedly similar to predictions made over 30 years ago by a variety of experts, and it is as much a regional and statewide issue as a local issue.
7. Local governments need added flexibility in meeting requirements.
 - a. More flexibility for local governments to participate in buy down opportunities (with EEP) would help local governments achieve the rules.
 - b. The proposed rules allow for a trading program. However, more time is needed for the stakeholders to assess whether a trading program will be feasible. While trading scenarios with partner jurisdictions appear to have merit, the current targeted watershed study is not complete.
 - c. An emphasis on nutrient reduction trading, rather than in-lieu-of payments, may be more effective. A trading ratio of 2:1 or greater may be needed to ensure actual in-basin nutrient reduction.

8. The current planned public comment period is not feasible.
- a. The current planned timetable for public comment over the summer months (June 15-August 15) is not optimal to receive public comment on a subject of this importance. Many local government boards take a "summer" break. Because of the potential cost and far reaching ramifications of these rules, the public comment period should be sufficiently long enough to allow appropriate response from impacted local governments.

In summary, Orange County would ask the Commission to consider modification of and alternatives to application of a single nutrient reduction percentage to all jurisdictions in the Upper New Hope Arm.

Thank you for considering these comments, and we stand ready to help work with the State and other local governments in an equitable and efficient manner to reduce nutrient loading in Jordan Lake. Please feel free to contact our staff in the Environment and Resource Conservation and Planning departments if we may provide additional information or clarification.

Sincerely,



Moses Carey, Jr.
Chair
Orange County Board of Commissioners

Copies

Board of Commissioners

Laura Blackmon, County Manager

Rich Gannon, NCDWQ Non-Point Source Planning Unit Supervisor

Sydney Miller, TJCOG Water Resources Program Manager