



Michael Easley, Governor  
William G. Ross Jr., Secretary  
North Carolina Department of Environment and Natural Resources  
Gregory J. Thorpe, Ph.D. Acting Director Division of Water Quality

December 14, 2001

Mr. John Morris  
NC Department of Environment & Natural Resources Division of Water Resources  
1611 Mail Service Center  
Raleigh, NC 27699-1617

Dear Mr. Morris and other Executive Members of the Advisory Committee for the John H. Kerr Dam and Reservoir Section 216 Study:

Comments were solicited from members of the Advisory Committee at the initial meeting on November 15, 2001 regarding issues that we would like to see addressed in the Section 216 Study for Kerr Dam and Reservoir in the Roanoke River basin. I would respectfully submit the following comments on behalf of the Division of Water Quality:

**1. The Study should establish the relationship between current reservoir operations and corresponding effects on water quality in both the downstream reservoirs and the lower Roanoke River.**

The operations of Kerr, Gaston and Roanoke Rapids are interconnected and the water quality impacts in the lower Roanoke River are influenced by each of these projects. According to the FERC license for the Roanoke Rapids and Gaston hydropower facilities and the flood control Memorandum of Understanding between Dominion and the US Corp of Engineers (COE), floods are directly passed downstream via the Roanoke Rapids dam due to the limited storage capacity of the Roanoke Rapids reservoir. Therefore, both the COE and Dominion share responsibility regarding the downstream impacts associated with these reservoir operations.

The DWQ is concerned about the water quality impacts (primarily dissolved oxygen and temperature) of floodplain inundation during flood control operations and the subsequent return of water stored in overbank areas to the main channel during low flow releases. Dominion has now conducted two water quality studies of the lower river and floodplain in an attempt to determine the effects of their operations in this regard. However, a sophisticated and extensive water quality model for the Roanoke River below Roanoke Rapids dam is needed.

In addition, the DWQ is also concerned about the effects of altered flows on salinity and assimilative capacity of the lower Roanoke River. Also, the effects of high flows on the re-suspension of sediments.

**2. The Study should evaluate the ecological impacts in the lower Roanoke River resulting from high flows.**

Ecological impacts in the lower Roanoke River may include a decline in the aquatic macroinvertebrate community in the lower river, bank instability leading to aquatic habitat degradation and loss of riparian vegetation, and loss of forested, riparian wetlands in favor of other types of wetlands and/or increased areas of open water.

**3. The Study should evaluate the effects of high altered flows on algal blooms and salinity of the Albemarle Sound.**

Although, DWQ has focused on water quality in the lower Roanoke River during Dominion's FERC relicensing process, water quality in the Albemarle Sound is also a concern. A comprehensive water quality modeling effort of the Roanoke River below Roanoke Rapids dam could also include the portion of the Albemarle Sound that the Roanoke River directly influences.

**4. The Study should identify and evaluate impacts to Kerr Reservoir to insure that the waters continue to support designated uses.**

The North Carolina portion of John H. Kerr Reservoir is currently classified C and B (in different areas of the lake). Designated uses include aquatic life and secondary recreation, fish consumption and primary recreation. The reservoir is currently fully supporting these uses.

Thank you for the opportunity to provide input into the John H. Kerr Dam and Reservoir Section 216 Study. I look forward to working with you and other member of the Advisory Council in the coming months.

Sincerely,  
*Isl Boyd Devane*

Boyd Devane, Supervisor  
Planning Branch

Cc (electronically): Coleen Sullins, NCDENR-DWQ John Dorney, NCDENR-DWQ Callie Dobson, NCDENR-DWQ Adugna Kebede, NCDENR-DWQ Susan A. Wilson, NCDENR-DWQ Todd Kennedy, NCDENR-DWQ Dianne Reid, NCDENR-DWQ Ken Schuster, NCDENR-DWQ Jim Mulligan, NCDENR-DWQ Jim Mead, NCDENR-DWR  
Sara Winslow, NCDENR-DMF  
Franklin T. McBride, NCWRC  
Pete Kornegay, NCWRC  
Jean Richter, USFWS John Ellis, USFWS  
Jeff Horton, The

Nature  
Conservancy