

**FERC PROJECT NO. 2009**  
**ROANOKE RAPIDS AND GASTON HYDROPOWER RELICENSING PROJECT**

**FL3 and FL4 Cooperative Management Team**  
**Roanoke Rapids Power Station**  
**Draft Minutes to July 10, 2007 Meeting**

Participants: Bennett Wynne (NCWRC), Jim Mead (NCDWR), Sam Pearsall (TNC), Chuck Peoples (TNC), Bob Peet (UNC), Steve McIninch (VCU), Dave Hopler (VCU), Len Smock (VCU), Jean Richter (USFWS RRNWR), Bob Graham (Dominion), Jim Thornton (Dominion)

The meeting began with a round of introductions.

**Review of minutes from 1/10/07 meeting**

The minutes were accepted. All Action Items had been attended to except possibly one related to the USACE 216 study plans for the Riparian Ecosystem Task Group. The CMT saw no reason for following up on this item.

**Seedling survival studies**

Chuck provided an update on the status of the water level gages to be installed along the seedling survival study transects. The gages had been purchased from In-situ, but they were having difficulties obtaining technical assistance with developing a protocol for installation. Chuck, Jean, Jackie White and Phil Townsend have been working on establishing appropriate locations with reference to topography, vegetative communities and impacts from hydropower peaking and flood control. Chuck noted a number of the gages will be located in areas more sensitive to flooding than has been the case in the past. Sam noted there will be two stations established to monitor barometric pressure for adjusting the water level gage data. Chuck will coordinate the group's efforts and keep Bob in the loop as the gage locations are finalized.

There was some discussion with how the gage data will eventually be correlated with hydropower operations at Roanoke Rapids to evaluate Dominion's contribution to flooding and detrimental effects on vegetation. This task will likely be separate from Jackie's research; however, the objectives of her research have yet to be finalized. Jim Thornton noted that the Scope of Work for the UNC work specifically mentions the seedling survival study will evaluate the effects of hydropower operations, and that Dominion's primary peaking effects occur when weekly declarations from Kerr are in the range of 5,00 – 12,000 cfs. Jim T. also noted that Dominion has not been peaking as river flows are ramped down from flood stages until the weekly flows are in the 8,000 cfs range.

Bob Peet provided a description of Jackie White's activities, which are on schedule and progressing well. He expects all 24 transects to be established soon. A change to the procedure for monitoring first year seedlings was made due to their abundance and the larger number of variables that may affect first year survival. Instead of obtaining XY coordinates for each first year seedling, they are being tallied. XY coordinates and stem height measures are still being obtained for older seedlings. Bob P. noted all of Jackie's transects are along Phil Townsend's transects and some are along the erosion study transects. In response to questions from Sam, Bob P. indicated they expect to obtain survival estimates by age groups as planned, and will be able to derive some qualitative estimate of herbivory from the stem height data for older seedlings. Jean noted she was still monitoring the 100 1m<sup>2</sup> plots she has had established for several years, and has observed considerable variation in first year growth in some instances.

### **Erosion studies**

Bob Graham had no further information beyond that provided in the 5/22/07 email update sent to the CMT, but has requested that Panos Diplas provide him with an update of recent activities and review the study schedule provided as part of the VT proposal and revise as needed. *(Note from Bob G – Panos has informed me that Soonkie has made considerable progress on the soil sample testing, and the VT crew intends to spend 10 days on the river beginning August 6. They will be contacting Cliff Hupp to coordinate efforts and try to make arrangements for the use of USGS's ADCP.)* Jean reported that Cliff Hupp had been on the river in June to obtain annual pin measurements and resurvey the erosion transects. He is still working upstream of Highway 42, and will return in July to continue the USGS erosion work. Jim T. indicated the MOA between Dominion and DENR for cost sharing the VT erosion work is being finalized.

There was some discussion about the videography of woody debris along the river's banks that was obtained by Devine, Tarbell and Associates as part of the USACE 216 study. Jim Mead will be working with DTA regarding the woody debris mapping, classifications and final product. Jim M. will be checking on their progress, and inform the USACE task teams of the CMT's interest in the final product.

### **Within-week (tributary) macroinvertebrate studies**

Len Smock provided a summary of the work accomplished to date. All field collections for the year have been completed, and lab processing of samples is underway. Looking Glass Run and Quankey Creek were selected for study, and sampled in early March per DWQ swamp stream protocol, and again in June prior to and following resumption of peaking operations at Roanoke Rapids. At DWQ's suggestion, the VCU team also sampled a creek within the Tar River drainage within 3 weeks of being sampled by DWQ as a check on VCU's sampling and lab processing protocols. Because considerable differences between the upper and lower sampling sites on Looking Glass Run and Quankey Creek (separated by about 4-6 km) were observed that were likely independent of hydropower operations, Tyson's Creek in the Tar River drainage was sampled in June to help provide some insight into the natural variability that may occur between the upper

and lower sampling stations within the study streams. VCU will continue to coordinate their work with DWQ in regards to the appropriate levels of taxonomic identification and on other matters as needed.

Chuck noted that the use of a sampling site upstream of Rt. 301 on Quankey Creek as a site impacted by hydropower operations may not be appropriate because, to his knowledge, river flow reversal does not occur upstream of Rt. 301, and a beaver dam exists just upstream of Rt. 301. There was some discussion about how the floodplain model maps were used to help determine the location of appropriate sampling sites, and some of the shortfalls of the floodplain model. Jean suggested employing an In-situ instrument to monitor water level to determine if there is a peaking effect present.

**Action Item:** Chuck and Len will work together to determine if the Quankey Creek site assumed impacted by hydropower operations is indeed affected, and to identify potential alternative sites or streams for study if needed.

### **Within-day fish and macroinvertebrate studies**

Steve provided an overview of the mainstem river fish studies. All sampling for the year has been completed, and was conducted in conjunction with the mainstem macroinvertebrate studies. Sampling upstream of Weldon was conducted near the end of May and end of June prior to and following resumption of peaking operations at Roanoke Rapids, respectively. For the longitudinal studies, sampling was conducted just downstream of Weldon, at Scotland Neck and at Hamilton during the first week of July. Steve described the electrofishing approach used, which had been discussed with and approved by biologists developing large river sampling protocol for the EPA. An attempt was made to obtain a representative sample of the fish assemblage present at each sampling site during each sampling period. This was accomplished by conducting multiple bankside, midchannel and low-frequency electrofishing runs at each site to obtain estimates of relative abundance. In addition, some backpack electrofishing was conducted upstream of Weldon. Fish were identified to species, and during fish processing any abnormalities were noted.

Steve presented some preliminary results, including the species and numbers of individuals collected at the various sampling locations and time periods. Considerable discussion was devoted to the question of what may be an appropriate river (and reach) to sample for comparative purposes. In the original work proposal, the James, Tar and Neuse rivers were identified as potential candidates. Steve noted recent sampling suggests blue catfish, a relatively recent introduction to the James River, comprised 70-80% of the fish biomass in the tidal James. Therefore, the James River's fish community is too unbalanced for further consideration. (*Question from Bob G – would this apply to the use of the James upstream of the fall line for comparisons with the sampling being conducted upstream of Weldon?*) Bennett and Jim M. discussed the relative merits and disadvantages of using the Tar, Neuse and Cape Fear for comparative purposes, and it was decided that Steve and Dave will look at sections of the Tar and Neuse recommended by Bennett as a first step. They intended to do that immediately following the meeting.

Len provided an update on the mainstem macroinvertebrate sampling, that went according to plan with one minor modification to sample processing that was approved by DWQ. Len was unsure if following the qualitative protocols of DWQ were appropriate for answering the question, “Does Dominion’s peaking operations have a detrimental impact on the macroinvertebrate community?”. The sampling as being conducted will provide information on changes in species richness and diversity, but not provide information on potential changes in the density of organisms present. Len provided some ideas about alternative approaches, and it was agreed he should provide recommendations for modifying the sampling protocol for 2008.

Because the changes from qualitative to quantitative sampling will incur additional costs, and for other reasons, Sam requested that the CMT budget be updated. **Action Item:** Jim T. and Bob G. are to revise budget and provide to the CMT. **Action Item:** Bob is to check on any FERC report dates related to the peaking studies. *(Note from Bob G -A report detailing results of sampling in 2007, 2008 and 2009 is due to the FERC on or before February 28, 2010).*

### **Next meeting**

Likely late fall or early winter. A meeting may be called earlier if needed for budget discussions or other matters.