

**North Carolina Environmental Management Commission -
Water Allocation Committee
Meeting Summary**

512 N. Salisbury Street
Ground Floor Hearing Room, Archdale Building
Raleigh, NC

9:00-10:00 a.m.
Wednesday, July 11, 2012

Water Allocation Committee (WAC)

Commissioner Mayor Darryl D. Moss, Chair
Commissioner Stephen Smith, EMC Chair
Commissioner Donnie Brewer
Commissioner Marvin S. Cavanaugh, Sr.
Commissioner Steve Keen
Commissioner Jeffrey Morse
Commissioner Dickson Phillips, III
Commissioner Clyde E. Smith, Jr.
Commissioner Steve Tedder
Commissioner Amy Pickle

Item I. Preliminary Matters

1. Committee Chairman, Commissioner Mayor Darryl D. Moss, called the meeting to order. Pursuant to Executive Order Number One, the committee chairman called upon committee members to evaluate the matters to come before the committee and to identify any known conflict of interest or the appearance of a conflict of interest. There were no conflicts of interest.

2. Minutes and Agenda

The committee approved the minutes of the May meeting as a true and accurate summary of the proceedings. The agenda for the May meeting included an overview of water supply issues in DENR's draft shale gas report.

Item II. Information Items

1. [Validation of the Broad River Basin Model](#)

Background: The 2010 General Assembly passed a bill that the Environmental Management Commission approves the hydrologic basin models that are developed by the Division of Water Resources. The statute requires that the modeling process take into consideration a wide variety of environmental and anthropogenic factors. To meet these statutory requirements, DWR employs the OASIS modeling platform, which is a very flexible and powerful program. OASIS is primarily a water balance model that measures inflow versus outflow.

The model allows users to simulate critical scenarios, such as how increases in demand affect downstream water users on a basinwide level. There are many local stakeholders involved in developing the model and they all need to be able to use the final product. The goal is for the model to become a planning tool that can be used for local water resource planning and for the development and testing of water shortage response plans.

Process: The model contract was initiated in May 2010 and the Broad River model was completed in May 2012. Local water systems attended a kickoff meeting and then a second meeting to review the draft model. In addition, there was a third stakeholder meeting in the basin in order to solicit additional feedback and to provide a training session to the local users. The technical advisory group meets to hear updates about the modeling process. The statute requires the division to hold a 60-day public comment period regarding the final model, which will close the end of August. In the September Water Allocation Committee meeting, the division will ask the WAC for permission to proceed to the Environmental Management Commission (EMC) for final approval in November.

The model only measures water quantity and studies how the water moves from upstream to downstream. It does not perform flood analyses or water quality-related analyses. DWR is trying to develop the means to better incorporate ground water into the models. The division is now able to model drought plans. The model uses an arc/node configuration. Nodes are at key points in the model schematic and the arcs show how water moves between them. Blue squares indicate withdrawal points and the arrows show an inflow into the system. The triangles represent reservoirs. DWR uses historical streamflows from USGS gauges, evaporation, rainfall, limited channel capacities in the creation of the model. DWR works with local soil and water districts to incorporate agricultural water demand. The large community water systems report to the division on an annual basis. Once DWR gathers all the data, the gaps are filled in.

DWR compares the computed and historic levels for validation purposes. A frequency curve is used to determine the probability of the subject water being above or below a certain flow. Current conditions can be compared to the whole period of record. Tom Fransen provided a demonstration of how to use the hydrologic model. The model can be employed to alter demands on a broad scale and can be utilized to examine drought triggers based on the flow and the historical drought record. The division is now in the comment period and will be offering additional model training based on requests. DWR expects to ask for approval from the WAC in September and will take it to the full EMC in November.

Links to Broad Model information and training are listed below:

Broad Model website: http://www.ncwater.org/Data_and_Modeling/Broad/

Broad Model Report:

http://www.ncwater.org/Data_and_Modeling/Broad/background/03_BRBM_Modeling_the_Broad_River_Basin_Operations_with_OASIS.pdf

Model Training Signup: http://www.ncwater.org/Data_and_Modeling/Broad/training.php

The “broad” picture: This modeling process accurately predicts actual performance, provides ability to run what if scenarios, and it manages risk calculations.

Adjournment

There being no further business, **Chairman Mayor Darryl D. Moss**, dismissed the assembly at 9:45 a.m.