

## Neuse Hydrologic Model Project Begins

After almost two years of discussion and development, the Neuse Hydrologic Model (NHM) project is getting underway. The NC Division of Water Resources (NCDWR) launched the project with a kick-off meeting on February 25, 2008. Over forty people attended.

For long-term water resources planning and management, a hydrologic model is an essential tool. Hydrologic models are mathematical representations of the various streams and lakes in a river basin. The NHM will allow planners to determine the impacts of new or increased water withdrawals and wastewater discharges. It will also enable managers to scientifically estimate flows for streams where there are no gages to measure flow. The NHM will allow planners to estimate safe yields (amount of reliable supply) for reservoirs and in-river intakes and to develop better drought management plans. The NHM will also allow water supply managers to more effectively manage their supplies during droughts by providing them with probabilistic forecasts of future reservoir levels under various scenarios.

The Neuse River Basin has been one of the areas hit worst by the recent ongoing drought and water managers are facing significant challenges to supply water to a population of more than 1.4 million residing within the basin, with more arriving daily. Project partners are hopeful that the NHM will be far enough along to be useful in managing Falls Lake this summer. NCDWR has already developed hydrologic models for the Cape Fear, Roanoke, Catawba, and Yadkin River Basins.

## NCSU Low-Impact Development Manual Under Development

UNRBA is helping NCSU's Water Quality Group develop a comprehensive manual on low-impact development (LID). LID is a suite of techniques that can be used to help reduce the many impacts of development on water quality.

LID enables local governments and developers to take advantage of natural features and environmental principles to manage stormwater in a cost-effective and environmentally sound way. Managing stormwater using natural techniques can save the developer money on BMPs and it can also reduce the costs of long-term stormwater facility maintenance and inspections.

LID developments also provide a higher quality of life for future residents, who appreciate their streams and ponds remaining healthy and attractive without expensive upkeep.

The new manual will include guidance and templates for taking inventories of site features, understanding natural drainage patterns, using natural features and innovative practices for stormwater management, reviewing development plans, and ensuring the long-term functionality of the local runoff management system. Case studies and numerous examples will also be included.

The manual is slated for completion in late 2008. For more information, contact Sarah Bruce at [sbruce@tjcog.org](mailto:sbruce@tjcog.org) or (919) 558-9343.

## UNRBA Applies for Grant to Improve Water Quality in Knap of Reeds

UNRBA has submitted an application to the Division of Water Quality's Section 319 Grant Program to develop a watershed restoration plan for portion of the Knap of Reeds Creek watershed below Lake Holt in Granville County, a direct tributary to Falls Lake. The Creek is listed as "impaired" on the NC list of impaired streams because it has an insufficient quantity and diversity of aquatic insects. The cause of the impairment is not known.

If awarded the grant, UNRBA will develop a plan to restore water quality similar to our Lick and Little Lick Creek plans in East Durham County. NCSU's Water Quality Group would lead the assessment of water quality to help determine the level and source of the creek's impairment. Kerr-Tar Council of Governments would perform a land use and future watershed conditions analysis. The Center for Watershed Protection would help us analyze benefits of different management strategies on water quality.

South Granville Water and Sewer Authority, Butner, and Granville County have also committed to helping UNRBA develop the plan.

For more information, contact Heather Saunders at [hsaunders@tjcog.org](mailto:hsaunders@tjcog.org) or (919) 558-9319.

## Falls Lake Nutrient Management Strategy

DWQ estimates that the Falls Lake Nutrient Management Strategy Stakeholder Process will begin in August 2008. If you wish to be kept apprised, please contact Sydney Miller at [smiller@tjcog.org](mailto:smiller@tjcog.org) or (919) 558-9392. We will continue to include regular updates in this newsletter.

**Upper Neuse River Basin Association**

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[www.unrba.org](http://www.unrba.org)



**Upcoming Meetings**

UNRBA Board of Directors:  
March 19, 2008, Durham County, 11:30 am

**Upcoming Events**

**March 26-28 or May 14-16: Intro to Taxonomy & Pollution Ecology of Aquatic Insects Workshop (Asheville)** Benthic macroinvertebrate larvae (aquatic insects or “critters”) are used to detect water pollution problems, to determine if streams are perennial/intermittent, and to gage success stream restoration projects. Participants will learn family-level identification of mayflies, stoneflies and caddisflies (or EPT).

[http://www.ncsu.edu/srp/ept\\_workshop.html](http://www.ncsu.edu/srp/ept_workshop.html) \$475

**April 7: NCWRA Luncheon: Greening Development to Protect Watersheds (Raleigh)** Integrating watershed protection and urban land use planning and how urban land use planning tools can help integrate watershed protection practices into decision-making.

<http://www.ncsu.edu/wrii/events/> or email [anna\\_arnold@ncsu.edu](mailto:anna_arnold@ncsu.edu)  
\$25 before March 24, \$35 after

**Who Is the UNRBA?**

The Upper Neuse River Basin Association (UNRBA) formed in 1996 to provide an ongoing forum for voluntary regional cooperation on water quality protection and water resource planning and management within the 770-square-mile Upper Neuse Basin (Falls Lake watershed). We are a coalition of public entities in the watershed, including municipalities, counties, Soil & Water Conservation Districts, and South Granville Water and Sewer Authority. (See UNRBA Participants, below.)

**What Is the UNRBA’s Mission?**

Our mission is to preserve the water quality of the Upper Neuse River Basin through innovative and cost-effective pollution reduction strategies and to constitute a forum to cooperate on water supply issues within the Upper Neuse River Basin.

**April 15-17: NC On-Site Wastewater Treatment Conference: Old Problems – New Solutions (Raleigh)** Approved training for wastewater system operators, registered sanitarians, and contractors/inspectors. Tours, workshops, and region-specific sessions.

<http://www.soil.ncsu.edu/swetc/onsiteconf/2008/main08.htm> or email [soils\\_training@ncsu.edu](mailto:soils_training@ncsu.edu). \$195, less for groups

**May 6: Green Design & Low-Impact Development Workshop (Wilmington)** Practical applications for planners, realtors, homeowners, builders, developers, and government officials on green building techniques and low impact development. 4 CECs for real estate brokers and agents, 6 PDHs for planners, and 4 PDHs for engineers.

<http://www.bae.ncsu.edu/topic/lid/education.html> \$60

**Upper Neuse River Basin Association Participants**

Jurisdiction	UNRBA Board of Directors Contact (Policy and Process Issues)		UNRBA Technical Advisory Committee Contact (Technical Issues)	
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