

## Best Management Practices Installed Throughout Pittsboro

Karen Hall, NCSU Water Quality Group

NC State University, NC Cooperative Extension, and the Robeson Creek Watershed Council (RCWC) have been diligently installing various Best Management Practices (BMPs), or small-scale stormwater control measures, in Pittsboro throughout the past year. As part of the ongoing study to reduce stormwater runoff and the movement of pollutants to streams in the Robeson Creek Watershed, recent efforts have focused on the urban areas which drain to Little Creek, a tributary of Robeson Creek.

One such effort is the restoration of Tannery Branch, a tributary to Little Creek. This small creek used to be a deep ditch carrying large amounts of stormwater runoff from Salisbury Street into Little Creek. Not only were pollutants from the road being carried

off, but also large amounts of sediment from the “ditch” banks. NCSU relocated this small stream back to its original place in the landscape using a technique called “Natural Channel Design.” This type of restoration creates meander bends and waterfalls throughout the stream to slow the water down during high flows, reducing bank erosion and allowing pollutants and sediment to settle out on the floodplain. A riparian buffer was planted on both sides of the stream using native grasses, trees, and shrubs. This buffer will help filter out pollutants and provide shade to the stream, while also improving habitat for both land and aquatic animals.

Other stormwater runoff control efforts include the installation of several “rain gardens” or “bioretention areas” at various locations throughout Pittsboro, including sites off of Rectory Street, Salisbury Street, and McClenehan Street. A rain garden is a shallow depression in the soil planted with native vegetation that is designed to slow, capture, evaporate and infiltrate rain runoff from streets, driveways,

## WORKSHOP ANNOUNCEMENT

**Improving Water Quality in Your Backyard**  
A Walking Tour and Discussion of Water Quality Best Management Practices in Pittsboro

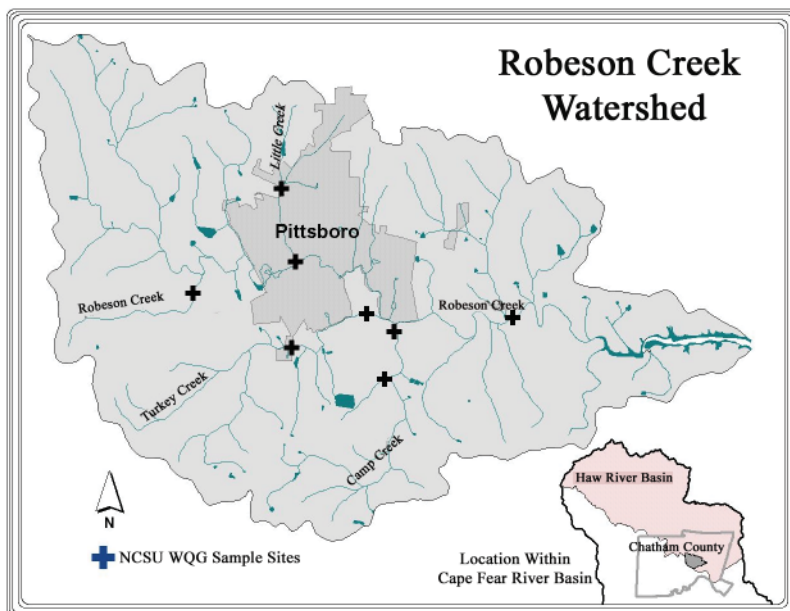
**Saturday December 1, 2007**  
Starting at the Pittsboro Memorial Library  
158 West Street, Pittsboro, NC  
10:00 am – 12:00 pm

This workshop is free! For more information, contact Karen Hall at karen\_hall@ncsu.edu. To register on-line, go to: <http://www.ncsu.edu/srp/robeson.html> and click on the Workshop Registration link.

and parking lots. These BMPs do the following:

- Reduce the amount of runoff and pollutants washing into streams and lakes
- Improve water quality for aquatic life such as fish and amphibians
- Reduce the chance of flooding by retaining stormwater near where it falls
- Reduce streambank erosion and property loss

More raingardens are currently being installed throughout town with interpretive signs alongside them. The RCWC will be installing plants in these areas this fall with volunteer help. If you would like to assist with this effort, please contact Karen Hall at 919-515-8242.



## U.S. EPA Visits the Robeson Creek Watershed

*Catherine Deininger, Haw River Assembly*

The water quality of Robeson Creek is not just a concern to local residents and NC state government. The U.S. Environmental Protection Agency (EPA) – Region IV office in Atlanta, as the provider of significant grant funding to the Robeson Creek watershed restoration efforts, also has a stake in the outcome. To express EPA's interest and support, three staff members visited the watershed in September 2007. Tony Able (North Carolina Watershed Coordinator), Suganthi Simon (TMDL Coordinator), and Karen Wilson, (319 Grant Program Coordinator) met with members of RCWC and toured the watershed. This included a guided canoe trip in the Robeson Creek cove where Robeson Creek joins the Haw River just before flowing into Jordan Lake, a visit to Town Lake in Pittsboro, and a number of construction sites throughout the watershed.

The Robeson Creek watershed is considered by EPA to be a *priority* watershed, a status given to only seven other watershed restoration projects in North Carolina. This status gives Robeson Creek an extra level of support from EPA and NC Department of Water Quality. EPA and DWQ are working closely with RCWC to facilitate the



*Tony Able and Suganthi Simon from EPA – Region IV canoeing on the Haw River just downstream of the confluence with Robeson Creek. Photographer Karen Wilson*

implementation of watershed protection measures.



## EPA Funding Continues for Robeson Creek Watershed Restoration

*Laura Szpir, NCSU Water Quality Group*

The NCSU Water Quality Group and Haw River Assembly have been awarded a \$470,000 grant from the U.S. EPA, administered through NC Div. of Water Quality Section 319 Nonpoint Source Pollution Control Program. This funding is to continue efforts started in 2003 to control stormwater runoff in the Robeson Creek Watershed. The 3-year grant project will commence in January 2008 and will include the following components:

- Continued installation of stormwater BMPs at locations in the urban tributaries of Little Creek and the wastewater sprayfields in Camp Creek and Turkey Creek subwatersheds.
- Provide educational and technical assistance to the town of Pittsboro and Chatham County staff and officials, and to building professionals, on Low Impact Development (LID) principles and practices. Workshops will be delivered to targeted audiences; an LID demonstration site will be built in Robeson Creek watershed through collaboration with local developers; and areas of existing development will be identified for LID retrofits.
- Through a subcontract with the Haw River Assembly, provide assistance to the Town of Pittsboro to review and revise existing stormwater ordinances to be more protective of water quality. This may include incorporating LID language into existing ordinances and/or writing new ordinances.

- Develop a watershed restoration plan to assist stakeholders in making decisions about water quality measures.
- Continued monitoring of Robeson Creek and its tributaries to evaluate progress made at achieving TMDL reductions for total phosphorus, evaluate effectiveness of BMPs, and measure improvements to aquatic habitat.
- Continued educational campaign focusing on water quality throughout the watershed for landowners, local businesses, public officials, agencies, local schools and other interested parties.

For more information on this upcoming project, contact Karen Hall at 919-515-8242, or [Karen\\_hall@ncsu.edu](mailto:Karen_hall@ncsu.edu).



## What's in a Name?

*Jane Pyle, Pittsboro resident*

Not much, if you're looking for agreement over spelling of names. The creek that rises northwest of Pittsboro, flows toward the east on the south side of town, and empties into the Haw River near Jordan Lake has been called Robeson, Robenson, Roberson, Robinson, and Robertson, sometimes in the possessive form. Which is right? Best answer: all of the above.

The index to Chatham County deeds in the Register of Deeds office puts all variations in the same section: ten Robersons, eight Robinsons, seven Robertsons, four Robesons, and one Robenson. But the creek had already been named by the time Chatham County was formed in 1771 and people started buying land in the new county. Records of state land grants from 1778 (after unrecorded colonial lands were ceded to the new state) to 1928 list one on Robersons Creek, two on

Robesons, ten on Robersons, eleven on Robertsons, and twenty-one on Robinsons – sometimes in the singular but never with an apostrophe. None of these grants was to a person named Rob—.

Maps are no better guide. The 1808 Price-Strother map shows Robinsons; the 1865 Coastal Survey shows Robinson's; and the 1870 Ramsey map has Robenson. The 1933 Soil Survey and the 1990 County Highway map identify the stream as Robeson Creek, while the 1970 USGS topographic map calls it Roberson Creek. Local people were outraged when the NC Department of Transportation (DOT) put up a sign south of Pittsboro naming Robertsons Creek.

Why the confusion? Even after the invention of the printing press, increased literacy, and the appearance of dictionaries, regularization (some called it “normalization”) of spelling was slow in taking hold. And the rule for spelling and pronunciation of names is still: do it the way the owner says to. But DOT doesn't own Robeson Creek.



## Town of Pittsboro and Others Receive Stream Stewardship Awards

*Catherine Deininger, Haw River Assembly*

The Town of Pittsboro, Pittsboro Public Works, and Saint Bartholomew Episcopal Church were all recognized at the Pittsboro Street Fair for their work towards protecting local streams in the Robeson Creek watershed. During a brief presentation at the Credle Street Stage, Stream Stewardship Awards were given by Karen Hall and Catherine Deininger of the Robeson Creek Watershed Council (RCWC). A healthy stream drawn by Emma Sckurnick, a local Chatham County artist, is shown on each award. The RCWC has been recognizing businesses and landowners

for their efforts to restore Robeson Creek with Stream Stewardship Awards since 2005.



*Newly designated Robeson Creek Stream Stewardships (from left to right) William Terry, Pittsboro Town Manager; John Poteat, Pittsboro Utility Director; and Rev. Carl Edwards, Saint Bartholomew's Episcopal Church Rector.*

The Town of Pittsboro, the first award recipient, has been an active partner on the numerous projects that RCWC members have worked on to improve water quality in Robeson Creek. In May of 2007, the Town of Pittsboro assisted with the installation of a rain garden below the renovated basketball and tennis courts, located on McClehenan Street. The Town also agreed to have a rain garden installed behind the Pittsboro Community Building on Thompson Street as well as have a wetland restored on part of their property off of Pittsboro Elementary School Road.

The second award recipient, Pittsboro Public Works, assisted with the installation of a number of stormwater best management practices in the Little Creek watershed. Most notable was their participation in the installation of raingardens behind the basketball and tennis courts and in the Saint Bartholomew churchyard.

The third award recipient, Saint Bartholomew Episcopal Church, worked with RCWC in October 2007 to install a rain garden in their churchyard to capture the stormwater runoff from Hanks Street.



## Pittsboro LID Workshop

*Laura Szpir, NCSU Water Quality Group*

On December 7, 2006, approximately 50 citizens of Pittsboro and Chatham County, including local government staff and building professionals and their consultants, gathered at Central Carolina Community College, Chatham County Campus, to learn about an environmentally- and economically-friendly form of land development called *low impact development* (LID). LID employs a combination of innovative site design and stormwater best management practices (BMPs) to manage stormwater runoff close to where the rain falls. LID advocates the following principles: minimized clearing of vegetation and grading; minimized use of impervious surfaces such as asphalt and concrete; and placement of numerous small-scale stormwater practices throughout the site to capture, store, infiltrate, and treat runoff, as opposed to the use of large off-site detention ponds. Detention ponds are costly to construct and maintain, can be unattractive, and can contribute to ground water and surface water impairments. LID advocates tree preservation, backyard rain gardens and cisterns, and narrower roads with swales in place of curb and gutter. Initial studies have shown a 25-30% cost savings for LID over traditional development, mostly due to a reduced need for stormwater infrastructure such as pipes and ponds. Also, due to the increased vegetation with LID, developments can be more aesthetically pleasing and command a higher market price.

As the Pittsboro Town Planner, David Monroe, pointed out in his presentation at the workshop, as of



NONPOINT SOURCE  
MANAGEMENT PROGRAM

Section 319(h) of the Clean Water Act

319 GRANT

July 1, 2007, Pittsboro and Chatham County are required to manage stormwater as part of the federally mandated Phase II stormwater regulations. DENR will be responsible for issuing stormwater permits to developers who disturb a cumulative area greater than one acre, or less than an acre but part of a common plan of development. The new stormwater regulations support and encourage the use of *low impact development* as a means of meeting the Phase II post-construction standards, which, as of July 1, 2007, require new development and redevelopment to maintain the pre-development hydrologic response at a development site after construction.

At the workshop, attendees heard presentations from a number of speakers on topics such as LID site analysis and design, LID stormwater BMPs, conservation easements, sediment and erosion control during construction, integrated on-site stormwater and wastewater systems, and reviewing local codes and ordinances for barriers to LID. The workshop concluded with an open discussion of challenges and opportunities for implementing LID in Pittsboro and Chatham County. Some comments received include:

- Revising the local codes and ordinances, including adding flexibility, will make LID easier to implement in Pittsboro

- Build LID demonstration sites in Pittsboro that builders/developers can use as examples.
- Create an incentive program to encourage developers to do LID, such as reduced permitting fees and priority plan reviews. Need more local government staff to support this.
- Homeowners want to see more environmentally-friendly development
- Need developers to blaze the LID trail

The next steps will include a local code and ordinance review for the Town of Pittsboro to identify barriers to LID. The Haw River Assembly and NCSU, in partnership with the Robeson Creek Watershed Council, will assist the Town with this effort.

For more information on the workshop and to view the presentations on-line, please visit the NCSU Water Quality Group's website: [http://www.ncsu.edu/waterquality/lid\\_workshop/](http://www.ncsu.edu/waterquality/lid_workshop/).

*Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914. Employment and program opportunities are offered to all people regardless of race, color, national origin, sex, age, or disability. North Carolina State University, North Carolina A&T State University, U.S. Department of Agriculture, and local governments cooperating.*

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