



Stream Restoration Project

Stream Restoration Community Meeting

Saturday, Jan. 30, 2010

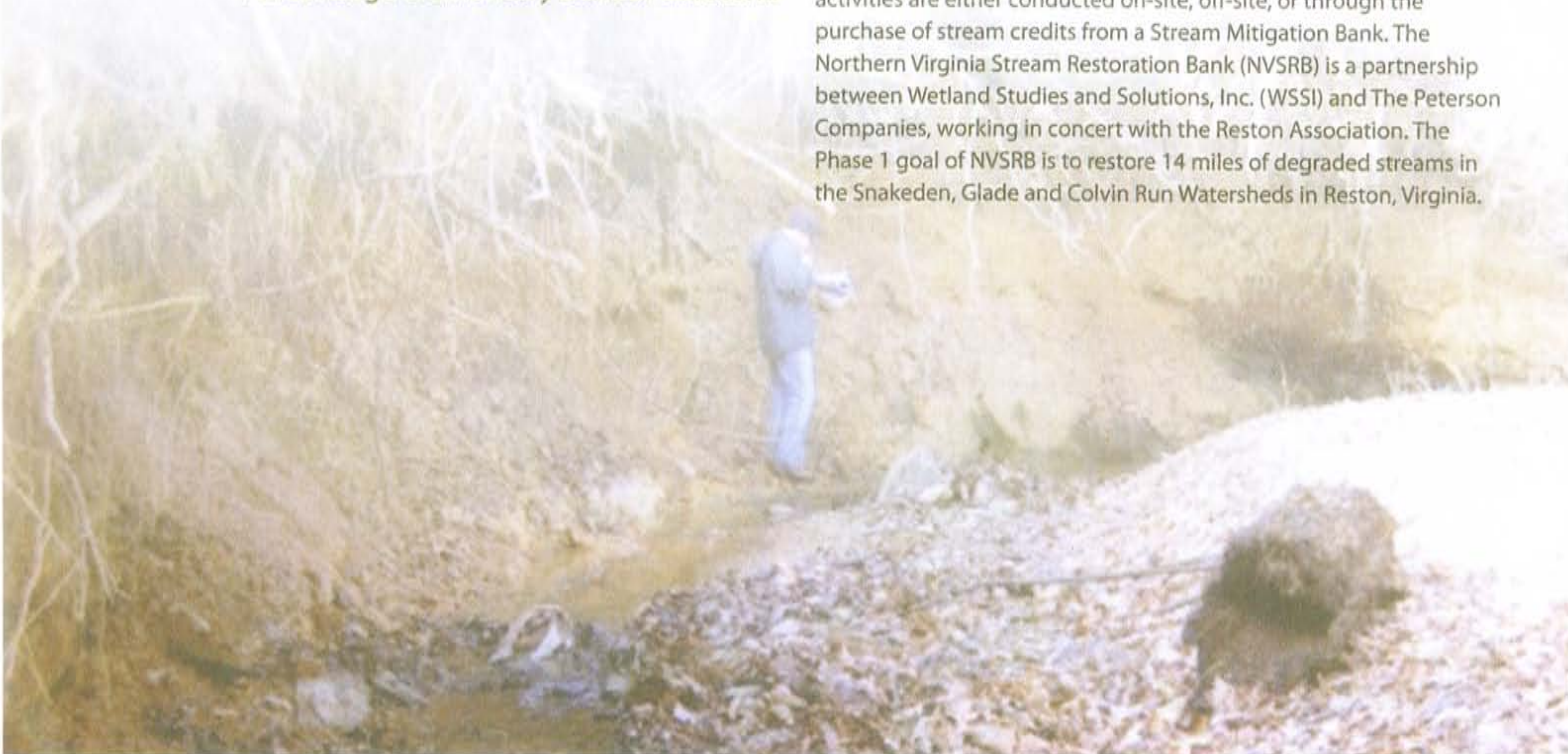
9 a.m. to Noon

Forest Edge Elementary School Cafeteria

By Nicki Foremsky, Watershed Supervisor

What is Stream Restoration?

Stream restoration includes stabilizing the stream channel and bank to reduce erosion. Stream restorations are often conducted by government, private, and non-profit organizations to mitigate for stream impacts from development activities. The restoration activities are either conducted on-site, off-site, or through the purchase of stream credits from a Stream Mitigation Bank. The Northern Virginia Stream Restoration Bank (NVSRB) is a partnership between Wetland Studies and Solutions, Inc. (WSSI) and The Peterson Companies, working in concert with the Reston Association. The Phase 1 goal of NVSRB is to restore 14 miles of degraded streams in the Snakeden, Glade and Colvin Run Watersheds in Reston, Virginia.





Why Restore Streams in Reston?

Steep, actively eroding banks, caused by increased runoff from impervious surfaces, are prevalent through the stream channels in Reston. This bank erosion threatens adjacent trails, sanitary sewers, and trees. It also produces hundreds of tons of sediment that are deposited in Reston lakes and other receiving waters every year. The stream valleys within Reston are an integral part of the community and are heavily utilized by residents. In addition, the geographic location allows the stream network to be restored from top to bottom, greatly enhancing the likelihood of success compared to restoring only a segment of a stream reach.

The Urban Watershed Problem

Development of Reston resulted in forested land being converted to buildings, roads, parking lots, driveways, sidewalks, and other impervious surfaces that prevent the infiltration of stormwater. The combination of higher runoff volume resulting from developed impervious surfaces and higher peak flows resulting from outdated stormwater management techniques increases the flow energy in Reston's streams. This increase in flow energy results in severe stream erosion and downstream sediment deposition.

Restoration: An Urban Watershed Solution

The Reston streams are being restored using Natural Channel Design (NCD) techniques that include raising the bed to reconnect higher storm flows with the floodplain; placement of a reinforced bed comprised of crushed stone, sand, gravel, and topsoil; and placement of rock structures to direct flow away from channel banks and to create riffle/pool features within the bed of the stream and withstand the high urban flow rates.

Stream Restoration Progress Map

Construction of NVSRB began with the Snakeden Watershed in February, 2008. As of November 2009, 27,825 linear feet have been completed - all of the Snakeden watershed plus the first 3 reaches in the neighboring Glade watershed. Following construction of each reach, a 10-year monitoring and maintenance program begins that includes streambed, structure, vegetation, and biological surveys.

Design work and outreach in the Colvin Run Watershed occurs this year.

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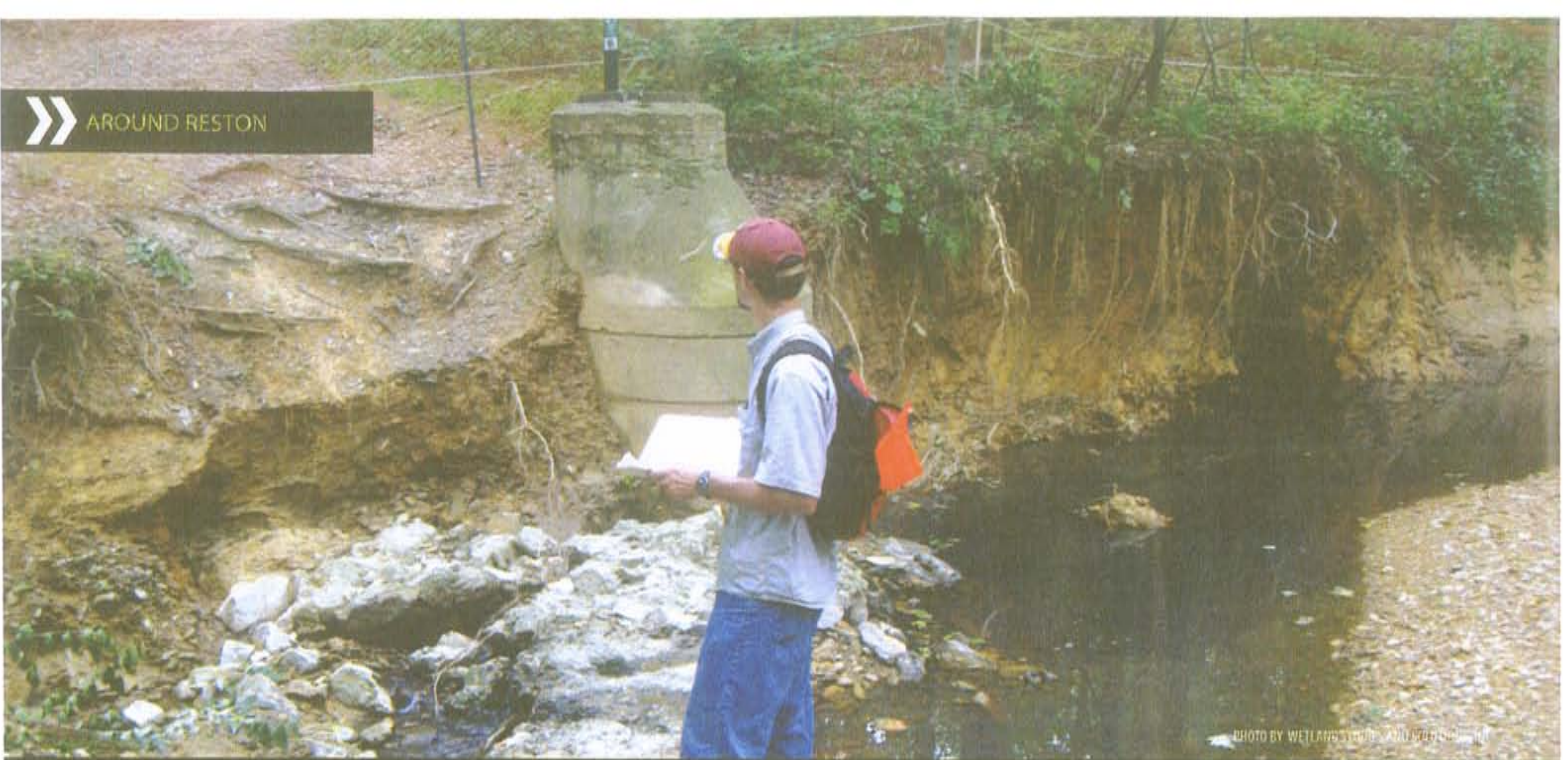


PHOTO BY WETLANDS TRUST AND WATERSHED RA

Students in the Stream!

By **Nicki Foremsky**, Watershed Supervisor

South Lakes High School (SLHS) students in the International Baccalaureate (IB) program were out in the stream in September and October, getting training from the United States Geologic Survey (USGS) and Reston Association (RA) on collecting stream monitoring data.

"The students are mimicking a USGS monitoring protocol already in place in Fairfax County," Nicki Foremsky, Reston Association's Watershed Supervisor said.

Netting bugs, testing chemistry, determining habitat conditions and measuring flow are all part of the program the SLHS students will perform on their own in October. The goal is to collect much needed data on restored streams and to get students outdoors in their watersheds.

The test results will be given to the state Department of Environmental Quality (DEQ) for inclusion in the volunteer monitoring data that is used to determine watershed health in the state.

"We hope to get students interested in the stream restoration project and maybe guide students to become future biologists, ecologists, and possibly hydrologists."

– Marty Gurtz, USGS

Reston's stream restoration project began in the headwaters of Snakeden Branch about 18 months ago. The section of stream near Lake Audubon is within walking distance for the South Lakes High School students.

The USGS, headquartered in Reston, along with the Reston Association, are excited to have the students get outdoors and to connect with their surroundings. "We hope to collect useful data to

chart the recovery of the stream after construction. And hopefully, the program can lead to a number of great science fair projects from the students," said Bill Ferzoco, IB Biology Teacher at South Lakes High School.

Some positive benefits have already been seen from regular stream monitoring by RA staff and volunteers. "We have mayflies in Snakeden. That is exciting!" said Foremsky.

Since the stream has been restored, the habitat is more attractive to a more diverse array of organisms, including the pollution sensitive mayflies. In addition, during the summer dragonfly count, 8 species never found near the nature center and Lake Audubon were spotted along the restored Snakeden Branch.

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