

ALL OVER THE NORTHEAST, but especially in the Adirondacks and Vermont, where terrain is much like ours, people are taking their questions and solutions to our stream problems to a new level. Many voices—not all in agreement over exactly what to do—are opening up to look around more widely at our relationship to the rivers, asking more questions about how to proceed after the initial, most urgent needs of our communities are met.

PHOTO: Along the Peekamoose Road in Ulster County after Irene.



Photo courtesy of Linda Commando

IS HURRICANE IRENE SHOWING US A WAY FORWARD?

AFTER AN EVENT LIKE THIS SUMMER'S RECORD-BREAKING STORMS, it's hard to believe that your life will ever be the same. Imagine the lasting effects for those who lost loved ones. Moving further out of the circle, you find those who lost homes. Further still are those affected by the broken roads and bridges, or communities (like mine in Margaretville) that lost vital services when our grocery store saw a 300 year flood.

Neversink sustained unprecedented damage to Tom Mitchell Ballfield, a cherished gathering place for generations of families and friends in this community. Frost Valley lost historic Pigeon Brook Lodge; the wall that remains unscathed by the fury of Pigeon Brook holds a marker which dates it to 1928. Three historic covered bridges in New York State succumbed to high water, while Claryville's treasure, at Halls Mills, sustained damage that puts it in jeopardy.

I began my journey back to work in earnest when the Ulster County DPW said "theoretically, it's safe" to commute on the Peekamoose Road, as I witnessed firsthand what it takes to rebuild a mountain road torn by the high flows over bedrock.

Over the past few decades, and still today, many people say that our flooding problems are solved when we clean out the streams. It's a natural reaction to the kind of dangers we've seen in recent storms to want the stream to go on the other bank—away from our property, our homes, our loved ones.

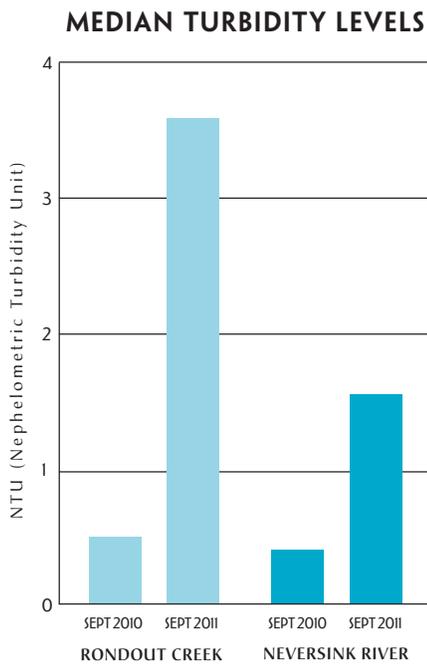
But after this storm, we hear some new voices about this. "The stream will do what it wants to do," is a statement I've heard more than once. "It's taken this flood to make me think I want to try something different this time," is another. Whether it's from fear, resignation, worry over funding in a tough economy, or the personal experience gained through a lifetime of close observation of the rivers, we are not alone at this crossroad.

In order to start 2012 with a proper accounting, our staff team recently walked the twenty or so miles of the Neversink to ensure that the stream plan for Denning and

RNSP MILESTONES

	UPPER RONDOUT CREEK	NEVERSINK RIVER	CHESTNUT CREEK
Stream Study Complete	Completed	Completed	Completed
Stream Management Plan Released	Completed	Completed	Completed
Demonstration Project Complete	Completed	Completed	Completed
Public Input	Completed	Completed	To be Conf'd
Final Plan Adopted by Towns	Completed	Completed	Completed
Summary Plan Released	Completed	Completed	Completed
Grants Program In Place	Completed	Completed	Completed

FLOOD CONDITIONS

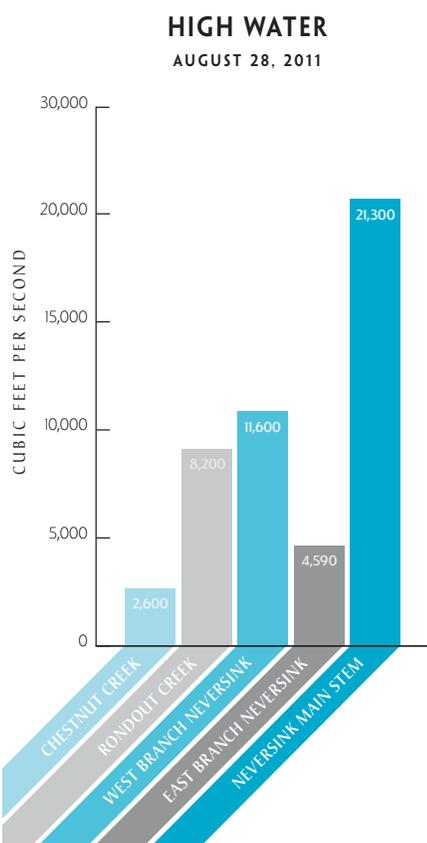


STORM EFFECTS ON WATER QUALITY

WHEN HEAVY RAINS CAUSE STREAMS TO RISE TO NEAR THE TOPS OF THEIR BANKS, the entire bed of the stream—and everything in it—begins to move. If a stream bank is unstable, it will begin to erode, and fine particles of sediment from the bed and banks become suspended in the water. This suspended sediment makes the water turbid, or cloudy, degrading the quality of the water for drinking, and impacting the ecosystem in numerous ways. Overall, turbid water during high flows is a natural and essential aspect of healthy stream and floodplain ecosystems. Plants and animals living in or near streams have adapted to—and actually need—the occasional events that produce high turbidity levels, and to the seasonal patterns in the rise and fall of turbidity, or suspended sediment regime. Different landscapes exhibit different regimes, which show up in the median turbidity levels in different streams (see graph upper left).

This seasonal pattern of how sediment moves can be altered as a result of both very large flood events, such as this summer's storms, or from dramatic changes in stream channels and floodplains made by us when we clean up after large floods. Both types of changes can make streams run turbid more (or less!) frequently. Sometimes these changes are temporary, as smaller floods re-cover the exposed sources of fine sediment, and vegetation regrows and stabilizes raw stream banks. Other times, these changes set up conditions that expose and erode new sources of turbidity for many years.

In the weeks immediately following the floods of Irene, both the Rondout Creek and the Neversink River had elevated levels of turbidity, but only time will tell whether the flood or the channel work performed afterward have any longer-term impacts. How do we, as a community, figure out where the stream might restore itself naturally versus where there is cause for concern? The Rondout Neversink Stream Program will be scheduling educational events in 2012 to discuss these issues with residents, and to offer assistance on navigating a new course on how streams and floodplains can be managed to promote long-term stability, increased public safety and ecosystem health.





LEFT: Bank erosion like this stretch on the East Branch Neversink River exposes fine sediment such as clay during high stream flows. ABOVE: The West Branch Neversink River taking County Road 47 downstream during Hurricane Irene.

HURRICANE: SHOWING A NEW WAY FORWARD? CONTINUED

Neversink has the most updated recommendations including status of stream bank erosion post-Irene. Working on the Rondout this summer in Sundown, we've also met with many landowners who have concerns about the over-widening that's occurring there; and the growing fierceness of small tributaries.

So where do we go from here? First, we would like to remind the community about the purpose of the Rondout Neversink Stream Program. Our planning goal is to find out where our technical assistance is needed in the service of better management of the streams—whether it's your back yard as in our stream buffer program; public facilities as at our demonstration project in Sundown; or any place where the people, roads and river meet and improvements for the proper functioning of both can be made.

Our outreach goal is to meet your requests for information, assistance, and as best we can, to become the resource you consult first as you get ready to plan stream work—or help you get started in this complex process, which some have likened to renovating a moving house!

Meanwhile, if you do have something you need to clean out of the river, please let us know as soon as possible in the New Year. We are currently preparing a grant application on behalf of the Towns of Neversink and Denning to submit to the Catskill Watershed Corporation, which has put aside funding to assist watershed communities in need.

Karen Rauter, Stream Program Coordinator · Rondout & Neversink Basins
Tel. 845-985-2581 · catskillstreams.org

WATERSHED ADVISORY GROUP

The Rondout Neversink Stream Program capped the year by convening our Watershed Advisory Group, which guides our stream planning efforts. Having seen us through the process of creating and adopting a Stream Management Plan for the Rondout Creek in 2010, this group is now charged with identifying top priorities for the Neversink and Chestnut Creek plans as they are shared with town officials, the public, and stream side landowners. In addition to elected officials and the staff of partnering agencies, Sullivan County Soil & Water Conservation District staff welcomes new members who are interested in participating in the process as our stream plans evolve into a full-fledged grants program over the next two years. The Watershed Advisory Group currently incorporates two sub-committees—one on Education and a newly formed to engage stakeholders in stream health and road infrastructure. At the December meeting, the group determined that these would make sensible grants categories for communities of Neversink and Denning. In addition, a third category of Landowner Stream Assistance was identified, to guide the planning of stream bank restoration education projects currently underway; and future projects that grow from recommendations in the stream management plans. Contact Karen Rauter, Stream Program Coordinator, if you would like to join the Watershed Advisory Group or serve on one of the sub-committees. Meetings are held quarterly.

2011

ACCOMPLISHMENTS

These projects represent the work of the Rondout Neversink Stream Program team —some planned and some that emerged in response to summer floods. The overall goals of these projects were to prevent sediment from entering the stream through better stream stability and re-vegetation of stream-side areas. Bioengineering techniques introduced were tree root wads, bundled native willow cuttings, trees and shrubs. A tour of project sites will take place during warmer months in 2012.

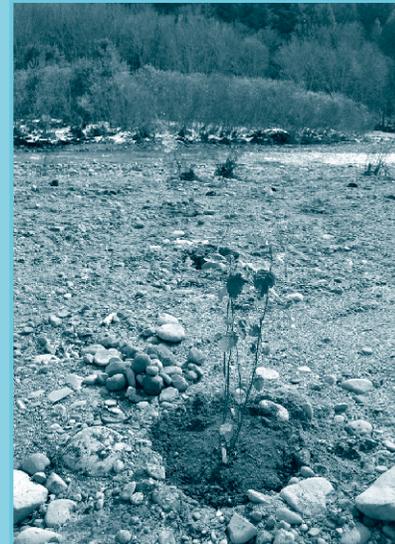


RONDOUT CREEK DEMONSTRATION PROJECT

A living wall made from oak timbers layered with willow cuttings is topped by native trees and shrubs creates a new buffer at the Ulster County Highway Garage in Sundown.

CHESTNUT CREEK DEMONSTRATION IMPROVEMENT PLANTING

Invasive species were removed over the summer; then Grahamsville Boy Scouts added native woody trees and shrubs to supplement this project originally completed in 2004.



DENNING ROAD CHANNEL AND FLOODPLAIN RESTORATION

Post-flood emergency response work by Town of Denning Highways routed the East Branch Neversink away from the Denning Road; the bank was stabilized with large, uprooted trees collected from where the flood had deposited them on the floodplain, then planted with over 300 native trees and shrubs to re-establish vegetation.





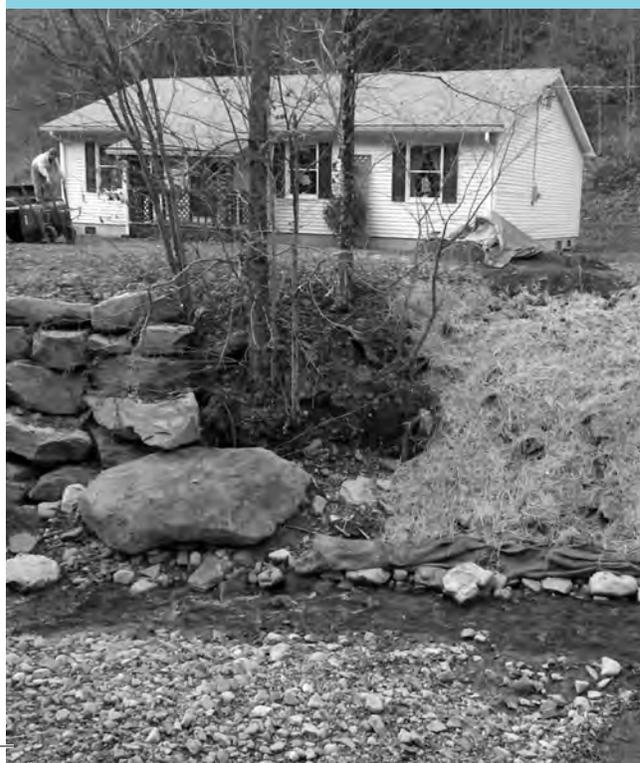
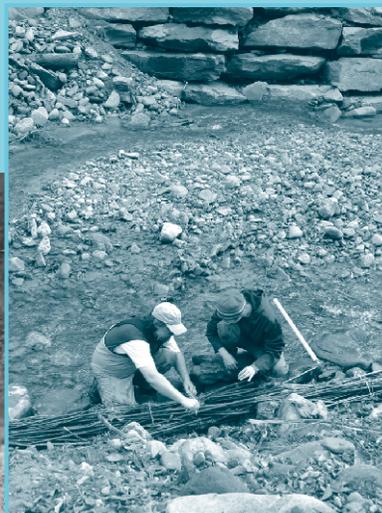
SUNSET FARM CHANNEL AND FLOODPLAIN RESTORATION

Tree root wads were installed along a newly calculated stream channel routing the Rondout Creek away from a failing embankment on County Route 42; this will be re-vegetated in 2012.



CSBI RESTORATION PROJECT

A post-flood emergency bank restoration took place on Greenville Road just above a bridge repaired by Ulster County DPW. This project was completed almost entirely by hand to demonstrate a number of low-cost yet innovative bioengineering practices such as willow fascines and native plant seeding.



CATSKILL STREAMS BUFFER INITIATIVE

ACCEPTING APPLICATIONS IN JUNE 2012

Tropical Storm Irene was the flood of record in our region and has dramatically altered the streamside landscape. If your lawn has been mowed all the way to water's edge, or if your streamside trees and shrubs have been removed due to flood damage, you may be eligible for a CSBI project. By offering technical assistance and financial support, the CSBI program is working towards the goal of establishing a forested riparian buffer in the streamside areas that lack woody vegetation. A large part of CSBI's mission is to help streamside property owners to understand the difference between healthy and potentially harmful practices that could be contributing to increased erosion, property damage, and reduced water quality.

In Denning and Neversink, the Catskill Streams Buffer Initiative (CSBI) is a collaborative effort of Sullivan County Soil & Water Conservation District and NYC DEP. Since its inception in 2010, the program has planted over 20,000 Catskill native plants and restored a length of over 4 miles of riparian buffer. A nursery of native plants for these projects is being hosted locally at Tri Valley Central School by the Conservation students.

CSBI is an application-based grant program that awards projects on an annual basis and includes assistance with funding, labor and supply of plant material. To inquire about the program or to request a site visit to your property, please contact us at 845-985-2581. The next deadline for applications is June 2012. Additional information is available at www.catskill-streams.org/CSBI.



Tri Valley Central School Conservation teachers and students partnered with Rondout Neversink Stream Program to gain hands-on experience in stream bank restoration this fall.

TRI VALLEY STUDENTS CULTIVATE NEW STREAM SKILLS

IN FALL OF 2010, TRI VALLEY SCHOOLTEACHER, Robert Hayes, and Assistant Superintendent, Janine Carpenter, participated in a visioning session with these partnering stakeholders about how the Stream Program could further its outreach and education goals about stream stewardship. Out of that meeting, a partnership was created to incorporate real hands-on activities for students that would also meet New York State curriculum goals established for the school's Conservation 1 & 2 Courses, geared to middle school and high school students.

The first activity incorporated a lesson called "Trick the Willow," in which dormant willows were harvested by the field staff and kept at 47 degrees F until they would be used at a restoration site to reduce erosion and sediment in the Rondout Creek. These willows remained refrigerated at the school through the summer until they were readied for planting in September.

As the summer began, a second project was undertaken—the building of a Plant Materials Center to maintain potted plants destined for stream restoration planting projects at local sites identified by the Catskill Streams Buffer Initiative.

The biggest undertaking was the creation of a willow-soaking pit to prepare the 9,000 cuttings for planting in a live timber crib wall construction slated for the Ulster County Highway Garage in Sundown along an important tributary of the Rondout Creek. After excavating a large ditch, the students moved over 5 tons of sand to line the pit above and below a waterproof bladder, installed to create a temporary pond. They learned how to operate many hand tools, in addition to water pumps.

Students visited the restoration site regularly: to view the engineer's plans, hear about the roles of the foreman and equipment operators, learn about safety on site and study many detailed aspects of the construction process up close, including all the materials specified in the design. When the timber crib wall was complete, the students returned to prepare a final planting of over one hundred trees, shrubs and ferns, which included digging holes, adding soil amendments, seeding and mulching.

As fall came to an end, three students reported on their accomplishments to a public audience at the December meeting of the Tri Valley Central School Board. In addition, the field staff gave a final report summarizing the multiple benefits of this partnership: providing education and vocation for the students; caring for the nursery stock; aiding in the completion of contract deliverables for the field staff; and modeling a commitment to stream stewardship for the community.



LEFT: Planting native trees and shrubs to create a buffer from surface runoff at the Highway Garage. RIGHT: Students learned about the proper planting, mulching and finish techniques—all skills required for successful streambank project work. The plants were maintained by the students at the new Plant Materials Center at Tri-Valley School.



PRSR STD
U.S. POSTAGE
PAID
NEWBURGH, NY
PERMIT NO. 39

P.O. Box 256
Grahamsville, NY 12740
tel (845) 985-2581 · fax (845) 985-7950
info@rondoutneversink.org

THE SOURCE newsletter is produced by RONDOUT NEVERSINK STREAM PROGRAM, a project of SULLIVAN COUNTY SOIL & WATER CONSERVATION DISTRICT funded by NYC DEP. It is mailed to all box holders in the Rondout and Neversink watersheds. Please contact us at info@rondoutneversink.org to join our mailing list to receive a printed copy delivered to an alternate address; or if you would like to submit an email address to receive it via e-news.

Our office is located on the 2nd floor, Neversink Town Hall.

BRIAN BRUSTMAN, Executive Director
Soil & Water Conservation District

KAREN RAUTER, Stream Program Coordinator

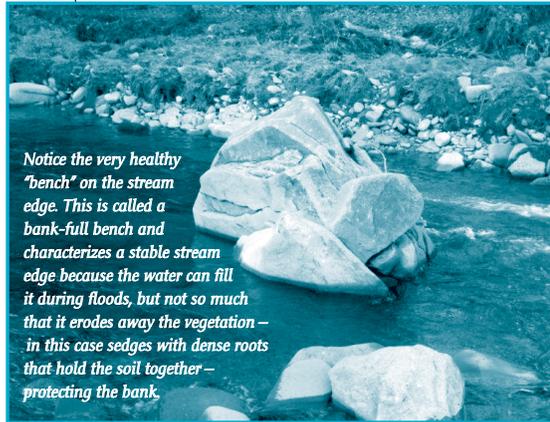
MARK VIAN, NYC DEP Project Manager
Stream Management Program

CHRIS TRAN, NYC DEP Coordinator
Catskill Streams Buffer Initiative

Thanks to our 2011 field season staff:

MEREDITH MAGLIO, CSBI Coordinator
JOHN PERRELLA, Construction Supervisor
BRENDEN WAGNER, Riparian Field Assistant

This newsletter is printed on 100% recycled paper.



Notice the very healthy "bench" on the stream edge. This is called a bank-full bench and characterizes a stable stream edge because the water can fill it during floods, but not so much that it erodes away the vegetation – in this case sedges with dense roots that hold the soil together – protecting the bank.

THE RIVER BAG



THE HALLS MILLS COVERED BRIDGE, completed in 1912, sits beside County Route 19 and spans the main stem of the Neversink River in Claryville, New York. As one of the state's twenty-one remaining covered bridges, it has stood for 100 years. Though retired from use in the late 1950s, it stands in quiet beauty, a stunning part of the region's history. When Hurricane Irene and Tropical Storm Lee passed through in August 2011, high waters and large trees passed downriver severely damaging one of the original stone abutments. What remains must hold the weight of the 90 ton bridge through the winter. The New York State Covered Bridge Society has begun a tax deductible 501 c (3) account to fund restoration work on Halls Mills Covered Bridge. In our role providing the community with technical assistance and education for long-term stewardship and water quality protection, Sullivan County Soil & Water Conservation District and NYC DEP teamed up to create the Rondout Neversink River Bag. It's big enough to carry everything you need for your next outing to the river or reservoir—fishing gear, towels and a good-sized picnic—while helping a worthy community cause. Your \$20 purchase of The River Bag sends \$10 directly to The New York State Covered Bridge Society to Save Halls Mills Bridge, damaged in last summer's storms. River Bag is available locally and at our office in Neversink Town Hall. For more information on how you can help save this historic treasure, email savehallsmills@gmail.com.

What remains must hold the weight of the 90 ton bridge through the winter. The New York State Covered Bridge Society has begun a tax deductible 501 c (3) account to fund restoration work on Halls Mills Covered Bridge. In our role providing the community with technical assistance and education for long-term stewardship and water quality protection, Sullivan County Soil & Water Conservation District and NYC DEP teamed up to create the Rondout Neversink River Bag. It's big enough to carry everything you need for your next outing to the river or reservoir—fishing gear, towels and a good-sized picnic—while helping a worthy community cause. Your \$20 purchase of The River Bag sends \$10 directly to The New York State Covered Bridge Society to Save Halls Mills Bridge, damaged in last summer's storms. River Bag is available locally and at our office in Neversink Town Hall. For more information on how you can help save this historic treasure, email savehallsmills@gmail.com.

