



Monitoring our Streams

Upper Esopus Creek
Management Plan Newsletter

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Free to residents by request.

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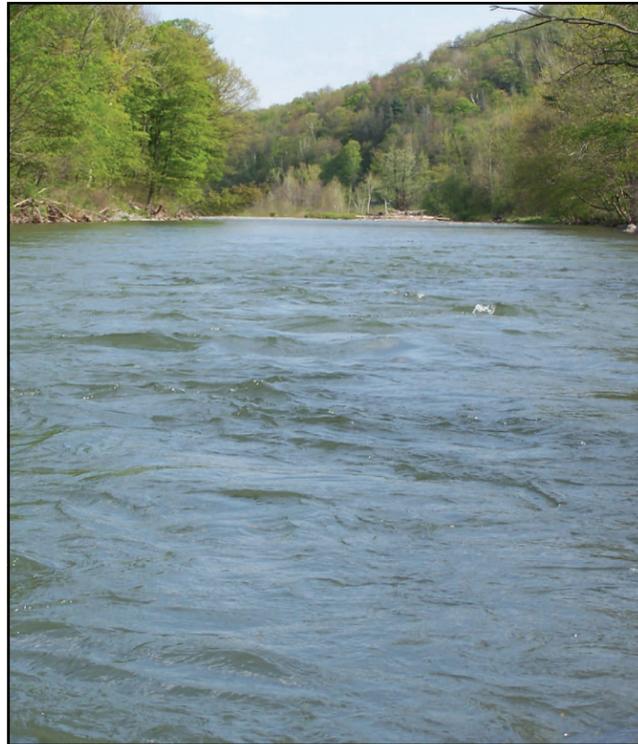
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10am to 4pm; or by appointment
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We're on the web!
www.esopuscreek.org

Our work measuring and monitoring the health of streams in the Esopus Creek watershed continues this summer as part of the ongoing implementation of the Upper Esopus Creek Management Plan. Aside from continuing to survey long-term monitoring sites along the Esopus Creek, Stony Clove and Broadstreet Hollow streams, we will be mapping streambank erosion, sources of turbidity, patches of invasive Japanese knotweed, and other stream features in the Woodland Valley watershed.

Gathering this information is a big—and important—job that needs lots of volunteers. If you want to help, you can learn how to do this mapping work through the Volunteer Stream Stewards Program at Cooperative Extension. Contact Michael Courtney for more information at (845)340-3990.



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Esopus Creek News

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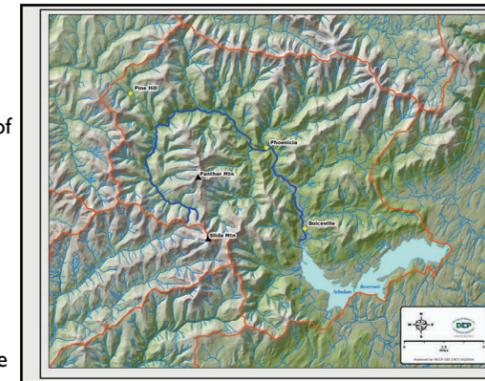
Summer, 2008

Esopus Creek Management Project Update: \$2 Million & Counting

by Jeremy Magliaro

Greetings once again and happy spring! This year promises to be very exciting on a variety of fronts. Both Cornell Cooperative Extension of Ulster County (CCE) and the Ulster County Soil & Water Conservation District (UCSWCD) are entering into five-year contracts with the New York City Department of Environmental Protection (DEP) to carry out recommendations in local stream management plans. Some of the work will likely include stream restoration projects, streamside assistance to property owners, continued assessment of streams, and a continued emphasis on education and community organizing to enhance local stream stewardship.

The CCE contract includes \$2 million for implementation of stream management plan recommendations. The UCSWCD contract includes additional funds for stream projects.



We hope to use this money to attract additional funds through grants and partnerships. The \$2 million funding will be available for

all streams that eventually drain into the Ashokan Reservoir. Consequently, our planning area is expanding from the Esopus Creek to include more streams in the towns of Olive and Woodstock.

How are we going to decide how to spend the \$2 million? We're not. **YOU ARE!** Cooperative Extension will organize a decision-making body, such as a watershed council, that represents all the different interests along the streams in the Ashokan Watershed. We envision the council meeting four times a

year and providing a place where anyone can participate, share concerns, and find out what's going on. **(continued on page 3)**

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We're on the web!
www.esopuscreek.org

March Workshop Addresses Flood Response, Recovery, and Mitigation

Flooding is a natural, though often destructive, feature of a watershed. As a consequence of global warming, we are likely to see an increase in both the frequency and severity of floods.

On March 28, Cornell Cooperative Extension of Ulster County held a post-flood workshop to both demonstrate and explore cost-effective methods for protecting



natural habitat and preventing recurrent damage on waterways following a flood. The workshop also

provided an opportunity for the 125 participants from flood response agencies and organizations to network and coordinate better with each other. Attendees included local, county and state highway department workers, excavation contractors, staff from the Soil and Water Conservation District, New York State Department of Environmental Conservation, environmental groups, and others. **(continued on page 2)**



Online

Email



“In the past fifteen years, floods in Ulster County have resulted in eighteen Presidential Emergency and Disaster Declarations and have cost \$26 million”
 — Art Snyder



The photos above shows what can happen when too much gravel is dredged.

NYS DEC Archives

Flood Response Workshop *(continued from cover)*

Speakers at the workshop addressed unintended problems that often occur as a result of intervening with streams, including shifting erosion or deposition points upstream or downstream, degrading habitat, and the high cost of repeatedly fixing the same sites after each flood.

Art Snyder, Director of the Ulster County Office of Emergency Management, gave the opening presentation and set the tone for the workshop. Snyder pointed out that in the past fifteen years, floods in Ulster County have resulted in eighteen Presidential Emergency and Disaster Declarations and have cost \$26 million.

In his keynote presentation on natural stream processes, Jim MacBroom, P.E., Vice President of consulting company Milone & MacBroom, emphasized that planning boards and regulations must recognize that floodplains need to stay open to do their job of attenuating flood waters. Floodplain development can result in forcing more water into the channel, which exacerbates flooding and erosion problems downstream.

Jack Isaacs from the New York State Department of Environmental Conservation shared his years of experience and photos, that vividly portray stream projects which tend to fail and those that work better. Jack was kind enough to allow us to print some of his photos here.

One common problematic stream intervention is improper, heavy dredging of streams after floods.

The photos to the left shows what can happen when too much gravel is dredged. In this case, it resulted in an over-widened, slowed stream section that lacks a well-formed channel which cannot carry its sediment load. Diverse habitats such as runs, pools, woody debris, and large rocks have been removed, leaving flat gravel that provides poor habitat. Furthermore, shallow streams heat up the water, lowering essential dissolved oxygen that trout need to survive in the hot summer months.



Junction Pool—Willowemoc & Beaverkill in Roscoe, NY

NYS DEC Archives



Another common misperception about streams is that gravel bars cause flooding. These two photos are from the same stream location in Roscoe, NY (the lower photo is a little further away from the bridge). Though many believed that the gravel bar in the top photo was causing flooding, the lower photo

shows the volume of water spilling over the floodplain is clearly far too large to be influenced by the small gravel bar. In fact, during a flood, much of the gravel moves along in the current and only gets deposited once the swift flood waters recede.

When a stream channel has shifted significantly during a flood, the channel may have to be restored. In order to avoid creating further problems in the future, it's important to consider the channel's proper functioning width and depth.

Joel Dubois from the Greene County Soil and Water Conservation District demonstrated a simple calculation process for determining a stream channel's "natural" dimensions, which are based on the following factors: the area of watershed drained by that point on the stream, the average sediment diameter, the stream's slope, and the cross-sectional area of the channel. By measuring these factors, it's possible to calculate the stream dimensions that will most effectively carry the appropriate load of water and sediment for that location.

During the afternoon session of the workshop, groups of participants were organized by their profession (highway superintendents, DEC, etc.). Each group wrote out timelines of their actions that spanned the period of 48 hours before a flood up until two years after it. After each group presented their timelines, the entire group briefly discussed ways to improve the response process.

The timeline information will be sent back to participants, and we are planning to follow up with a field-based workshop in the fall.

Project Advisory Committee (PAC)

Broadstreet Hollow Landowners Association

Catskill Center for Conservation & Development

Catskill Mountain Railroad

Natural Resources Conservation Service

New York City DEP

New York State DEC, Region 3

New York State DOT Region 8

SUNY Ulster

Town of Olive

Town of Shandaken

Town Tinker Tube Rentals

Trout Unlimited

Ulster County Highway Department

Ulster County Dept. of Planning

Ulster County Soil & Water Conservation District

Woodland Valley Landowners

Zen Environmental Studies Institute

Cornell Cooperative Extension of Ulster County—Facilitator

Project Update *(continued from cover)*

Smaller working groups, also open to anyone's participation, will help organize much of the work on specific topics, such as aquatic habitat, reducing flooding and erosion, or education and outreach. Any projects funded under the \$2 million must comply with existing stream management plan recommendations.

Because the management plan recommendations are numerous and broad, one task will be prioritizing our next actions. People interested in a specific topic can join a working group and bring projects to the watershed council for funding approval. We imagine that some of the working groups formed during the development of the Upper



Esopus Creek Management Plan will transition directly into this new task. The new watershed-wide council meetings are intended to help bridge communication among the working groups. Anyone can attend, and we encourage people to participate in any group they are interested in. We will hold a public meeting this fall to introduce the

watershed council and decision making concept to the community. We ask for your support and participation to make it work. Stay tuned!

Lastly, just as projects must eventually transition, so must people. For family heart I will be leaving the Project Coordinator

position this May and moving to Albany. But I know this project will continue successfully because of all the people who have made it a success in the community. It has been my privilege to work with all of you and to be in your company. You'll still be seeing me around... the streams, the people, become a part of you. *Be well!* — Jeremy

Summer Interns

Following a successful first year, New York City Department of Environmental Protection geologist, Dan Davis, will again lead a team of two college research assistants in the Fluvial Geomorphology Research Assistant Program. The program offers two summer internships to regional college students studying geology or a related science. The interns gain experience in applied stream

science by creating a project that can be used to relate some aspect of stream management science to the public.

One of the 2007 season interns, Bobby Taylor of Phoenicia, produced a streamside plant guide for landowners that was published in the Fall, 2007 issue of *Esopus Creek News*. Bobby, a senior at SUNY Cortland, returns this year.

Joining him is another Esopus watershed local, Colin Carey of Mount Tremper, a freshman at SUNY New Paltz.

If you are interested in the internship program or have any questions about the stream assessment activities planned for this summer, please give Dan Davis a call at (845)-340-7839.

Events Calendar

Saturday, July 26, 9am - 12pm (Raindate July 27)
Stream Stewards - Field Mapping Class (Cost: \$10)

Learn to use a GPS Unit (Global Positioning Satellite Unit) to map locations of invasive plants, erosion, or other stream assessment information. We will demonstrate

how to plot field data on computer based GIS or "Geographic Information System. Participants will also learn about stream processes and important ways to protect streamside areas. To register, see www.esopuscreek.org or call Michael Courtney at: (845) 340-3990. Or email him at: mcc55@cornell.edu

Sat., August 23, Starts 9:30am Shandaken Day DEC Day Use Park on Route 28 in Mount Pleasant. Come see our new stream demonstration table at the Cornell Cooperative Extension Booth! For more information, contact Shandaken Town Clerk: (845) 688-5004.