



# Esopus Creek News

Ashokan Watershed Stream Management Program Newsletter

A quarterly publication of Cornell Cooperative Extension Ulster County

Esopus - Broadstreet Hollow - Woodland Valley - Stony Clove - Fox Hollow - Birch Creek - Beaverkill - Little Beaverkill - Peck Hollow- Bushnellsville - Bush Kill

## Spring Has Sprung! Native Riparian Landscaping for the Season

Native plants are the natural inhabitants of a given location and have evolved simultaneously with each another, as well as the animals and insects that use them for food and cover. Through this process, native species have become especially adapted to local conditions including light, soil, climate and inter-species interactions. Because they are adapted to local conditions, native plants typically require less upkeep since the natural environment provides them with the necessary water and nutrients required for growth.

Many of the native species found in our area contribute to the overall aesthetic of the Catskill region. Imagine walking the shores of the Esopus Creek and not having the mighty American sycamore overhead, or the deep dark hemlock forests that many of our favorite trails cross through. These habitats and many others are threatened by the spread of invasive, non-native species.

Many of the invasive plants now naturalized in the Ashokan Watershed were brought here intentionally by European settlers who had no idea of the impact they would have



Above: This native dogwood (*Cornus spp.*) has graceful, sweeping branches ideal for a streamside landscape planting. Photo along Hollow Tree Brook.

on the landscape. Unfortunately, the spread of invasive plants did not end with these settlers of the New World. Today, many invasive plants are still sold through garden centers and new species are spreading into our region.

Fortunately, there are easy steps to be taken to help preserve and enhance the landscapes we love. While much of the mountain tops are public lands, many of the valley bottoms are not. These areas are especially critical to the control of invasive species as the streams and roads that occupy this setting become corridors for dispersal. Landowners in these areas should

carefully consider the choices they make for their yards.

We know that lawn grass is a poor substitute for healthy streamside vegetation. It utilizes shallow roots that are prone to drought. Grass requires more supplemental water and nutrients than native streamside vegetation. Native vegetation on the other hand, puts down dense networks of roots that can help to reduce erosion and stabilize stream banks. Trees and shrubs, in combination with herbaceous plants, provide cover for the streams and help to regulate water temperature.

...continued on the next page



### Inside this Issue

Main Feature	1
Stream Steward	2
Recent Events	3
Managing Streams	4
Upcoming Events	5
Program Updates	5
Announcements	6

**We're on the web!**  
[www.ashokanstreams.org](http://www.ashokanstreams.org)

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...Spring Has Sprung continued from page 1

## Featured Stream Steward: Mary McNamara

What can you do to help? As with many things in life, education is paramount. Educate yourself and others on the many wonderful native plants specific to our area. Choose plants that are adapted to the conditions presented by your property. Do you have wet areas adjacent to streams? Consider native sedges and shrubs, such as willow and dogwood that thrive in these conditions. Start small – begin creating a plan for your yard and pick a small area to start and let it grow from there.

Another key to utilizing native plants in the landscape is to identify local resources. The Catskill region has a number of programs run through local organization that can provide assistance and in some cases native plant material at no cost. For those in the NYC DEP watershed, contact your local Catskill Streams Buffer Initiative Coordinator for more information.

*Starting in this issue of the Esopus Creek News, we will be featuring an individual who has contributed to the betterment of the watershed through actions on their own property, or through participation or partnering with AWSMP to help bring the message of science-based stream management to the larger watershed community.*

For the past 12 years Mary McNamara has been deeply involved with Hudson River Valley and Catskill Mountain region watershed issues, particularly issues that are associated with the Esopus Creek. Although she is originally from Texas, Mary has spent well over a decade learning, enjoying and advocating for the environment in the watershed. Her interest in watershed science began when her daughter began learning about the subject at her school and Mary became concerned about pollution in **the area's local streams. Her interest in the subject** led her to go back to school, enrolling at Ulster County Community College and being in the first class of interns for the Stream Management Program.

Although much of her current work focuses on the Lower Esopus, she is still very active in our program and remains a valued part of the AWSMP family. She currently serves on **AWSMP's Education and Outreach working group**, our Stream Access and Recreation working group, and the AWSMP **Stakeholder's Council. She has been an** instrumental ambassador for the program, helping to cultivate and maintain long-term relationships with officials and civic organizations in the Town of Woodstock, where she formerly resided. She is also an active and enthusiastic participant in the very first Cornell Cooperative Extension Master Watershed Steward Program. She has received awards and accolades from a number of watershed organizations including the Hudson River Watershed Alliance and **was named a 2012 "Friend of Extension" from** Cornell Cooperative Extension of Ulster County for her work in the area of natural resource management. She continues to be a vital and active member of AWSMP.

*Below left: Mary McNamara (on the right) helps to install a willow bed in the Town of Woodstock, November 2012. Mary is this issue's featured Stream Steward.*

*Below Right: Mary assisting with a planting at the KTD Monastery in Woodstock, NY in the summer of 2011. Mary helped with the organization of this project which brought a large group of teenagers up from Newark, NJ to help with the planting and for an overnight stay at the monastery.*



## Recent Public Events in the Ashokan Watershed

### November

AWSMP staff along with volunteers and professional landscapers built a 1.5-acre Willow Planting Bed in Glenford in the Town of Woodstock on DEP property adjacent to Kenneth Wilson State Park. After these willows are established (in about 3-4 years) they will provide over 30 years of sustainable willow stock for stream restoration and stabilization projects.

### December

On December 11, 2012, AWSMP hosted their year-end **Stakeholder's Council** meeting at the AWSMP office in Phoenicia, NY. Just prior to the meeting a presentation from USGS fisheries biologists was given on the impacts of floods (such as those seen after Tropical Storms Irene and Lee) on fish habitat and health in the watershed.

### January

CCE staff participated in a Catskill regional recreation meeting hosted by the Central Catskills Chamber of Commerce at Belleayre Mountain on January 22, 2013. This meeting focused on ways to expand outdoor recreational opportunities in the Catskills and boost the local economy in the process. AWSMP is interested in helping Ashokan Watershed communities expand and enhance stream-based recreational activities.

### February

CCE staff had an educational display at the **Ashokan Center's 1st Annual Winter Hoot** on February 2. The event was a fundraiser for the Ashokan Center and featured many environmentally themed educational booths from a variety of nonprofit organizations as well as vendors from local farms and growers. It also featured a number of musical guests including Jay Ungar, composer of the song "**Ashokan Farewell**" that was the title theme for the Emmy award winning PBS documentary "**The Civil War**" by Ken Burns.

### March

On March 20, staff participated in meeting of the Map Steering Committee at the



*Above: Staff from AWSMP partner agencies and community volunteers work to pound willow stakes into geotextile fabric at the new AWSMP willow bed in Glenford.*

Olive Free Library. This committee is composed of officials from FEMA as well as state agencies and consulting firms who are working on creating new flood maps for the NYC West of Hudson watershed, which includes the Ashokan Watershed. This was a meeting to review working designs for the new flood maps. Draft maps will be made available to the public for review in June.

### April

AWSMP held the 4th Annual Ashokan Watershed Conference at the Ashokan Center in Olivebridge on April 27. Over 100 people attended and learned about a variety of topics related to flooding and floodplain management. A featured session was a panel discussion among municipal officials from the Towns of Shandaken and Woodstock with agency personnel from NYSDEC and NYC DEP on how they came together to help mitigate a flooding problem at the junction of Main Street and Route 214 in the hamlet of Phoenicia.

### May

On Saturday, May 4, Danyelle Davis of NYC DEP led a Stream Walk and Talk along Rochester Hollow Creek in the Town of Shandaken. The hike closely followed the stream which is located on NYS Forest Preserve land. During the hike Ms. Davis educated the hikers on stream process and how geology impacts the way streams interact with the landscape. A similar hike is being planned along Kanape Brook in the fall.

On Thursday, May 23, the Town of Shandaken hosted a special meeting to unveil its new Flood Mitigation Plan. The Town, with funding from AWSMP, hired a consulting firm to develop the document that was presented at this meeting. The plan takes into account a number of variables (flood levels, critical infrastructure location, etc.) and develops a series of recommendations for the town. The Board will move to adopt the plan after a public review period.

## Managing Streams: Vegetation — A Key Component to Stream Restoration



Left: A riparian buffer planting using Catskill native species along a property in the Town of Olive.

The most simple, valuable, and least expensive form of stream bank stabilization is the re-establishment of native streamside vegetation. Vegetation is important for long-term stream stability, enhancing channel and riparian habitat, and improving water quality. Effectively integrating streamside vegetation is an important component of any restoration project.

In the Catskills region, vegetation is often used in combination with other materials and structures as the basis for a natural channel design approach to managing unstable stream reaches. The more rigid materials such as root wads, logs, and rock structures provide a temporary strength and stability to the stream channel while vegetation has time to become established and provide longer-term channel stability. In order for stream channels to remain stable over time they require the ability to be flexible and slowly shift to accommodate changes in the watershed. In nature, it is the vegetation that allows slow stream channel shifts to occur in a stable state.

Natural streamside vegetation communities in this region consist of herbaceous plants, woody shrubs, and trees. Native willows (*Salix* spp.) and dogwood (*Cornus* spp.) are some common examples of shrubs that grow well along Catskill Mountain creeks and rivers.

These two genera can tolerate wet soils and are resilient to disturbances associated with stream systems such as flooding. Willows and dogwood are especially well-suited for restoration because they have the ability to advantageously root, meaning they can sprout roots and quickly and grow to mature shrubs from live cuttings.

Integrating shrub species of willow and dogwood into restoration projects increases the overall project stability. The rooting depth and strength of the native varieties provide stability by anchoring the stream bank and floodplain soils in place. The root systems also remove excess moisture from the soils, especially the clay-rich soils found in the Catskills, making the banks more resistant to slumping or sliding.

In addition, the flexible branches of these multi-stemmed species bend over and lie down during high flows increasing channel roughness, reducing the velocity near streambanks, and **decreasing the water's erosive energy.** Riparian zones lacking woody vegetation, or consisting of mostly grasses, do not provide the roughness necessary to slow velocities and as a result are more susceptible to erosion. Woody vegetation is more suitable for bank stability than hard armoring, such as rock walls, because vegetation can absorb flow energy while hard armoring transfers the energy downstream.

While vegetation provides long-term stability, it also has great ecological benefit when restoring a stream channel or floodplain. It is widely understood that riparian zones, or streamside areas, are some of the most rich and diverse ecosystems on earth. The root systems and multi-stemmed nature of willows and dogwoods help to retain and capture sediments and nutrients vital for the establishment of a streamside forest.

A good stream restoration design will incorporate native riparian vegetation not just for erosion protection, but also to improve riparian habitat. Vegetation provides shade, shelter, and food important for wildlife, fish, and other aquatic organisms.

By filtering sediments and shading the streams, willows and dogwoods keep pollutants from entering the stream and maintain cooler water temperatures. Cool water is essential to stream ecosystems and also helps to keep algae blooms in check. In addition, vegetated buffers intercept and filter water carried by overland flow. This capture is especially important along agriculture areas and transportation corridors where sediment and pollutants frequently enter streams. For this function, the width of the buffer is important; wider buffers are more effective than narrow buffer strips for intercepting pollutants. This ecosystem service is often overlooked when designing traditional hard stream bank stabilization projects.

Many stream banks and channels in the Ashokan Watershed can be restored with native vegetation. In situations where the banks are not too steep and the erosion is not too severe, restoring vegetation may be the only step needed to protect the bank and floodplain. In areas where erosion is more severe or the banks too steep, bioengineering (use of vegetation for stabilization) approaches might be used to regain bank stability. Vegetation is a critical component to consider in all stream restoration and stabilization projects, because of the many benefits it offers to the stream and floodplain.

For more information on streamside vegetation and bioengineering using willows, please contact Bobby Taylor, Catskill Streams Buffer Initiative Program Coordinator at (845) 688-3047 or stop by our office to receive a copy of the *Stream Guide – Guide to Native Riparian Plants of the Catskill*.



Summer 2013

Dear Landowner:

The Ashokan Watershed Stream Management Program (AWSMP), a joint program of Cornell Cooperative Extension Ulster County, Ulster County Soil and Water Conservation District, and NYC DEP is interested in having the most up-to-date contact information provided by you in our database. We will only use your information to keep you informed of watershed educational materials, event offerings and hazard preparedness information. We do not sell or share your personal information.

Please fill out this form and mail back to our office at 6375 State Route 28, Phoenicia NY 12464 or e-mail Brent Gotsch at [bwg37@cornell.edu](mailto:bwg37@cornell.edu) or fax to: 845-688-3130 with your contact information.

**Mailing Contact Information:**

Primary Mailing Address:	Seasonal Mailing Address:
City, State, Zip:	City, State, Zip:

**Phone & E-Mail contact information:**

Local Phone: (        ) _____ - _____	Primary E-Mail:
Other Phone: (        ) _____ - _____	Secondary E-mail:
Mobile Phone: (        ) _____ - _____	Other:

Are you interested in receiving our 3x per year Esopus Creek Newsletter?  Yes  No

Would you prefer to receive the newsletter in hard copy or in electronic form?  Postal Service  Webmail

Would you like to be included in our list of e-mails for event notices and emergency preparedness notices?  Yes  No

Are you a full-time or part-time resident in the Ashokan Watershed?  Full-time  Part-time

Have you checked out our [www.ashokanstreams.org](http://www.ashokanstreams.org) webpage?  Yes  No What kind of information were you seeking?

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Do you have any **comments or feedback you'd like to give to our program staff? Have you thought about volunteering with us?**  
**We'd love to hear from you!**

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"Like Us" on our Facebook Page: <https://www.facebook.com/AWSMPUlster>

If you would like to receive publications and/or email announcements from the Ashokan Watershed Stream Management Program, please complete the form on the reverse side and mail, fax or email us your information. We look forward to hearing from you!



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## Upcoming Events

### June

AWSMP will be assisting faculty and staff from Bennett Elementary School in Boiceville, NY with their annual Earth Day event on June 7.

Due to the high demand for a repeat of this very successful program last summer, AWSMP will be hosting Family Fun and Fish Day at Kenneth Wilson State Park on June 8 from 10:30am to 1:30pm. NYSDEC staff will be on hand to help youngsters and adults learn how to fish. No fishing license is required to participate in this event. Please call Brent (845-688-3047 ext. 3), or email (bwg37@cornell.edu) for more information or to register.

### July

The Ulster County Fair will be held July 29-August 4 this year. AWSMP will have an educational display and a stream table demonstration in the youth barn on at least one of those days.

### August

AWSMP will have an educational display at Shandaken Day on August 24.

### September

AWSMP will hold a Kenape Brook Stream Walk on September 28 near Peekamoose Road in Olive. Check our website later this summer for registration information.

Go to our website  
[www.ashokanstreams.org](http://www.ashokanstreams.org) for more  
information about events and  
programs, or follow us on Facebook!

## AWSMP Program Updates

### AWSMP STAFF ANNOUNCEMENTS

AWSMP is pleased to announce that Adam Doan has been promoted to the position of Project Manager with the Ulster County Soil & Water Conservation District and AWSMP, taking over for Cory Ritz who left the program this past December. Adam has been with the program since 2009 as the CSBI Coordinator with increasing responsibilities related to project management after the floods of 2010 and especially in the aftermath of Tropical Storm Irene. A Michigan native, Adam worked for Prospect Park Alliance before joining Ulster County Soil & Water and AWSMP. He looks forward to his new responsibilities and leading the program forward by overseeing robust construction projects that will improve stream stability, water quality, and mitigate flooding.

In addition, Bobby Taylor, former Stream Assessment Coordinator, has taken on responsibility for coordinating the Catskill Streams Buffer Initiative (CSBI) Program. Bobby is a watershed native having grown up in the Phoenicia area. During college he interned with AWSMP for a number of years and is very knowledgeable about the Ashokan Watershed. Prior to coming to AWSMP, Bobby worked as **the CSBI Coordinator for AWSMP's sister** program, the Rondout-Neversink Stream Management Program in Grahamsville, NY. Bobby is looking forward to getting back into CSBI and working with riparian landowners to stabilize their stream banks and improve their properties.

AWSMP would also like to introduce Christina Appleby, **the program's new 10-**



month SCA intern. Christina grew up in Oregon and studied geology and environmental studies at Oberlin College in Ohio.

She will be helping the office with stream assessment work this summer. In her free time, she enjoys hiking, photography and honing her skills on the ukulele!

### NYS Floodplain Managers Conference

AWSMP provided scholarships to four officials **from watershed agencies to attend this year's** New York State Floodplain and Stormwater Managers Association Annual Conference, which was held this year in Buffalo, NY (April 8-10). Those with Certified Floodplain Manager (CFM) status received continuing education credits to maintain their certification, and all learned about new topics in floodplain management. One official took the exam for CFM certification, an opportunity AWSMP offers to create technical capacity in watershed communities.

### CSBI Program Updates

AWSMP has a new CSBI Coordinator in Bobby Taylor (see **"AWSMP Staff Announcements"** on left). If you are interested in assistance with streamside buffer plantings, please contact our office at (845) 688-3047 and ask for Bobby. More information about the CSBI program can be found at: [www.catskillstreams.org/CSBI/](http://www.catskillstreams.org/CSBI/).



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*Free to residents by request.*

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### Editors

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Leslie Zucker, CCE Ulster County

## Announcements: Bushnellsville Creek to be Assessed this Summer

This summer AWSMP staff and interns will be performing a field assessment of the Bushnellsville Creek watershed. The purpose of the assessment is to gain a detailed understanding of the current condition of the creek and its banks. We will use this information to help identify areas of concern, such as flooding risk, threats to transportation or infrastructure, and degraded habitat. Our ultimate goal is to be able to provide current, accurate information about the stream to landowners and government agencies so that best management decisions can be used and hazards mitigated.

In preparation for the field work, we have been using Geographic Information Systems (GIS) computer programs to analyze the creek using historical and remotely sensed data. This data includes geologic maps, new and old aerial photographs, topographic data, land use information, vegetation surveys, slope models, and the stream's hydrologic history. Data

have been gathered from a wide variety of sources such as the USGS, NYC DEP, and academic publications. Using GIS, we have



**been able to map changes in the stream's location** during the last 50 years, predict the potential for erosion based on soil and geologic composition, and organize our analysis of the stream based on physical characteristics such as valley width, steepness, and man-made features.

We anticipate that our field work in the Bushnellsville Creek watershed will occur during June and July. If you have questions about our survey work, please contact the AWSMP office.