



SWCD

Soil and Water Conservation District
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Winter 2024 -In This Issue

- Mount Academy Envirothon Winners!
- Welcome Chris DeGroot
- Ulster County Soil Health Improvements- No Till Rental Program and Cover Crop Program
- Ashokan Watershed Stream Restoration Projects
- AEM Program and 2023 Projects
- How to Get Assistance from NRCS for Farms, Ranches, and Forests
- Farm Service Agency Updates
- Soil Group Worksheets Notice



ANNUAL TREE & SHRUB SALE

ORDER FORM IS ON OUR WEBSITE
ucswcd.org

SAVE THE DATE: APRIL 17 -APRIL 18, 2024
Tree species availability is limited

SOIL GROUP WORKSHEETS

- In order to qualify for the 2024 tax season, soils group worksheets will need to be
- submitted to your Town’s Assessor by March 1, 2024. Please contact your
- assessor first to see if your land qualifies. If it does, the District will prepare the
- Soils Group Worksheet.. Cost is \$40 per parcel. If you need to come to the office,
- please call first at (845) 883-7162, ext. 3 to schedule an office visit.

Welcome Chris DeGroot!!!

Chris started with us this past August as the new Program Assistant. She has been a tremendous help to us, especially to Margarete, who recently retired and is still helping us on a part time basis. Margarete is not one for much fanfare, but she has had been an integral part of the District for over 16 years. Chris has decades of conservation district experience, which has greatly helped Margarete's transition into her well deserved retirement. Chris has always helped us over the years when we needed guidance when she was in former position, and it is a true pleasure having her on board with us. This is not an easy job, and it takes a special person with laser sharp focus, an ability to multi-task, fight with Quickbooks, a willingness to help others and a good sense of humor to be in this role.



I am sure Chris and Margarete will be upset with me with sharing this photo (everyone is self-conscious these days), but being surrounded by good people makes everyone's job so much easier and enjoyable. Left to right: Jeff, Margarete, Oscar, Travis, Jake, Eleanor, Brittany, and Chris.

Jake Wedemeyer,
Executive Director

Congratulations

Mount Academy, Esopus, New York Hudson Valley, New York State and National Champions

The Mount Academy took 1st place at the Capital District Regional Envirothon and the **NYS Envirothon** for 2023. Student Teams from more than 200 High Schools across the State *Competed* in 33rd Annual Environmental Science Competition. The Mount academy also continued their 10th-year winning streak at the State Envirothon allowing them to represent New York at the National Conservation Foundation Envirothon in New Brunswick, Canada, where they placed in 8th place overall. Congratulations and a special thank you to Neal Horning, who has been an instrumental science teacher for the Mount Academy and a good friend of the Ulster County Soil and Water Conservation District.



Ulster County Soil Health Improvements

It was a busy year here in Ulster County with our soil health and no-till programs ramping up. This past year the District purchased our first no-till drill, with help from the NYS Climate Resilient Farming (CRF) Grant Program Round 7, to rent out to county producers. We ended up purchasing a 7ft Esch Drill. Both the District and county producers have been very happy with the machine. In our first



UCSWCD no-till drill being used to plant cover crops, fall 2023. Photo by John Ferrante, Ulster Co farmer.

year we logged 134 acres. The drill was used to plant a diverse mixture of cover crops, hay field renovations, and fall grain crops. Due to the success of this program, the District is currently working on securing funding to purchase a larger, 12ft model to accommodate producers with more acreage.

Accompanying our no-till program, the district completed the

second year of its local cover crop reimbursement program. In addition to providing funding for the no-till drill, Round 7 of the Climate Resilient Farming Grant Program also included cover crop reimbursement for some farmers who had previously participated in the local program. Our local cover crop program is supported by local discretionary funding the district receives from New York State. The program was first implemented in 2023 to help producers fight rising input costs due to inflation. While cover crop does help a farm's bottom line, in tight years, whether due to inflation, drought, or wet weather, it can often be hard for a farmer to justify the added expense of planting cover crop. Our local program aims to help offset this hardship by incentivizing producers to plant cover crops, expand cover crop acreage, or try out different species and cover crop mixes.

With 2023 being its second year, we worked hard to include more growers and more acreage, but wet weather fought against us. Despite the weather challenges, we were successful in expanding the program to new growers, and with the addition of the CRF Grant Round 7 funding, we exceeded our cover crop acreage from the prior year. Producers planted a total of 684 acres of cover crop in 2024 that the district was able to certify. This brings our two-year total to 1,214 acres planted and \$83,000 reimbursed directly to county producers.

Ulster County Soil & Water is excited to continue both these programs in the coming year. If you're a producer in Ulster County interested in either or both programs, give us a call at 845-883-7162 ext. 3 or email our District Technician Travis at travis.ferry@ny.nacdnet.net. Its never too early to start planning, we expect our drill rental schedule to fill up quickly.



Fall 2023 peas and oats cover crop. Photo taken by District Technician Travis Ferry

Travis Ferry, CCA, NYSECCP

Stream Project Monitoring – We Need to Do It to Make Sure the Projects Work!!!!

Stream project monitoring is used to monitor the stream's response to the newly developed restoration project. The program assesses completed projects over a 5-year timeline with surveys occurring in years 1, 3, and 5. These surveys involve longitudinal profiles and cross-sections. The program utilizes a specialized device positioned over a known point that shoots a laser to a prism on a rod that calculates the angle and distance, eventually creating a data point for where that rod is. A typical workflow for a cross-section, for example, involves two pieces of permanent rebar, which are the known start/end of the cross-section. The rebar helps create a control for future surveys,

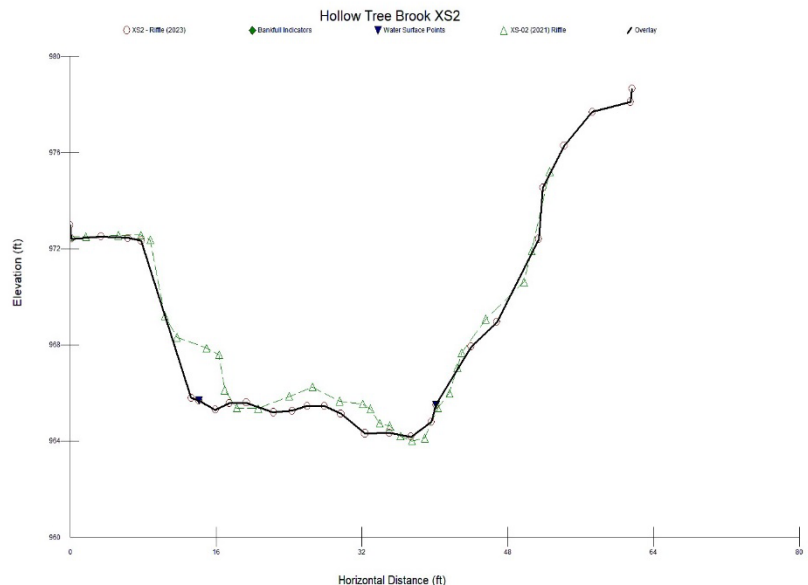


ensuring the program is surveying the same exact spot, which will capture the natural processes that are occurring at the location. A tape measure is used to connect both piece of rebar, ensuring that the survey is going perpendicular to flow, and stays that area for each future survey. Some of the characteristics of a stream channel cross-section that would be measured include the floodplain, banks and its slope, water surface, and the thalweg – which is the deepest and fastest flowing section of the stream.

Once the survey is completed and we have taken all the points for that cross-section, the data values can then be imported onto the computer. Specialized software is then used to produce a 2D diagram allowing us to see the stream from its side, such as cutting a piece of cake down the middle.

After multiple years of surveying the same location, the program can then look and see if any changes occur on the banks and bed of the stream and start to understand why they may have changed.

Using the total station to produce data is very time-consuming, particularly when maneuvering the rod to maintain line of site, which is complicated by vegetation and natural bends of the stream. Total stations also only capture individual points, often not getting the actual conditions at the reach scale. To overcome this, the stream program has looked into and is adopting a drone-based



LiDAR system, which uses infrared beams to calculate ground elevation based on the time it takes for the light to shoot out of the sensor and return. The general workflow will be the same as the total station surveys. The LiDAR survey will have known points in the study area, and be surveyed in multiple years allowing the comparison of any changes during the study period. This system produces such a highly detailed 3D topographic point cloud of the study area, allowing the program to see even the smallest stream processes change over time in such a much larger study area. LiDAR has the precision of the total station, but the ease of use to cover areas that would be nearly impossible to get completed using the total station alone. This precision also allows the measurement of leaf canopy and the general height of vegetation, bringing another important aspect of restoration projects. Being able to see the changes in height to determine the performance of streamside vegetation, which is critical for a healthy stream ecosystem. All of these new and more comprehensive data values will allow the program to better understand the natural response of the stream once the restoration project is completed.

Mark Tollefson, Watershed Technician

UCSWCD completes Elk Bushkill stream restoration project in the Town of Shandaken

Ulster Co. SWCD completed its third stream restoration project in two years during the 2023 field season. The project is located along the Elk Bushkill, a tributary to the Upper Esopus Creek in Oliverea, NY.

First identified after Tropical Storms Irene and Lee impacted the region, the project consisted of an over-widened and unstable stream channel eroding into glacial sediments along a failing terrace. The project included approximately 1,300 liner feet of restored channel along with remediation of the large failing terrace that had become a source of water quality impairment as the stream eroded into relic glacial sediments. Native plants were used throughout the project including bioengineering components such as live stakes, willow bundles and brush layering. In-stream features included log and rock vanes, grade control to prevent incision and boulder clusters. Strong consideration was given to aquatic habitat features throughout the design process (see the following article on Evaluating Stream Restoration Impacts on Fish Populations and Aquatic Habitat).



Figure 1: Pre-construction showing eroding terrace and suspended sediment generation from exposed glacial sediment.

The work was funded through an agreement with NYC Department of Environmental Protection via the Ashokan Watershed Stream Management Program, which is a partnership between UCSWCD, Cornell Cooperative Extension of Ulster Co. and NYC DEP. The construction contractor was Hubbell, Inc. from Margaretville, NY and engineering services were provided by Stantec.



Figure 2: Post-construction showing remediated terrace and planform and hydraulic geometry adjustments with native plantings.

Adam Doan, AWSMP Project Manager

Evaluating Effects of Stream Restoration on Fish Population and Aquatic Habitat

For the last four years, UCSWCD has joined the US Geological Survey in a study aiming to shed light on how stream restoration projects impact fish population and aquatic habitat. This study is funded by the Ashokan Watershed Stream Management Program through a Stream Management Implementation Program (SMIP) grant and involves monitoring sites targeted for restoration three consecutive years prior to construction and at least two years following. There are two main components to the study: 1) The USGS performs annual fish sampling surveys to measure fluctuations in fish species, numbers, age class, and biomass and 2) UCSWCD performs annual geomorphic surveys and habitat quality assessments to track physical changes in channel and floodplain conditions that influence critical habitat features.

Last summer, UCSWCD staff surveyed two future restoration projects and two associated control reaches with the help of SUNY Ulster students with the NYCDEP/SUNY Ulster Watershed Conservation Corp program. The data we collect will help us refine expectations and improve restoration design elements that specifically consider fish habitat benefits. One of the study sites was advanced to construction this past year so we are excited to enter the next phase of this study with post-construction monitoring beginning in summer of 2024. Stay tuned for upcoming monitoring results!



Figure 3 Figure 4 Field crew (Mark Tollefson, UCSWCD and Adrian Christian-Fernandez, WCC student) surveying a cross-section at an impaired study site targeted for future restoration on Hollow Tree Brook.



Figure 5 USGS electrofishing crew at the Elk Bushkill monitoring site. This site advanced to construction in 2023 and post-restoration monitoring will begin this summer.

Allison Lent, Stream Assessment Coordinator, NYSESCCP

STOP THE MOW – LET IT GROW: Benefits of Riparian Buffer Restoration in Ulster County

Riparian buffers or stream buffers are vegetated areas that border streams, rivers and other water bodies that flow through Ulster County. These areas, the intersection where aquatic and terrestrial habitats meet are some of the most biodiverse zones in the landscape. With a lot of access to water and nutrient rich soils, diverse vegetation found in riparian areas can thrive. When in good condition, these buffers play a critical role in the health of the natural river ecosystems that flow through our communities. In Ulster County, healthy buffers should consist of a diverse mix of native trees, shrubs, perennials and native grasses.



Healthy Riparian Buffer near Woodstock, NY. Diverse vegetation helps slow water flow and maintain stream stability.



Degraded Riparian Buffer near Shandaken, NY. Turf lawns provide no bank stability and offer little ecological value to stream corridors.

Healthy riparian buffers provide a wide range of benefits to the water body and adjacent land areas as well as property owners and communities that occupy the river corridors. Located at the interface of land and water, riparian areas provide permanent habitat for a wide variety of organisms that require both aquatic and terrestrial habitats. Healthy and connected riparian areas along the length of river systems can increase the abundance of wildlife that streamside landowners share their landscape with as these areas provide food, water, and cover necessary for survival. Diverse riparian buffers not only help organisms that live in and around water bodies, they also benefit streamside landowners as well. Healthy forested stream buffers protect against flood damage by intercepting rainfall, slowing flows across floodplains and promoting infiltration directly into the soil. Compared to turf grass where water flows off rapidly, the vegetation roughness created by stems, roots, leaves and herbaceous plants in riparian buffers slow the water from entering stream channels and drastically reduce peak flood flows. Restoring or maintaining healthy buffers is the only streamside stabilization technique that actually grows stronger over time. As plants mature and become more numerous and diverse, they actually do a better job at holding soil in place and filtering and slowing runoff. Compared to armoring streambanks with rock, the rock structures are strongest when they are first built but weaken over time as the stream channel and individual sediments move over time. By drastically reducing bank erosion and helping to limit flood peak flows as well as setting back development to allow buffers to grow and flourish properties with intact buffers often see limited property damage following flood events.



Rock Armoring along turf lawn 1 month after installation near Woodstock, NY. Note rocks already falling into stream channel after being undercut by floodwater.



Rock Armoring 1 year after installation near Woodstock, NY. Note further failure and bank alignment has retreated nearly 20 feet toward home. Future UCSWCD riparian buffer project site.



Degraded riparian buffer along small tributary to Esopus Creek near Oliveria, NY. Post flood before UCSWCD riparian planting.



UCSWCD Restored native riparian buffer in Oliveria, NY 4 years after planting providing improved bank stability and property protection.

Healthy riparian areas adjacent to rivers and streams can provide financial savings to property owners and communities that encourage their growth. Buffers can increase individual property values by as much as 15 percent. This may be due to the fact that quality of life is improved when landowners have access to natural areas, or simply due to the more secure feeling knowing that the streamside properties won't be destroyed during the frequent flooding we have been experiencing lately. Allowing native buffers to grow along streams can drastically reduce lawn and yard maintenance costs. Focusing on native vegetation, once established, natural streamside vegetation often maintains itself rather than frequent mowing, fertilizing, herbicide application and leaf removal that turf lawns require.

Intact stream buffers don't only benefit individual property owners, but also financially benefit communities and municipalities in the long term which greatly exceeds investments in stream buffer restoration. By naturally stabilizing stream banks and the channel bed, slowing bank erosion, removing pollutants, and reducing flooding these natural features can lower the need for significant public investment in stream stabilization and restoration as well as stormwater management.

These are just a few examples of how improving the health of streamside riparian buffers throughout Ulster County can help the ecosystem, streamside landowners and communities that rely on the water resources that flow through a diverse network of streams, rivers and lakes in the

area we all call home. It is critically important that we limit mowing up to the water's edge and allow for more room for native plants to flourish along our waterways. Contact the Ulster County Soil & Water Conservation District Highland or Shokan offices to understand what resources are available to assist landowners and municipalities in improving the overall health and connectiveness of native streamside vegetated buffers.

Bobby Taylor, CSBI Coordinator

Agricultural Projects

Two farmers that have participated in the AEM (Agricultural Environmental Management) program and worked with the District developing conservation plans. They were awarded State cost share funding for agricultural best management practices. A beef operation constructed a 40' by 80' covered barnyard to reduce nutrient runoff from an open feeding area. Another beef operation installed over 7,800 linear feet of fence for a rotational grazing system. Both projects provide soil health and water quality benefits by reducing over grazing, soil compaction and nutrient runoff.



Construction of covered barnyard agricultural best management practice fall 2023



Completed fence for rotational grazing system

Agricultural Environmental Management

AEM (Agricultural Environmental Management) is a voluntary, confidential, incentive-based program that helps farmers make common-sense, cost-effective and science-based decisions to help meet business objectives while protecting and conserving our natural resources. Farmers work with Ulster County Soil and Water Conservation District

AEM resource professionals to develop comprehensive farm plans using a 5 tiered process. More information is available on the NYS Soil and Water Conservation Committee website:

<http://www.nys-soilandwater.org/aem/index.html>)

For the last few years, there has been more emphasis and demand from farmers in the County for soil sampling and analysis for lime and fertilizer recommendations. The conservation plans, a.k.a. “Tier 3”, have resulted in improved crop yields and lower input costs, as well

as reduced nutrient and soil runoff from crop fields and improved soil health. **A Tier 3 is required to apply for State cost share funding programs, and the District does the majority of the legwork for grant funding applications and administration, thus minimizing the burden of paperwork for farmers.** The Ulster County SWCD would like to thank all of the participating farmers for helping make our jobs much more satisfying and worthwhile, the years of relationship building and putting common sense conservation practices in the ground, which are priceless.

*Jake Wedemeyer
Executive Director*

“HELLO!” From the USDA Farm Service Agency (FSA) Office in Millbrook, NY

We would like to wish the Farmers & Producers of Ulster County a Happy & Prosperous 2024!! If you already participate with FSA (or our sister agency, NRCS), we look forward to working with you during the year ahead. For those who are unaware of the Farm Service Agency, or the programs and loans we offer to the agricultural community, we welcome you to come by or call the office to learn more.



Some highlights of our current offerings include:

NAP (crop insurance), ELAP (for losses on commercial honeybee colonies), TAP (for losses on orchard trees, bushes, or vines), LDP (for those who commercially market wool, pelts, or mohair), OCCSP (offers up to \$750 towards annual organic certification), ERP 2022 (for those with 2022 crop losses), Farm Ownership Loans, Farm Operating Loans, FSFL (Farm Storage Facility Loans).

County Committee

Wes Hannah

Peter Barton

David Coon

FSA Staff

Chelsea Migliorelli -FSA
County Exec. Director

Mary Alexander – FSA Program
Technician

2715 Route 44, Millbrook, NY 12545

845-677-3952 ext. 2

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United States Department of Agriculture

5 Steps to Assistance
How to Get Assistance from NRCS for Farms, Ranches and Forests

- 1 PLANNING**
Visit your local NRCS field office to discuss your goals and work with staff on a conservation plan.
- 2 APPLICATION**
With the help of NRCS, complete an application for financial assistance programs.
- 3 ELIGIBILITY**
Find out if you're eligible for NRCS variety of financial assistance programs.
- 4 RANKING**
NRCS ranks applications according to local resource concerns.
- 5 IMPLEMENTING**
Put conservation to work by signing a contract and implementing conservation practices.

Get Started with NRCS

Do you farm or ranch and want to make improvements to the land that you own or lease?

Natural Resources Conservation Service offers technical and financial assistance to help farmers, ranchers and forest landowners.

1 Planning

To get started with NRCS, we recommend you stop by your local NRCS field office.

We'll discuss your vision for your land.

NRCS provides landowners with free technical assistance, or advice, for their land. Common technical assistance includes: resource assessment, practice design and resource monitoring. Your conservation planner will help you determine if financial assistance is right for you.

2 Application

We'll walk you through the application process. To get started on applying for financial assistance, we'll work with you:

- To fill out an AD 1026, which ensures a conservation plan is in place before lands with highly erodible soils are farmed. It also ensures that identified wetland areas are protected.
- To meet other eligibility certifications.

Once complete, we'll work with you on the application, or CPA 1200.

Applications for most programs are accepted on a continuous basis, but they're considered for funding in different ranking periods. Be sure to ask your local NRCS district conservationist about the deadline for the ranking period to ensure you turn in your application in time.

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3 Eligibility

As part of the application process, we'll check to see if you are eligible.

To do this, you'll need to bring:

- An official tax ID (Social Security number or an employer ID)
- A property deed or lease agreement to show you have control of the property; and
- A farm tract number.

If you don't have a farm tract number, you can get one from USDA's Farm Service Agency. Typically, the local FSA office is located in the same building as the local NRCS office. You only need a farm tract number if you're interested in financial assistance.

4 Ranking

NRCS will take a look at the applications and rank them according to local resource

concerns, the amount of conservation benefits the work will provide and the needs of applicants.

5 Implementing

If you're selected, you can choose whether to sign the contract for the work to be done.

Once you sign the contract, you'll be provided standards and specifications for completing the practice or practices, and then you will have a specified amount of time to implement. Once the work is implemented and inspected, you'll be paid the rate of compensation for the work if it meets NRCS standards and specifications.

To find out more, go to: www.nrcs.usda.gov/GetStarted