Cayuga County Soil and Water Conservation District

2013 Annual Report

Conservation in Action

Highlights:

Mission Statement

It is the mission of the Cayuga County Soil and Water Conservation District to enhance and protect the natural resources of Cayuga County through "hands-on" implementation of best management practices.

Cayuga County Soil and Water Conservation District

STAFF

Doug Kierst, CPESC,CPSWQ	***Executive Director***
Sandy Huey	***Watershed Program Manager***
John Fraser, CPESC, CCA	***Nutrient Management Specialist***
Jason Cuddeback, CCA	***Grazing Specialist***
Valerie Horning	***Conservation District Technician***
Wanda Jakaub	***Principal Account Clerk***
Lisa Miller	***Senior Typist***
Katie Jakaub	***Owasco Lake Watershed Inspector***
Karl Radcliffe	***Working Foreman***
Pat DeVoe	***Motor Equipment Operator***
Tim Lozier	***Motor Equipment Operator***
Sean McCarthy	***Motor Equipment Operator***
Denise Dixon	***Cleaner***
Bruce Purdy	***Motor Equipment Operator***

Cayuga County Regional Methane Digester Staff

Mike Riley	***Working Foreman***
Al Noga	***Motor Equipment Operator***
Paul Herrling	***Motor Equipment Operator***

USDA Natural Resource Conservation Service

Katherine Schor	***District Conservationist***
Shannon Bozeat	***Soil Conservation Technician***

About Cayuga County SWCD

As the result of petitions and resolutions submitted to the Cayuga County Board of Supervisors (today the County Legislature) by the Farm Bureau, Grange, Dairymen's League, and other farm organizations the Cayuga County Soil Conservation District was formed on August 8, 1944. Cayuga County is well known for its abundance of productive farmland and high quality water. The foresight of the governing body to protect the natural resource needs located within the County proved to be a good investment. Agriculture is the predominant economic engine of the County.

Over the past 70 years, we have expanded to include Wastewater Management, Nutrient Management, Stormwater Management, and Erosion and Sediment Control Programs.

Today we are the local agency that many community members and government agencies "go to first" with their environmental related problems and concerns. We take pride in not only listening, but getting things solved.

Board of Directors

Ray Lockwood	***Chairman, Farm Bureau***
James Young	***Vice Chairman, Member at Large***
Stephen Barski	***County Legislator***
Charles Roberts	***Member, Grange***
Dale Kehoe	***Member at Large***
Steve Nemec	***Member at Large***
Paul Pinckney	***County Legislator***

Awards Received in 2013

Northeast Association of Conservation District Employees; 2013 District Leader Award

Presented to District Board Member James Young

"In recognition of your professionalism and dedication to the cause of conservation at your District and the state of New York"

A message from Executive Director, Doug Kierst

The Cayuga SWCD began the year with my appointment as the new Executive Director. Without skipping a beat, the professional staff at the District continued to develop, improve and implement programs that support the residents and businesses of Cayuga County.

We were able to commission the Cayuga Regional Digester in early February and continue to produce green energy from the production of methane gas derived from manure and fat by-products.

We sustained our commitment to assisting nearby municipalities by providing technical services such as surveys, permitting assistance and environmental site reviews. We continue to be the LOCAL go-to agency for residents that have erosion, drainage and other environmental concerns.

We strengthened our commitment to preserving our natural resources through the acquisition of funding that assisted with the implementation of water quality improving Best Management Practices on agricultural operations.

I would like to thank the Cayuga SWCD Board of Directors and Staff for their support, hard work and dedication they displayed throughout this past year and as we develop our goals into the future.

Assistance to Municipalities & Organizations

Look for Aquatic Weed Boxes at your local boat launch!

One of the benefits of working with Cayuga County SWCD is the fact that we are able to work across municipal boundaries and also on private property with the permission of the landowner. Projects we work on include hydroseeding and mulching of critical areas, wood waste recycling, conservation mowing, drainage cleanouts and implementation and streambank stabilization.

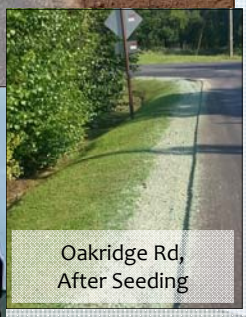
Direct assistance to municipalities and agencies

Aquatic Weed Boxes (Right)- In collaboration with the Cayuga County Planning Dept. the CCSWCD staff constructed 12 aquatic weed boxes and installed them next to boat launches around the county. These weed boxes serve as a reminder to be conscious of invasive aquatic vegetation, but are also convenient disposal sites for such vegetation. This is in conjunction with a new law prohibiting transportation of invasive species.


Oakridge Rd, During

Cayuga County Nursing Home (Right)- This past May the CCSWCD assisted the Cayuga County Nursing home by designing and constructing emergency exit walkways around their facility. A total of 220 feet of safe sidewalks were constructed.


Constructing emergency walkways for the Cayuga County Nursing Home


Oakridge Rd, After Seeding

Drainage Assistance- This past year the CCSWCD completed surveys for municipalities along roadside drainage ditches to facilitate cleanout efforts and improve flow paths. We also completed watershed sizing and analysis to assist with drainage concerns, reviewed culvert sizing information and replacement/installation plans, and evaluated existing drainage conditions on numerous roads for performance and need for modification to improve effectiveness of drainage swales.

Oakridge Rd, Owasco (Left)- The CCSWCD Summer Seasonal Crew helped the County Highway Dept. by responding to complaints of improper stormwater flow along the recently paved road. The crew placed top-soil along the road where needed and then hydroseeded to prevent erosion.

Emerson Park Drainage Basin- The CCSWCD summer seasonal crew continued to assist the County Parks and Recreation Dept. by maintaining the proper filtration of the Bioretention and Sediment Control Basin, in addition to removing unwanted vegetation.

Waterline Repairs and Installation- The CCSWCD completed a cost estimate and participated in project potential funding opportunity discussions at the request of the Town of Throop, on a proposed waterline extension project located within the town

Owasco Flats (Right)- Assisted the Cayuga County Planning Dept. by completing site preparation work in advance of a larger scale project at Owasco Flats. Access to the project location was improved.


CCSWCD Staff clearing brush to improve trail access

Permit Assistance- Assistance was provided directly to municipalities that had proposed to remove obstructions from streams that may cause flooding, and for proposed bank stabilization measures to protect against soil erosion. Permit assistance included completing the application, generating required maps, taking site photos and gathering additional information.

Dry Hydrant Assistance- District Staff worked with local municipalities and organizations to evaluate sites for potential dry hydrant installations to be used in case of emergencies.


Hand-pulling invasive Water Chestnuts to remove them from Sterling Creek

Freedom Recreational Services- The CCSWCD has assisted the Freedom Recreation Services for Youths with Disabilities with their annual Christmas Tree sale for the past 15 years. The funds that are raised go towards the carryout of services and programs that the not-for-profit agency provides for local participants.

Sterling Water Chestnut Removal (Left)- In late July the CCSWCD seasonal summer crew joined the Cayuga County Planning Dept and members of the Cayuga County Parks and Recreation Dept. for a day of pulling invasive water chestnuts from Sterling Creek. This annual event is a safe way to reduce the spreading of this invasive species by hand pulling the weeds instead of using chemicals.

Additional District Services

The CCSWCD No-till seeder reduces field erosion

No-Till Conservation Seeding

The District continued to work with local farmers and conservation programs on seeding projects with our no-till seeder. The District's 8 foot wide no-till drill can handle a variety of seed types used for pasture, hay, wildlife habitat, and food plots with minimal soil disturbance. **In 2013 the district seeded approximately 162 acres including; 32 acres of Pasture, 124 acres of Wildlife Habitat, and 6 acres of Cover Crop.**

Conservation Mowing

The CCSWCD owns two mowers that are used in our conservation mowing program. The boom mower has a floating brush-hog style head on an arm that gives it a reach of over 15 feet. It is best for trimming back overgrown hedgerows, ditches and roadsides. The "bat-wing" deck mower can mow 15 feet in one pass, making it ideal for overgrown pastures and field conservation programs. Over the last few years, the District has been increasing the number of acres mowed and trimmed. **In 2013, the CCSWCD mowed 8 acres of land and approximately 375 miles of conservation ditches, field edges and roadsides.**

Bat Wing Deck can cut 15 feet in one pass

Our Tubgrinder travels around the CNY region turning excess wood into mulch

Wood Waste Recycling

Municipal and commercial wood waste piles can often be difficult to dispose of. With the District's tubgrinder and hydraulic shears, large quantities of wood waste can be quickly and efficiently processed into readily usable wood mulch. Many of the municipalities utilize the mulch that is generated, as a resource to give back to their residents for landscaping.

In 2013, the District used its tubgrinding services to recycle approximately 27,000 cubic yards of woody debris for approximately 22 municipal organizations.

Critical Area Seeding

Soil erosion and sedimentation are one of the leading causes of water quality degradation. The CCSWCD uses many tools to establish grass cover on bare soils, from road-side drainage ditches to erosion control on slopes and even establishing athletic fields. Our technicians work with local seed distributers or create formulas that work for any type of situation. With our 1,000 gallon hydroseeder to hand seeding, the District can quickly respond to requests for assistance. The Cayuga County Soil and Water Conservation District provides hydroseeding for county, town and village governmental departments. **In 2013, the District completed 13 acres of critical area seeding, including road and stream banks, highway ditches, steep slopes, athletic fields and areas of disrupted soil due to construction.**

CCSWCD Staff hydroseeding a grass waterway

This vegetated treatment area treats runoff coming from the farm's bunk silo. The project is part of this farms CNMP.

Comprehensive Nutrient Management Planning

Nutrient management plans help farmers balance their nutrient applications (manure and fertilizer) with the needs of the crops. Soil samples are taken on all of the fields to determine this balance. The nutrient management plan also prescribes crop rotations that will keep soil erosion rates below a defined "tolerable" level. By following this plan, a farm can reduce erosion and nutrient losses from their fields, thereby helping to improve water quality and reduce fertilizer costs.

A nutrient management planner must also look at the farmstead facilities. Barnyards, feed storage areas, and milking centers are all potential sources of nutrients that need to be addressed. A plan that covers both the agronomic (field) practices, as well as the farmstead, is called a Comprehensive Nutrient Management Plan (CNMP). CNMPs must be updated annually. **In 2013 the District developed three new CNMPs and updated one existing CNMP, totaling 1,903 acres.**

Cayuga County Regional Methane Digester

The Digester is currently open for tours. Contact the District for more information

The Cayuga Regional Digester is a project that the CCSWCD started years ago. The plan was to offer the benefits of anaerobic digestion to local farmers, without the need to build small individual digester plants on each farm. This business model is used in Europe where many local farmers bring manure to a central plant and in return, receive treated effluent for their crop lands. There are few of these plants in America, however, they are becoming more attractive as the technology improves and is shared.

The term "anaerobic digestion" tends to confuse people, as it makes it seem that we are consuming the manure. What it is doing is digesting the micro-organisms that live in the manure under no-oxygen (anaerobic) conditions. As they consume (or digest) the manure, they eat the solids and sugars in the manure. As this occurs, methane gas is released as a by-product. This is an entirely natural event, as the manure will be digested and methane released whether it is in a farmers lagoon, or in a digester tank. After 40 days in the digester, what comes out is a uniform material that is suitable for crop land application. No nutrients are lost, and no reduction in volume occurs.

Digester Generator

Methane and natural gas are basically the same thing. However, if methane is released into the atmosphere, it has twenty-five times the warming potential as does carbon dioxide. As the methane is burned, it is broken into water and carbon dioxide. So the second part of the digester operation is the burning the methane that is produced in a large gas engine. This engine turns a generator that creates electricity which is used to power the Natural Resources Campus, Public Safety Building, and Nursing Home. **This is the first digester in the United States that is being used to power public buildings.**

Our funding had two requirements. One was that we use new technology not being used in the United States; and the second was to educate the public about what we are doing. In 2013 we digested 4,924,550 gallons of manure and brown grease. This produced 1,385,044 cubic meters of gas, which in turn produced 2,255,200 kWh of electricity. The digested manure was returned to the farms for field application. During the year, we had over 100 visitors, a number of whom were engineers from around the State and even as far away as Australia. Our plant is even being used as a model for possible digester construction at three SUNY schools.

We also feel that it is important to pass along the many economic benefits to the county businesses. We create and use the electricity locally. We keep the money paid for the electricity local; purchasing supplies from local businesses and hiring local contractors whenever we can. We also can sustain a number of jobs locally. So instead of money going to a large quasi national company, it stays local. That is good for the local economy as a well as supporting future sustainable development in New York State.

Community Recycling Events

The Cayuga County Soil and Water Conservation District is the host site for four significant recycling programs. The District works with the Cayuga County Planning Department and Cornell Cooperative Extension, who act as coordinators of these events. The District assists by making facilities, equipment and staff available.

Household Electronics Recycling Day

- **HOUSEHOLD HAZARDOUS WASTE CLEANUP DAY-** Is an opportunity for county residents to responsibly dispose of substances that do not belong in normal garbage, such as batteries, oil based paints, and household chemicals.
- **HOUSEHOLD ELECTRONICS RECYCLING DAY–** Geared towards the collection and recycling of electronic devices found around the home, such as televisions and computers. These are banned from regular trash due to heavy metals inside these devices that can contaminate ground water. Twenty tons of old electronics were brought to be properly recycled this past fall.
- **TIRE ROUNDUP–** Old tires can be brought in by county residents for a small fee. Tires are then used as an alternative carbon source for the production of steel at Nucor Steel Auburn, Inc. Over 4,500 tires were recycled in June 2013.
- **TRADE-A-TREE–** County residents have the chance to drop off Christmas trees from the holiday season in exchange for a voucher granting them a free seedling. The trees are chipped with the District's tubgrinder and used as mulch. Over 450 trees were traded and recycled in winter 2013.

Be on the lookout for dates of the upcoming 2014 recycling events.

District Training Sessions

Storm Water Management Training

Originating from precipitation events and snow melt, stormwater can pick up many different forms of pollution, especially in urban areas, as it flows over impervious surfaces and open soils en route to its destination, which is usually a local body of water. For this reason it is important to use stormwater management techniques, as to mitigate both volume and pollutant load of stormwater through best management practices.

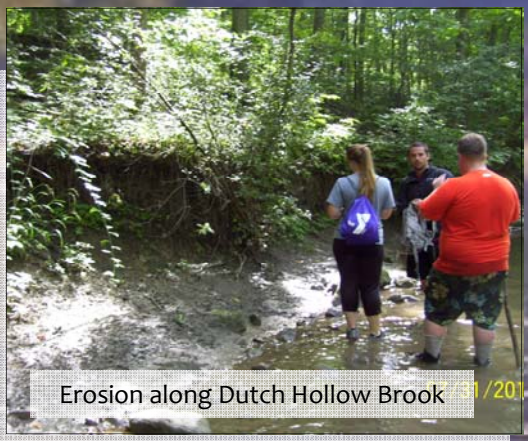
In New York State, all construction projects that create an acre or more of disturbed soil must have a SPEDES General Permit for Stormwater Discharges from Construction Activity. All contractors working on SPDES sites are required to complete a four hour Erosion and Sediment Control Training Course. This course familiarizes participants with the permit, their responsibilities under the permit, site inspections, and several Best Management Practices (BMPs), thus resulting in reduced runoff and better water quality. Our district is fortunate to have two employees certified in Erosion and Sediment Control (CPESC) on staff, one of whom is also a Certified Professional in Storm Water Quality, to educate and assist with local stormwater issues. **The Cayuga County Soil and Water Conservation District held six Erosion and Sediment training courses in 2013 with over eighty participants.**

Swamp School

In August, Marc Seelinger from the Swamp School came to the SWCD to hold a wetland delineation class. This was the Swamp School's first class in the Central New York area. Nine students attended the weeklong class that included field exercises at three wetland sites in Cayuga County. We are hopeful that the Swamp School will return to Auburn again in the near future.

Wetland delineation involves locating the boundaries of a wetland by looking at vegetation, soils, and indicators of hydrology (water). Delineations are required for projects that occur in close proximity to a wetland. Once the wetland boundary is located, it can be avoided during construction or mitigated should disturbance be unavoidable.

Dutch Hollow Erosion Survey


Erosion along Dutch Hollow Brook

The Cayuga County SWCD and the Owasco Lake Watershed Inspection Program worked in partnership this summer to implement a local initiative to improve water quality in Owasco Lake. Dutch Hollow Brook is the second largest tributary of the Owasco Lake watershed, and is located within several towns in Cayuga County, and one town in Onondaga County. Nutrient and sediment pollution from soil and streambank erosion, agricultural activities and lakeside residential development are likely causes of the impaired water quality of Owasco Lake.

In 2003, Cayuga County field staff collected data along Dutch Hollow Brook, identifying 44 locations of significant streambank erosion. Ten years later, during the 2013 summer, the Cayuga County SWCD and Owasco Lake Watershed Inspection Program collected data along Dutch Hollow Brook, identified over 50 locations of significant streambank erosion and other non-point source pollution, indicating an increased need for Watershed Quality Improvement Best Management Practices. These Best Management Practices include implementing cover crops, streambank stabilization, riparian buffers, and other long-term erosion and sediment controls leading to a significant improvement of Owasco Lake water quality.

As a result of the 2003 and 2013 stream surveys, the Cayuga County SWCD has identified four top priority agricultural locations. The potential projects were chosen for their proximity to Dutch Hollow Brook that have been identified as having high phosphorous levels throughout years of sampling by the Finger Lakes Institute. These sites are also in areas that can be continually monitored after construction to measure the effects of the projects. As a second part of the potential project, stream bank stabilization will be addressed on four sites on Dutch Hollow Brook. Debris removal will also take place to reduce the cutting of banks. Again the chosen locations will be monitored and maintained in efforts to reduce sediment loading in Owasco Lake.

Aquatic Vegetation Control Program

The AVC program seeks to provide relief to the County's waterbodies where usability has become impaired by dense vegetative growth. Due to nutrient inputs and sunlight, aquatic vegetation is an unavoidable reality in these natural ecosystems. From hindering navigation and swimming, to creating water and air quality issues during mass die off events, aquatic vegetation can dramatically interfere with people's use of the lakes. The Cayuga County Aquatic Vegetation Control Program's objectives are to increase the accessibility and usability of the County's waterbodies, while seeking to leave the lakes as ecologically intact as possible.

The District's AVC program consists of two boats, an on-shore conveyor, and a small dump truck. The largest boat is a paddlewheel type boat that is designed to access heavy vegetation and shallow water. This boat cuts and picks up the weeds. The second boat is a transport boat which is used on the larger lakes to cut down transport time from the cutting area to the truck, increasing the efficiency of the program. The weeds are off-loaded onto the dump truck using the conveyor, and taken to nearby farms where the vegetation is used as compost to enrich the soil.

Harvester Boat Operated by Tim Lozier

Sean McCarthy using the conveyer to empty a full boat of weeds

The water bodies that our program covers are Owasco Lake, Cayuga Lake, Otter Lake, Lake Como and Fair Haven Bay. The harvester crew saw two to three times the amount of weeds this year compared to past years on Owasco Lake. They also harvested in areas that we have never seen growth in before. We believe that the excess of weeds was caused by the heavy rains and cooler spring temperatures which created a mix of cold and turbid waters that initially inhibited weed growth. This can be confirmed by our early season scouting, which did not reveal much weed growth until mid to late June. Those same rains washed volumes of nutrients and sediment into the streams and ultimately into the lakes where they became growing grounds and fertilizer for the weeds. Once the heat hit in July the weed growth exploded leading to the excess amount of weed growth.

In 2013, the Aquatic Vegetation Control Program removed from Cayuga County waterbodies: •2,232cubic yards (Yd^3) Aquatic Vegetation •290,160 dry pounds Aquatic Vegetation •6,113 pounds of Nitrogen •517 pounds of Phosphorus •3,259 pounds of Potassium

Volume (Yd^3)	Owasco Lake	Cayuga Lake	Fair-Haven Bay	Lake Como
2013	1,162	428	413	76
2012	535	887	1,224	137
2011	646	708	492	46
2010	660	280	260	25
2009	530	480	410	120

Invasive Species: Emerald Ash Borer

The District was alerted during the 2013 Summer Season that the Emerald Ash Borer had been confirmed in Cayuga County by the USDA Animal and Plant Health Inspection Service. Three adult borers were discovered at an RV park in Cayuga County. The insect is an invasive species that feeds on ash trees and is responsible for the destruction of over 50 million ash trees in the U.S. since its discovery in Michigan.

Distinct D-shaped exit holes seen on an infested ash tree

Signs of infection include tree canopy dieback, yellowing, and browning of leaves. The emerald ash borer was first discovered in the U.S. in 2002 in southeastern Michigan, and Windsor, Ontario in the same year. This Asian beetle infests and kills North American ash species including green, white, black and blue ash. Thus, all native ash trees are susceptible. Most trees die within 2 to 4 years of becoming infested.

Adults are roughly 3/8 to 5/8 inch long with metallic green wing covers and a coppery red or purple abdomen. The Emerald Ash Borer is smaller than a penny in size and the adults leave very distinctive D-shaped exit holes in the outer bark of the branches and the trunk. They may be present from late May through early September but are most common in June and July.

The first step to effectively manage the invasive insect is to identify current infestations. State and federal agencies are extensively monitoring for EAB but early infestations are difficult to detect. Reporting Emerald Ash Borer sightings to the DEC is vital to finding infestations early. This will slow the spread of EAB, prevent tree deaths, and could save communities potentially millions of dollars in tree removal costs.

Adult Emerald Ash Borer

Agricultural Environmental Management (AEM)

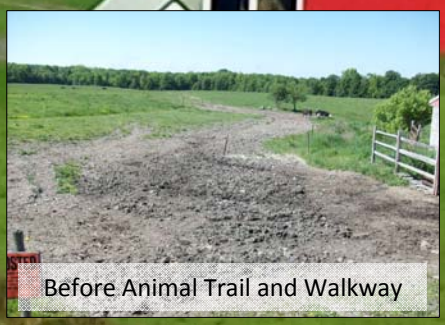
The AEM program helps farmers implement environmentally and agriculturally beneficial practices. Through the AEM process our District is able to document the importance of farming in Cayuga County, provide technical assistance to farms, and help put local farmers in touch with grant funding available for conservation practices.

Some of the conservation practices applied in Cayuga County include: Animal Trails and Walkways, Comprehensive Nutrient Management Plans, Cover Crops, Critical Area Planting, Subsurface Drainage, Waste Storage Facilities, Fencing, Filter Strips, and Grazing Plans.

Manure Waste Storage Facility

Grazing Horse Fence

Pasture Water System



Before Animal Trail and Walkway

After Animal Trail and Walkway

AEM aims to:

- Provide environmental stewardship
- Protect our food supply
- Maintain the rural economy
- Improve water quality
- Improve fish & wildlife habitat
- Open space, and scenic vistas
- Impact air quality and energy
- Improve/maintain viability/ competitiveness
- Promote good neighbor relationships

2013 AEM Accomplishments

Tier I- 10
Tier II- 10
Tier IIIA-9
Tier IIIB-2
Tier IV-6
Tier VB-3

Funded Round 19 Ag Nonpoint Source Projects for Farms:

- Cover Crop Seeding- $60,764.00
- Waste Storage, silage leachate control, barnyard run-off management on five farms in the Cayuga Lake Watershed—$358,534.00

-Barnyard management, erosion sediment control and prescribed grazing on two farms in the Owasco Lake Watershed- $205,602.00

Agricultural Implementation– Graze New York

Prescribed grazing utilizes Best Management Practices (BMP's) to help improve animal forage while reducing the movement of nutrients into water bodies. This is done by encouraging the establishment of healthy vegetated pastures for animal forage, implementing perimeter fencing, pasture/hay land plantings, animal walkways and watering systems that prevent animals from roaming into hydrologically sensitive areas that could pose a water quality issue.

The District Grazing specialist works one-on-one with farmers all over the county in developing new, expanded, or enhanced rotational grazing plans. The process and resulting product helps farmers make decisions that improve profitability and time management while also protecting natural resources and making progress toward sustainability. The grazing plans address these areas:

Pasture quality assessment

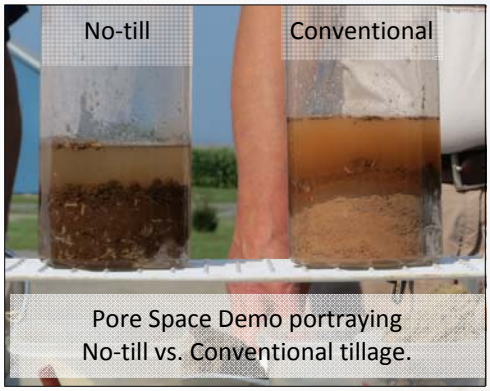
•Soil characteristics and sampling for soil nutrient analysis •Grass species identification and seeding recommendations •Forage yield potential and sampling for forage nutrient analysis

Stocking rate recommendations

•Enough acres for the size and number of livestock •Paddock sizing and rotation schedule •Areas reserved for mechanical harvest, bird habitat, or feed stockpiling •Supplemental feed plan if needed due to limited acres, nutrition needs, or drought.

Soil Health Seminar at Cuddeback Farms

Over 100 agency folks from Soil and Water Conservation Districts, Natural Resource Conservation Service, Cornell Cooperative Extension and farmers took part in the August 2013 Soil Health Seminar held at the Cuddeback Farm in the Dutch Hollow Watershed. There was a farmer panel on soil health as well as demonstrations covering soil compaction, microbial activity in soil, how to maximize pore spaces in soil and cover crops. There was no-till and zone tillage equipment on display. Demos of the tillage equipment ran into the night to show off how these systems can reduce compaction while increasing soil microbial activity and improve pore space for drainage during storm events.



Pore Space Demo portraying No-till vs. Conventional tillage.

Farmer panel discussing no-till management, compaction, micro climates and water holding capacity on fields utilizing cover crops and various techniques.

For every 1% increase in organic matter your soil has the potential to hold 4% more water utilizing soil health techniques. *(Ag. PhD, RFDTV 2013)*

Look for us next year at our 2nd annual Soil Health Seminar in September 2014.

Soil Slake demo, testing stability of soil aggregates resistant to water infiltration.

The night ended with a live demo of no-till, zone tillage, and minimum tillage equipment to show folks the technology that is used during planting to minimize soil disturbance, soil compaction, and increase organic matter by managing residue which in turn decreases the amount of soil lost during storm events.

Owasco Lake Watershed Inspection Program

This year, the Owasco Lake Watershed Inspection Program worked closely with the Cayuga County Soil and Water Conservation District (CCSWCD) in taking part in various education and outreach events as well as training opportunities. The Owasco Lake Watershed Inspector Katie Jakaub assisted CCSWCD with the State Environthon. At the Annual Conservation Field Days Katie Jakaub taught 6th grade students about the importance of preventing Soil Erosion within the Watershed.

Katie Jakaub with Senator Mike Nozzolio at the 6th Annual Owasco Lake Day

The Cayuga SWCD and Owasco Watershed Inspection Program worked together to complete a full erosion and water quality survey in the Owasco Lake tributary of Dutch Hollow Brook. The Seasonal Watershed Inspector and CCSWCD Seasonal Crew recorded areas of erosion along the tributary and calculated the amount of erosion for each location. A complete survey similar to this has not been done in over 10 years.


Watershed Seasonal Inspector Eli Vitale during the Dutch Hollow Brook Survey

The Owasco Lake Watershed Inspector also focused on educating watershed residents on ways they can be aware of their impact on the water of Owasco Lake. In addition to attending workshops and educational days, the program began the placement of storm drain medallions adjacent to municipal storm drains throughout the Owasco Lake Watershed. The medallions will hopefully serve as a reminder to people who may not realize that storm drains flow directly to waterbodies in the area, meaning that anything that flows into them greatly impacts the quality of the water. Currently, storm drain medallions are being placed in the Town of Owasco and the Village of Moravia with the goal of having them placed in all municipalities throughout the watershed.


Before

Moon Beach, Town of Sterling

In the early spring the CCSWCD was alerted to an erosion issue located at the northernmost tip of the county, in the Town of Sterling. Several landowners along the shores of Lake Ontario contacted us to see if there were any practices that we could use to slow down the loss of soil. The usual techniques such as grading, laying stone, and seeding, were not appropriate for this 20 ft bluff. After discussing what would be most suitable for the residential area we decided to use native vegetation instead of more invasive, mechanical methods as a test project.

2 Months After Planting

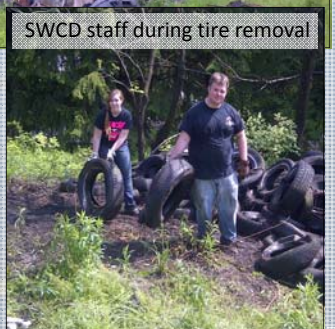
The NRCS Big Flats Plant Materials Center assisted the District in choosing the most suitable plants for the location, and over 500 trees and native grass transplants were used in the project covering approximately 500 ft of eroded shoreline. The CCSWCD Summer Crew planted a variety of prairie cord-grass, different species of small willow varieties, dwarf willow trees and other ground covers with the intention of slowing the wind, water and ice erosion. The goal was to use native and ice-adapted grasses and trees to soak up ground water as the roots hold the soil in place, as well as create habitat. This method of using ground cover to stabilize such a steep slope was a demonstration project. After several months these plantings had an almost 100% survival rate. We are awaiting summer 2014 to see if they survived the brutal Lake Ontario winter, and are looking forward to using these new erosion control techniques in other areas, if it is successful.

Additional Tire Removal


During tire removal at Farm

This year, the CCSWCD was not only involved with their annual Tire Round-up Recycling Event as a method to remove unused tires from the natural environment, we also assisted the Cayuga County Planning Department in removing over 10 tons of tires from a Cayuga County owned property in the Town of Summerhill. (Right)

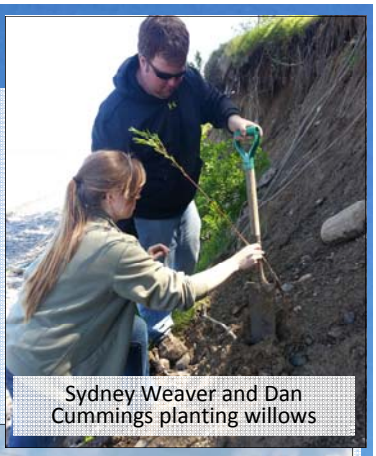

Tires and garbage illegally dumped in the Town of Summerhill


SWCD staff during tire removal

The CCSWCD also worked with a farm in the Cayuga Lake Watershed to additionally remove and properly dispose of another 101 tons of tires from a property. The farm was cited by the DEC for tire dumping, and the Cayuga County SWCD acted as the mediator to help clean up the tires and restore the site to better conditions. (Left)


After

Summer Youth Program

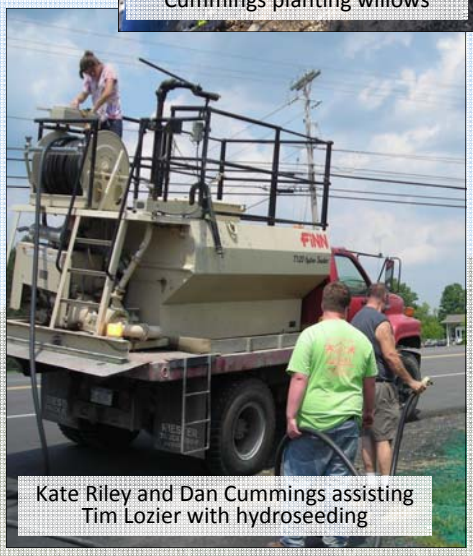


Sydney Weaver and Dan Cummings planting willows

In 2013 , the District was able to hire three young adults for our seasonal summer crew program. The program gives college age students a chance to work in nature and the conservation field, while gaining knowledge of the important region we live in.

The summer crew is a valuable addition to the CCSWCD work force during our busiest time of the year. This years crew helped with recycling programs, the AVC program, and assisted the CCSWCD staff with many other projects around the county. They had hands on conservation experience with critical area seeding and mulching, barley rolls, stormwater management, implementation of farming practices, tree planting, as well as assisting with surveys during different projects. This program gives youth a chance to work outside in the natural environment and gain appreciation for the world around them.

The seasonal summer crew worked closely with the Owasco Lake Watershed Inspection Program in 2013. The seasonal assistants for both programs were involved with the Dutch Hollow Stream Erosion Survey, and worked together to walk the 3 miles of the Owasco Lake tributary. Conservation seeding was used to stabilize uncovered soils along roads within the watershed to reduce sediment transport. The crew also worked with the Cayuga County Highway Department in response to complaints of improper water movement along Oakridge Rd. in the Town of Owasco, where the problem was remediated with top soil and hydroseeding to stabilize the soil.



Kate Riley and Dan Cummings assisting Tim Lozier with hydroseeding

The seasonal crew was also involved with projects in the northern part of the county. Over 500 conservation willows and grasses were planted along the shore of Lake Ontario in the Town of Sterling in an attempt to stabilize an eroding bluff located on several homeowners' properties. The crew worked with the homeowners to plant conservation transplants both on top of the bluff to slow down water movement, as well as along the open soils of the shoreline. They also assisted the Cayuga County Planning Department and Cornell Cooperative Extension with the Sterling Creek invasive waterchestnut pull and learned how to identify many invasive aquatic plants and their negative effects on a waterbody.

Education

Katie Jakaub at the 'Erosion Waterslide' during the 2013 Conservation Field Days

Conservation Field Days

Conservation Field Days is an exciting way to give sixth grade students from around Cayuga County the opportunity to become better acquainted with natural resources and the environment. Professionals from various fields conduct short educational programs, enabling the students to learn not only about the subject matter discussed, but also see nature and conservation occupations in action.

In 2013 there were 12 stations for the students to attend. The stations covered subjects such as; Fire Safety, Soil Runoff Waterslide, History of NY Forestry, Bats, Camping, Entomology, Fish Identification, Migrating Birds, Boater & Snowmobile Safety, and more. Students from 6 local school districts gathered together at Emerson Park over two days in September. After spending the day at the park, students are asked to write an essay detailing their favorite station at field days. The essays are collected and judged, with the top place winners earning recognition, as well as a voucher for ten tree seedlings and a bird house to continue their environmental learning.

Regional Envirothon

Auburn 'Treehuggers' 2013 Regional Envirothon winners

The Envirothon is a fun, outdoor, team-based program designed to help high school students better understand their environment though exploration of ecology, natural resource management, and current environmental issues. The Envirothon combines classroom learning with hands-on field experience focused around five major topics:

•Soil and Land Use •Aquatic Ecology •Forestry •Wildlife •Environmental Issues

The Envirothon began at the local level with two teams in 2013 representing Cayuga County from Auburn, and Weedsport. These teams competed against 25 teams at a regional level. It has been stated that around 95% of students who participate in the Envirothon pursue careers in the environmental field.


Rain barrels are an easy way to collect and store water

Conservation Programs offered at the District

Our staff provides technical assistance directly to the residents of Cayuga County by discussing the concern with the individual, conducting site visits and then, if needed, works with the individual to rectify the concern. Services we provide include site planning, technical guidelines and literature, and permitting assistance, when applicable the CCSWCD seeks grant funding to assist with project implementation.


Summer Crew implementing barley rolls in the District's pond

Rain Barrels– The CCSWCD has 55 gallon rain barrels available to purchase at a minimal cost. A rain barrel is an easy way to collect and store rainwater from rooftops, conserving water and helping to lower costs. Rain barrels collect runoff that could easily travel across paved surfaces, collecting pollution along the way, and into the natural resources.

Barley Rolls- Traditional and chemical methods of controlling the algae in ponds is not always effective or economical. The use of barley straw has been found to be a successful method of algae control. When applied correctly barley rolls do not kill existing algae, but inhibits the growth of new algae. Our barley rolls float near the surface of the water allowing water to flow through the straw, effectively reducing algae levels.


First Annual Fish Stocking Sale

Annual Fish Stocking Sale– The District revived and revamped the Annual Fish Stocking sale in May 2013 to better serve landowners in the county. A variety of fish for ponds were available for sale including rainbow trout, largemouth bass, minnows, channel catfish and grass carp.

Tree, Shrub & Groundcover Sale- The Cayuga County SWCD held their 42nd Annual Spring Tree and Groundcover Sale in May 2013. As in the past, the District offered a variety of conifers, hardwoods, shrubs, groundcovers and perennial plants, fruit trees, and native flowering plants. These seedlings and other plants are a very low-cost way to prevent erosion and to promote wildlife in your area, create noise and visual buffers, and are perfect for creating natural snow and wind breaks. **In 2013 the District sold over 12,000 Trees, Shrubs and Groundcovers in our Annual Tree Sale.**

Zero Phosphorous Fertilizer– Most lawns in New York State do not need additional phosphorus for healthy growth. Plants will only absorb enough phosphorous as needed, leading the excess to be washed into streams, lakes, and reservoirs. Fertilizer in water can create excess algae, plant growth and green scum that poses a threat to water quality and aquatic species. Therefore, under New York State law, fertilizer containing phosphorous may only be applied under approved conditions. The District offers zero-phosphorous fertilizer at a low cost price to protect our freshwater resources.


Cedar and Pine Blue Bird Boxes provide safe habitat

Bird & Bat Houses– Wooden nesting boxes help promote backyard conservation and increase the population of local birds and bats. Locally made wooden nesting boxes that provide safe habitat for bluebirds, screech owls, kestrels, wood ducks, and bats are offered for sale at the District office.

Septic System Inspections & Dye Testing- The District provides services to county landowners for septic system inspections (dye tests) that are mandated by the Cayuga County Health Department. The District also provides percolation tests, septic system designs and inspections of newly installed septic systems in compliance with Cayuga County NY State Health Codes.

Agricultural Land Assessment- 240 Soil Group Worksheets were completed for landowners in Cayuga County in 2013. The Agricultural Land Assessment Program is a state-wide program that provides the opportunity for farmland owners to receive real property assessments based on the value of their land for agricultural production rather than on its development value. Eligibility requirements are outlined by the State Office of Real Property and Department of Ag and Markets, and determined by local assessors.

Cayuga County Soil & Water Conservation District

7413 County House Rd, Auburn, NY 13021

Phone: (315) 252-4171 Ext. 3

Email: cayugaswcd@cayugaswcd.org **Website:** www.cayugaswcd.org

Follow us on facebook: www.facebook.com/cayugaswcd