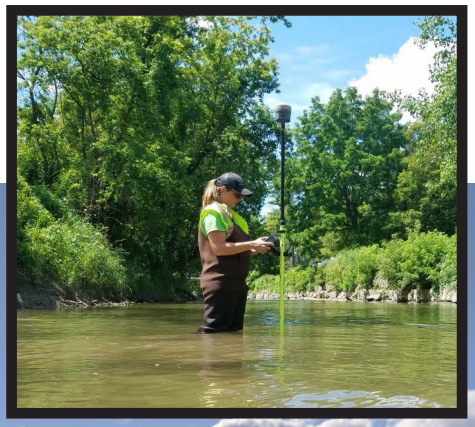
2019 Annual Report

New York State
Soil and Water Conservation Committee

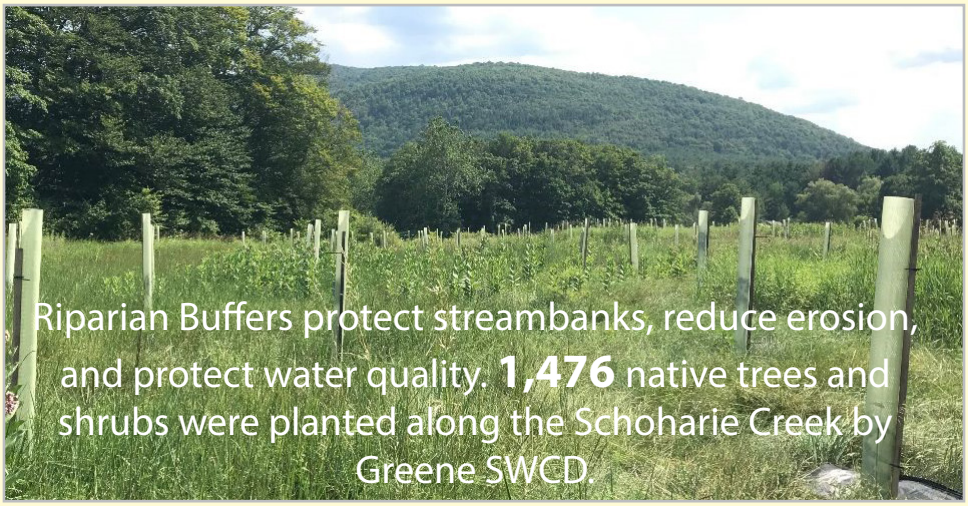


NEW YORK STATE OF OPPORTUNITY.

Soil and Water Conservation Committee

Soil and Water Conservation Districts

New York's 58 Soil and Water Conservation Districts (SWCDs) provide programs and services to conserve, enhance, and protect soil and water natural resources across the State. They are supported by the NYS Soil and Water Conservation Committee.



Riparian Buffers protect streambanks, reduce erosion, and protect water quality. **1,476** native trees and shrubs were planted along the Schoharie Creek by Greene SWCD.

Stream Buffers

119 acres
herbaceous riparian buffers installed by SWCDs for stream protection and
161 MT of CO_2e sequestered

375 acres
forested riparian buffers installed and
1,736 MT of CO_2e sequestered

Education and Outreach

32,080 students
educated at SWCD conservation education events in 2019

400,000 people reached
through SWCD education and community events statewide

Students observe macroinvertebrates in a "What's in our Water?" workshop during Monroe SWCD's Conservation Field Days for county fifth and sixth graders. Over 900 students participate annually!

Genesee SWCD teaching students about soils on a farm in Genesee County.

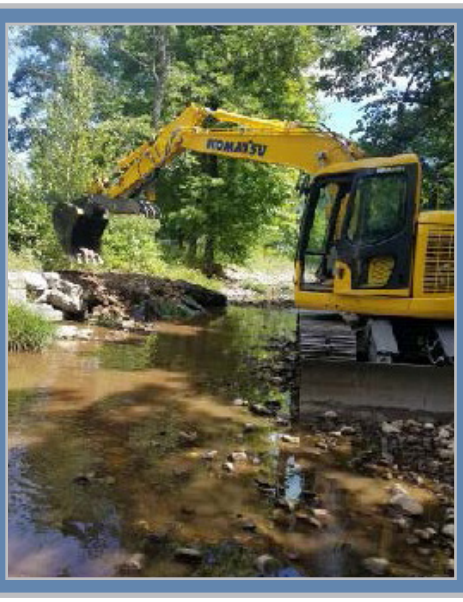
Natural Working Lands

35,662 acres
of cover crops planted
4,178 MT of CO_2e sequestered

14,712 acres
of private forest lands had forest management plans developed

30,700 acres
of county owned forest manged by SWCDs for maximum conservation and carbon sequestration

Streams and Wetlands



517 acres
of wetlands restored as a result of SWCD projects in 2019 plus

15.6 miles
of streambanks protected

6,627 feet
of shoreline protection projects

879 acres
of habitat restoration projects

Invasive Species

SWCDs invest
$2.5 million
to manage invasive species in 2019

4,900 tons
of aquatic invasive species were removed from waterways

Recycling

170,000 pounds
of agricultural plastics recycled through SWCD collection programs in 2019

Stormwater Management

854 miles
of roadsides seeded for erosion control (left)

1,759 road-stream crossings
assessed for flooding capacity and aquatic habitat passage and
82 culverts replaced (bottom left)

1.14 million gallons
of stormwater treated with green infrastructure practices

23,700 people
educated on stormwater pollution prevention measures

AEM Framework

Agricultural Environmental Management (AEM) provides a consistent framework to address environmental and agricultural challenges and identify opportunities on New York's farms. AEM provides support to farmers in their efforts to protect water quality and conserve natural resources, while enhancing farm viability and reducing greenhouse gas emissions. This framework relies on strong technical support and relationship building between local conservation partners and farmers and does so in a way where farm business objectives are kept in mind in order to enhance agriculture's long-term economic viability.

AEM Technical Assistance

AEM Technical Assistance funding is provided to Soil and Water Conservation Districts to assess, plan, and implement Best Management Practices (BMP) on farms. AEM follows a tiered approach:

- Identifies farms and potential resource concerns (Tier 1)
- Assesses environmental risks and documents exemplary stewardship (Tier 2)
- Develops conservation plans (Tier 3)
- Implements BMP Systems (Tier 4)
- Evaluates outcomes (Tier 5)

AEM outreach display for events (right).

Assisting NY's Farms AEM Years 14-15

$4.65 million
in State funding to SWCDs to provide technical assistance for outreach, planning, and implementation of BMPs

896 farms
introduced into AEM program

634
whole-farm environmental assessments conducted

557
farm conservation plans developed

465 farms
implemented BMP systems

1,065 farms
completed updates for whole-farm assessments, conservation plans, and BMP evaluations

105,625 hours
of technical assistance provided to farms to plan and build conservation BMPs

Commissioner Ball and partners during a NYS Soil and Water Conservation Committee tour in Geneva, NY. Jason Cuddeback, Soil Health Expert, with Cayuga SWCD demonstrates the importance of cover crops and the different types of plant mixes.

Climate Resilient Farming Grant Program

In 2019, 24 farms were awarded $2.3 million to implement projects to reduce their environmental impact and recover from extreme weather events. Awarded Round 4 projects focus on Best Management Practices (BMPs) to reduce greenhouse gas emissions (GHG), enhance soil health, sequester carbon, and promote energy savings. Projects also increase irrigation capacity and emphasize water management to mitigate the effects of periods of drought on crops and livestock, as well as heavy rainfall and flooding. These projects will reduce GHG emissions by more than 162,000 metric tons CO2e/yr which is similar to removing more than 35,000 cars from the road for one year.*

*Calculated with COMET-Planner and the USA EPA's Greenhouse Gas Equivalences Calculator.

Climate Resilient Farming

$8 million
awarded since 2015

121 farms
awarded grants
Rounds 1-4

mitigation
reduce GHG emissions and
adaptation
to increase resiliency

SWCD in the Genesee River Watershed worked with farms to plant 218 acres of cover crops in 2019 using an interseeder (above). SWCDs in the Eastern Finger Lakes worked with 9 farms to plant 1,334 acres of cover crops in 2019 (below).

Healthy Soils NY Initiatives

Healthy soils are those that enhance the continued capacity of the soil to function as a vital living ecosystem that sustains plants, animals, and humans. Cost-share for soil health management practices such as cover crops, tillage management, and prescribed grazing are available to NY farmers through multiple programs: Agricultural Nonpoint Source Abatement and Control Grant Program, Climate Resilient Farming Grant Program, and Agricultural Environmental Management. Together these programs have implemented over 90,000 acres of cover crops since 1995 and supported countless hours of technical assistance through SWCDs. These soil health practices have reduced greenhouse gas emissions by over 10,550 metric tons CO2e/yr or similar to removing 2,279 cars from the road for one year.* Additional resources in partnership with the Department of Environmental Conservation are being utilized in the Eastern Finger Lakes. Nine farms participated in Tompkins, Cortland, Cayuga, and Seneca counties, planting 1,334 acres of cover crops in 2019.

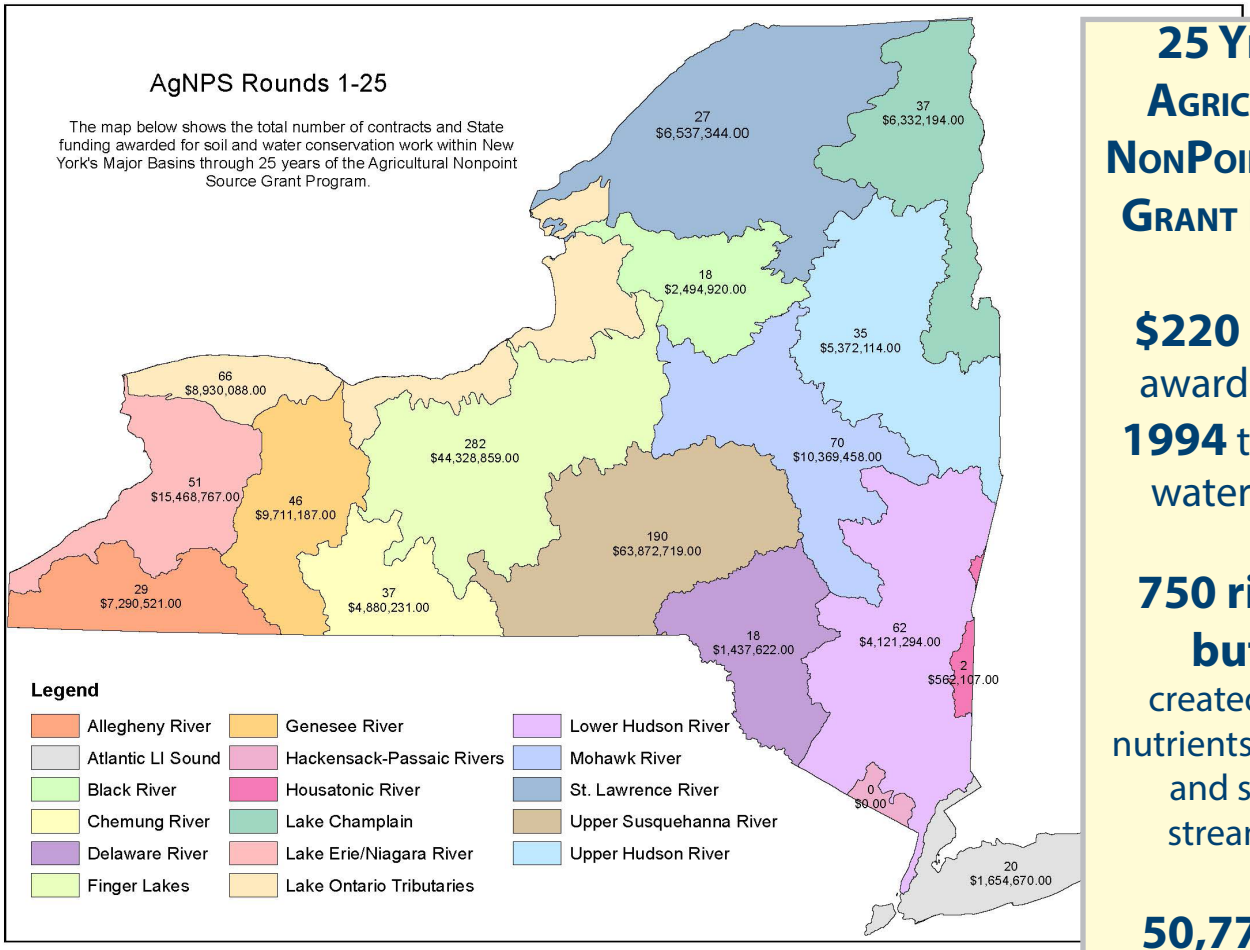
*Calculated with COMET-Planner and the USA EPA's Greenhouse Gas Equivalencies Calculator.

Yates SWCD works with local vineyards in the Finger Lakes region to keep the soil covered between vines to improve soil health (left).

Erin Peruzzini, District Manger, Seneca SWCD, explains how they work with local farmers to plant cover crops for water management and soil health during a NYS Soil and Water Conservation Committee tour. Cover crops provide for "Cleaner Water, Healthier Soils."

25 Years of Water Quality Improvements

Agricultural Nonpoint Source Abatement and Control Grant Program



In 2019, the Agricultural Nonpoint Source (AgNPS) grant program had 47 contracts completed. Approximately 212 Best Management Practice systems were completed on 139 farms across New York State. $9.3 million in State funding was invested in conservation practices.

The AgNPS grant program awarded its 25th round of funding in 2019. A total of $16.2 million was awarded to 25 Soil and Water Conservation Districts (SWCD) to implement Best Management Practice (BMP) systems on 90 farms across New York State. The projects will support on-farm environmental planning and the implementation of BMP systems to keep nutrients and other potential pollutants from entering waterways. BMPs include a variety of measures including, vegetative buffers along streams, cover crops, nutrient management through manure storage, and other conservation measures.

AgNPS Program Accomplishments

Over the past 25 years, New York State has supported projects covering 672 separate watersheds across the State, including 451 manure storage projects to help farms actively balance nutrient supply and crop nutrient demand, which benefits the environment and enhances farm viability. More than 750 riparian buffers have been created to filter nutrients and sediment, protecting surface water, stabilizing streambanks, improving aquatic habitat and reducing

25 Years of Agricultural NonPoint Source Grant Program

$220 million awarded since **1994** to protect water quality

750 riparian buffers created to filter nutrients, sediment, and stabilize streambanks

50,773 acres of cover crops planted to prevent erosion and improve soil health reducing GHG emissions by **5,948 metric tons CO2e/yr or removing 1,285 cars from the road for one year**

*Calculated with COMET-Planner and the US EPA's Greenhouse Gas Equivalencies Calculator.

impacts from flooding. In addition, more than 33,507 acres of cover crops have been planted and more than 40,250 acres are scheduled to be implemented to help prevent erosion, improve soil health, and increase organic matter in the soil, which retains more moisture for crop demand through the growing season. Cover crops also sequester carbon, helping New York's farmers combat climate change.

Erie SWCDs Access Control System funded through Ag Nonpoint Source Round 19 grant. Before photo taken in 2013 (left). After photo taken in 2019 (above).

NYS Envirothon

The Envirothon Competition is a series of field station tests in the areas of soils/land use, aquatic ecology, forestry, wildlife, and an emerging environmental issue. The 2019 environmental issue focused on agriculture and the environment, and how to use technology to feed the growing population while also protecting the environment.

High school students participating in the 2019 NYS Envirothon.

High school students participating in the 2019 NYS Envirothon.

Forty-six teams from across NYS competed in environmental science and natural resource management written and oral tests during the two-day competition. The teams, made up of five students from 9th-12th grades, qualified at the regional and local level and received invitations to the State competition.

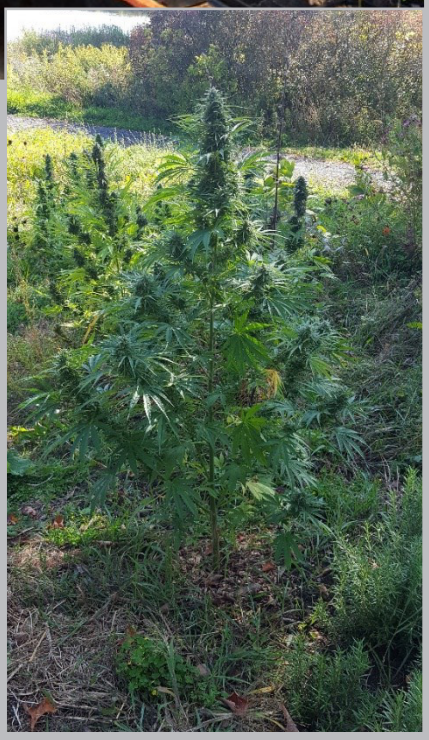
The team from The Mount Academy in Ulster County was named 2019 NYS Champions. Students from The Mount Academy took home top honors at the national Envirothon Competition in 2018. Skaneateles High School from Onondaga County and Candor High School in Tioga County were awarded second and third place.

Protecting Water Quality and Natural Resources

State Aid to Soil and Water Conservation Districts

The NYS Soil and Water Conservation Committee administers State aid funding to 58 Soil and Water Conservation Districts (SWCD) through the NYS Environmental Protection Fund. In 2019, SWCDs received $10.5 million to support technical assistance and conservation programs. State aid is vital for the ability of SWCDs to increase staff capacity, support staff resources, and to buy equipment and materials to support conservation programs and projects. Projects supported by State aid include assisting municipalities, landowners, schools, and non-governmental organizations with agricultural and natural resource conservation practices. The following projects highlight the support provided by State aid.

Water Conservation



As part of an agricultural mini-grant program, the Schoharie SWCD installed 7,500 feet of drip tape for a water irrigation system on a farm in Sharon Springs. The farm worked with the SWCD to reduce its sediment erosion and excess water usage by using the drip irrigation system on their 7.5 acre farm. The new drip irrigation system applies sufficient water to the farm's crops at optimal times during the growing season, reducing the overall amount of water used by the farm. The field was planted with hemp and interseeded with grass to act as a cover crop for the areas in between the plants, reducing erosion and helping to retain moisture in the soil.

Municipal Assistance - Stormwater

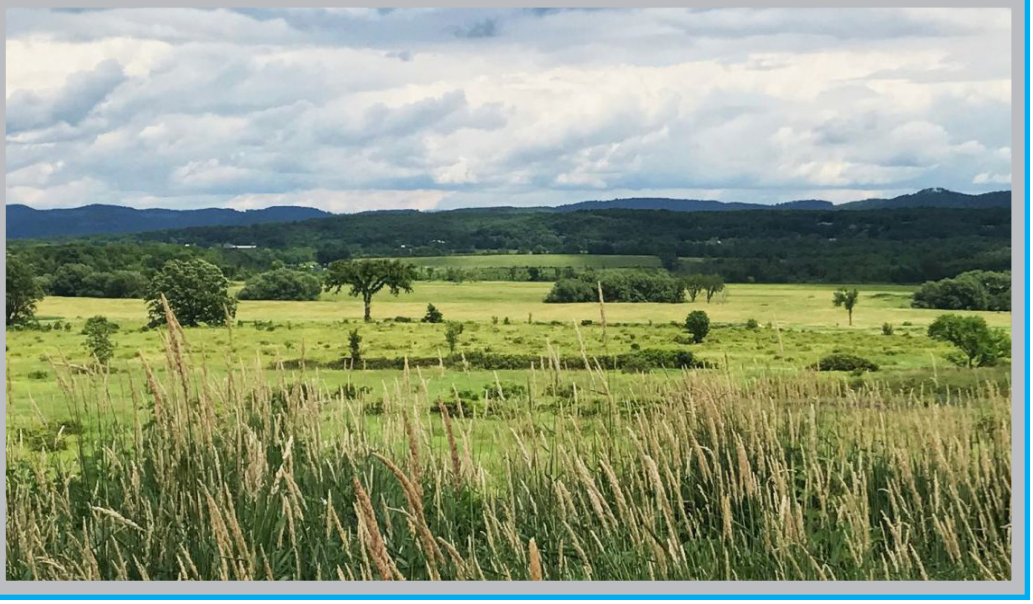
Schuyler SWCD partnered with the Town of Dix and the county to assist in the construction of a salt storage building. The structure will protect water quality by keeping rain and snow off of the stored material, thereby removing the possibility of the salt leaching into nearby streams, wells, and groundwater.

Erosion Control

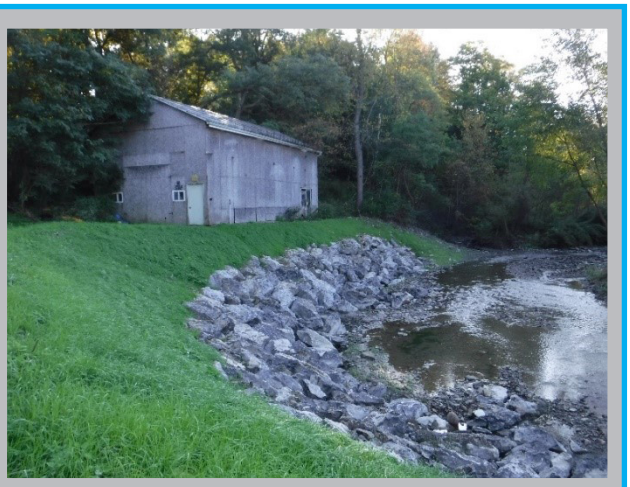
Seneca SWCD worked with the county highway department and the Finger Lakes-Lake Ontario Watershed Protection Alliance (FL-LOWPA) to install clean water exclusion and soil health practices on multiple farms. These practices prevent erosion and protect water quality on fields and farmsteads. Utilizing the flexibility of the State aid funding, the SWCD was able to assist the landowner by preventing future erosion and associated soils from entering Cayuga Lake.

Wildlife Restoration

Washington SWCD partnered with the Grassland Bird Trust to provide bird habitat maintenance and restoration on 64 acres of land in accordance to the management plans written for these conserved areas by NYS Department of Environmental Conservation. The land is important to many endangered and threatened songbirds, and is a great winter habitat for snowy owls and other birds of prey.

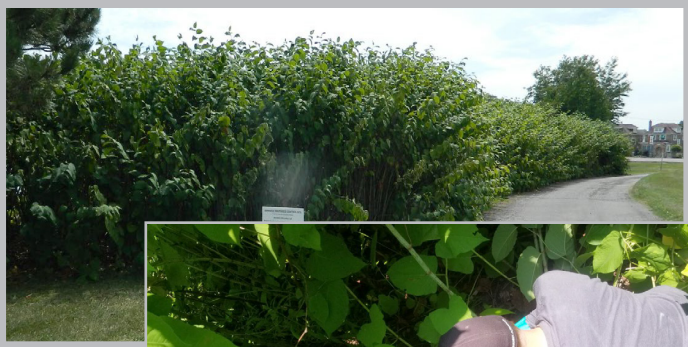


Streambank Restoration



Damage to stream banks from storm events can cause massive erosion that deposits sediment into watercourses. SWCDs assist with these projects in many ways including assessment and inventory, permitting, survey, design, implementation, and follow-up inspections. Cattaraugus SWCD assisted a landowner with a severe erosion issue, utilizing streambank protection techniques such as rock rip-rap and critical area vegetation planting to restore the bank. The SWCD assisted the landowner with the permit application, as well as coordinating engineering assistance and locating a contractor to complete the project. Lake Erie Watershed Protection Alliance (LEWPA) helped provide matching funds for the project.

Invasive Species



Soil and Water Conservation Districts across the State, including Niagara, Hamilton, Herkimer, and many others, are implementing Japanese Knotweed and other invasive species management programs. SWCDs are partnering with municipalities and Partnerships for Regional Invasive Species Management (PRISM) groups to minimize the harm caused by invasive species on the environment and maximize resources. Niagara SWCD identified and mapped 392 sites of Japanese Knotweed infestations across the county. They treated over 47 acres with herbicide at 295 of the identified sites. They also educated landowners and trained 165 municipal workers and contractors on the identification of the plant to help manage infestations.

NYS Oceans and Great Lakes Initiatives

To promote the restoration, protection, and enhancement of New York's ocean and Great Lakes ecosystems the State provides dedicated funds for implementation of projects to advance these goals.

In 2019, the NYS Soil and Water Conservation Committee (SWCC) offered a third round of Erosion and Sediment Control Implementation mini-grants for the Genesee River Watershed. Based on the success of this program, it was expanded to the Finger Lakes region to help combat Harmful Algal Blooms (HABs).

Twenty-five projects were awarded funds. SWCDs were very active with Round 1 of the Implementation of Agricultural Environmental Management (AEM) Plans on NYS Grown & Certified Farms. Approximately 90% of the projects were completed on schedule.

NYS Oceans and Great Lakes Initiatives

Over $7 million
in project-based funding awarded since 2006

145 contracts
administered

28 projects
in progress for erosion control, water quality protection, and to combat Harmful Algal Blooms (HABs)

In August, the SWCC partnered with SUNY Cobleskill and offered Irrigation Water Management Training to SWCD and partners (pictured above). This workshop offered hands-on training for implementing agricultural irrigation systems, focusing on micro-irrigation systems that provide multiple benefits to farms and the environment, including water savings. Following the training, funding was offered to SWCDs to host local workshops for agricultural producers.

NYS AEM Award Winner

Whey Street Dairy, located in Cortland County, was the recipient of the 2019 NYS Agricultural Environmental Management (AEM) Award. Each year, the award honors a NYS farm for its outstanding efforts to protect the environment through the conservation of natural resources for future farm generations.

Whey Street Dairy and the Cortland SWCD honored as the 2019 NYS Agricultural Environmental Management (AEM) award winner.

The farm sells milk to Dairy Farmers of America, which delivers to Hood, Chobani, Fage, and Leprino, where the milk is turned into yogurt and cheese. The Young's have implemented several Best Management Practices such as nutrient management and conservation tillage, cover crops, diversions, roof water control, and installation of both forest and riparian grass buffers, silage leachate control, water retention measures, and petroleum spill prevention.

These practices have improved soil health and nutrient efficiency, while reducing erosion and nutrient runoff on their 1,800-acre farm to protect land and water along the Tioughnioga River. The river is part of the Upper Susquehanna River watershed, which ultimately feeds into Chesapeake Bay.

Planting Hope for the Future

Soil and Water Conservation District Tree and Shrub Programs

Cortland SWCD: a prepared bundle of Norway Spruce ready for distribution.

For decades, Soil and Water Conservation Districts have been partnering with New York residents to plant trees and shrubs through the annual tree and shrub programs. SWCDs across the State sell and distribute evergreen and deciduous seedlings for the conservation of natural resources, the enhancement of forestry resources, improvement of wildlife habitat, and future economic development. Planting tree and shrub seedlings provide wildlife food and habitat, protect water quality, shelter crops, reduce air pollution, draw-down greenhouse gases in our atmosphere, stabilize erodible land, and reduce heating and cooling expenses all while improving our lives through enrichment of our home, neighborhood, and rural landscapes.

A tree seedling, or transplant, is typically one to three years old and sold to the public as bare root stock, meaning the plant is harvested with little or no soil attached to the roots. Seedlings are easier to plant due to their size but may need more care to ensure the young tree can survive into maturity and begin to provide all the natural resource benefits described.

In 2019, SWCDs sold **518,101 tree and shrub seedlings** to the citizens of New York exceeding a value of $781,000. Trees reach their most productive stage of carbon storage at 10 years, absorbing approximately 48 pounds of CO2 a year. Trees sold by SWCDs in 2019, in ten years sequester over **11,000 metric tons of CO2e or the equivalent of removing 2,400 cars from the road*.**

Trees ready for distribution for Otsego SWCDs Tree and Shrub Program.

Caitlin Stewart, District Manger and Lenny Croote of Hamilton SWCD work together to prepare a bundle of tree seedlings for customer pick-up.

With over 500,000 trees and shrubs sold annually, between 2010-2020 SWCDs made available roughly **five million seedlings** that, when cared for into maturity, provide clean water, flood prevention, wildlife habitat, clean air, and wood products that are a vital source of environmental protection and economic support for the people of New York State. The Soil and Water Conservation District mission is "Providing today…Protecting Tomorrow." SWCD tree and shrub sales are one of the most effective programs in reaching a large number of citizens, making it possible to achieve conservation benefits that last generations.

*Carbon dioxide equivalent or CO2e is a term for describing different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO2e signifies the amount of CO2 which would have the equivalent global warming impact.

NYS Soil and Water Conservation Committee

The New York State Soil and Water Conservation Committee works to advance comprehensive natural resource management through the support of local Soil and Water Conservation Districts.

The NYS Soil and Water Conservation Committee operates under the leadership of the NYS Department of Agriculture and Markets to establish policy, foster partnerships, and support diverse Conservation District programming.

The NYS Soil and Water Conservation Committee and partners work to benefit the public through:

- Water Quality Management
- Agricultural Stewardship
- Stormwater Management
- Flood Resiliency
- Climate Resilient Farming
- Invasive Species Management
- Wildlife, Habitats, and Open Spaces
- Environmental Education
- Stream Restoration

2019 NYS Soil and Water Conservation Committee:

Dale Stein (Farm Interests, Committee Chair), David Brass (NYS Grange), Vacant (New York Association of Conservation Districts), Darin Hickling (NY Farm Bureau), and Erica Goodman (Urban-Suburban and Rural Interests)

Advisory Members:

Cornell Cooperative Extension
Cornell University
NYS Conservation District Employees' Association
NYS Department of Agriculture and Markets
NYS Department of Environmental Conservation
NYS Department of Health
NYS Department of State
SUNY ESF
USDA Natural Resources Conservation Service

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