ABOUT THE NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

The SWCC works to advance comprehensive natural resource management through the support of 58 Soil and Water Conservation Districts (SWCDs) across the state, which provide programs and services to conserve, enhance, and protect soil and water resources.

PROTECTING NEW YORK’S FORESTS

77

Individual forest management plans developed on

29,124 Acres

of forest to sequester carbon, increase biodiversity, and protect forestland

499,077

tree and shrub seedlings sold by SWCDs for conservation and reforestation efforts on private land

Albany County SWCD conducting Spotted Lanternfly invasive species outreach

Monroe County SWCD Conservation Tree and Shrub Program

Left: Essex County SWCC offering invasive pest technical assistance; Right: Livingston County SWCD tree planting
In 2021, Soil and Water Conservation Districts (SWCDs) conserved New York’s natural resources through:

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat Restoration</td>
<td>759 Acres</td>
</tr>
<tr>
<td>Riparian Buffers for Stream Protection</td>
<td>328 Acres</td>
</tr>
<tr>
<td>Recreational Trail Created or Restored</td>
<td>107 Miles</td>
</tr>
<tr>
<td>Wetland Created</td>
<td>128 Acres</td>
</tr>
<tr>
<td>Critical Area Seeding for Erosion Control</td>
<td>249 Acres</td>
</tr>
<tr>
<td>Invasive Species Control</td>
<td>$2.9 Million</td>
</tr>
</tbody>
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- Delaware County SWCD manure storage facility and covered heavy use area
- Tioga County SWCD culvert assessment and restoration
- Essex County SWCD’s no-till drill available to landowners to implement no-till planting
- Wyoming County SWCD hydroseeding for erosion reduction

Delaware County SWCD manure storage facility and covered heavy use area

Tioga County SWCD culvert assessment and restoration

Essex County SWCD’s no-till drill available to landowners to implement no-till planting

Wyoming County SWCD hydroseeding for erosion reduction
Urban agriculture has numerous benefits to communities, food security, and society. Agriculture in urban and suburban areas often leads to more equitable opportunities for access to locally grown fresh produce and culturally relevant foods. Locally grown food has the additional benefit of decreased distance from producer to consumer thus resulting in reduced transportation emissions. Vegetation in an urban setting cools ambient temperatures, greatly reducing the urban heat island effect which will be critical in reducing the impacts of extreme weather conditions in urban areas, especially for underserved communities. In addition to climate and health benefits, urban agriculture can also offer educational opportunities for youth and adults alike, allowing individuals to be more connected to and gain awareness of the food system.

In 2021, 20 urban agriculture projects were conducted by Soil and Water Conservation Districts (SWCDs) across the state. In February 2022, the Soil and Water Conservation Committee convened a State Committee meeting centered around SWCD involvement in urban agriculture over the course of 2021. Following District presentations, the State Committee held a listening session to better support these kinds of initiatives in the future. Pursuant to the Soil Health and Climate Resiliency Act, urban and suburban agriculture will continue to be emphasized in future State Committee work.

Urban and suburban areas such as New York City (New York City SWCD), Syracuse (Onondaga County SWCD), Rochester (Monroe County SWCD), Buffalo (Erie County SWCD), and Glens Falls/Queensbury (Warren County SWCD), among others, benefit from urban agriculture projects facilitated by SWCDs.
New York City SWCD
The New York City SWCD offers multiple services to ensure urban agriculture is facilitated with safety and sustainability in mind. Soil in urban settings is often contaminated with heavy metals which can then bioaccumulate in produce, making it unsafe to consume. In a free soil testing event held in 2021, the District screened over 500 samples, of which, 90 percent were brought from current and future urban gardens. The District also offers assistance through remote consultations and onsite visits advising urban gardeners.

Monroe County SWCD
The Monroe County SWCD, in partnership with Cornell Cooperative Extension and Asbury First United Methodist Church, constructed a public community garden from the ground up. In 2021, during its first year in production, the garden yielded twelve varieties of fruits and vegetables totaling an estimated 150-300 pounds of produce that was distributed to the public. The garden is also used to provide education opportunities for children and the greater public.

Warren County SWCD
The Warren County SWCD facilitates Community Garden Conservation Planning with every community garden that the District is involved with. This includes soil testing, stormwater and flood mitigation tactics, and working with community farmers to focus on soil health and soil remediation. The SWCD also supports the viability and accessibility of community farms by providing materials and supplies such as compost, mulch, water access, raised beds for physical accessibility, and much more.
AEM-Leopold Conservation Award Winner: Table Rock Farms

Table Rock Farm of Castile in Wyoming County is New York's 2021 Agricultural Environmental Management (AEM)-Leopold Conservation Award winner. Awarded by the Sand County Foundation, in partnership with the Department of Agriculture and Markets, Table Rock Farm, and the Wyoming County Soil and Water Conservation District (SWCD), were honored for their efforts to protect the environment.

Table Rock Farm is a family-owned, 1,150 cow dairy farm that produces nearly 33 million pounds of milk annually. The family is dedicated to environmental stewardship and on-farm research, having hosted various studies with Cornell University and the American Farmland Trust. Crop rotations, conservation tillage, and cover crops are utilized to promote soil health and prevent erosion on 1,800 acres of corn and alfalfa grown for feed. The family has collaborated with the Wyoming County SWCD since 2003 to implement various conservation strategies within the AEM program. The farm is best known for an innovative manure storage cover and capture system. To protect resources, reduce waste, and improve air quality, Table Rock Farm worked with a team of professionals, including New York’s Climate Resilient Farming program, to develop an intricate system that separates solids from liquids in cow manure, allowing for a cover and flare system which prevents atmospheric methane release.

SWCD Support for Urban Agriculture, Continued

Erie County SWCD

The Erie County SWCD is experiencing a rapidly growing presence of urban agriculture in recent years, and is currently facilitating outreach to community growers and urban farms to offer technical assistance. The District plans to assist urban farmers by conducting a needs assessment to produce a strategic plan to guide future delivery of technical assistance to the urban agricultural community.

Onondaga County SWCD

The Onondaga County SWCD offers support and education to aid urban agriculture through numerous avenues. Through mentorship, funding, and supply donation, the District facilitates agricultural education for city students. These initiatives provide opportunities for students to learn about agriculture, produce their own food at school and home, and gain hands-on experience.
The New York State Agricultural Environmental Management (AEM) framework continues to advance water quality, soil health, adaptation to extreme weather, climate change mitigation, and farm viability, in its third decade since becoming codified into state law. The AEM framework, administered by the New York Soil and Water Conservation Committee - under the leadership of the Department of Agriculture and Markets - is implemented at the local level by county Soil and Water Conservation Districts. This local implementation is guided by five-year AEM Strategic Plans, recently updated by Districts for 2021-2025. AEM is the umbrella program used in partnership with farmers to identify existing stewardship and environmental concerns through a comprehensive whole farm assessment and match these identified needs with existing financial opportunities for farms of all sizes and commodities. AEM is voluntary and open to all farmers.

**AEM Base Program Funding**

Based on a solid track record of implementation by farmers, Soil and Water Conservation Districts, and other AEM partners, the AEM Base Program was expanded to better meet the demand for conservation among the diverse range of farms in New York State. Over the last two decades, the AEM Base Program has provided annual, non-competitive funding for Districts to work with farmers on technical assistance through the five-tiers of AEM:

- **Tier 1:** Inventory current activities, interests, and potential environmental concerns of the farmer.
- **Tier 2:** Document current environmental stewardship and assess and prioritize areas of concern.
- **Tier 3:** Develop conservation plans addressing concerns and opportunities tailored to farm goals.
- **Tier 4:** Implement plans using available educational, technical, and financial assistance.
- **Tier 5:** Evaluate practices and plans for conservation and farm viability.

Starting in 2020, the round 16 of the AEM Base Program (Round 16) was expanded to operate on a two-year cycle and include a new, non-competitive cost-share funding track to implement conservation practices prioritized in AEM Tier 3 conservation plans. As expected, SWCDs and farmers rose to the challenge with 52 Districts providing technical assistance, outreach, local coordination, and implementing conservation practices according to hundreds of farmers on a wide span of farms. Technical assistance and funding to support practice adoption will continue with AEM Round 17 in 2022. Connect with your local District to learn more.
The Source Water Buffer Program was launched in January 2019. Led by the New York State Soil and Water Conservation Committee, in coordination with the Department of Agriculture and Markets, the goal of the Source Water Buffer Program is to protect active sources of public drinking water and support, expand or enhance water quality protection through the purchase of conservation easements on agricultural lands. Such projects shall preserve or establish buffers for surface or ground waters which serve as or are tributaries to public drinking water supplies. Nearly $5 million in program funds was made available for the purchase of conservation easements on agricultural lands that support, expand or enhance water quality protection of active public drinking water sources. Program funds may also support the implementation of Riparian Buffer Systems within the conservation easement area that will provide further protection to water quality.

Since the program’s release, nearly $300,000.00 has been awarded. The first award was made in June 2020 to the Chautauqua County SWCD. The District partnered with the Chautauqua Watershed Conservancy to purchase a 6.4 acre conservation easement to permanently protect agricultural land along a tributary of Chautauqua Lake. This project also proposes to exclude livestock from the easement area in addition to protecting 6.1 acres of herbaceous buffer. The second award was made in February 2022 to the Essex County Soil and Water Conservation District. They will partner with the Adirondack Land Trust and the Nature Conservancy to purchase a 16.6 acre conservation easement to permanently protect agricultural land along a tributary of Lake Champlain. This project is also proposing to implement a Riparian Buffer System to restrict livestock access from the stream, improve stream crossings to allow for aquatic passage and reduce erosion of the streambank. Approximately 16.22 acres of forested buffer will be established and permanently protected.

This program remains open and will continue to accept applications on a rolling basis until all funds have been awarded. For more information, please contact Bethany Bzduch, Associate Environmental Analyst at bethany.bzduch@agriculture.ny.gov.

**Highlighting Agricultural NonPoint Source Best Management Practice Systems**

Stream Corridor and Shoreline Management Systems include vegetation, structures, bio-technology and management techniques that work together to stabilize and protect stream channels, streambanks and shorelines. These systems enhance natural hydrologic processes and improve fish and wildlife habitat. Stream Corridor and Shoreline Management Systems are designed to reduce sediment and nutrient loading and restore the physical, chemical and biological function of the waterbody. This system not only provides a benefit to water quality but can also reduce the impact of flood events and can create a beneficial carbon sink. Often these Best Management Practice systems will establish vegetation (i.e., shrubs, trees, grasses, etc.) within riparian areas that can sequester carbon from the atmosphere helping to reduce climate change impacts.
In March 2021 nearly $15 million was awarded to 26 Soil and Water Conservation Districts under Round 26 of the Agricultural Non-Point Source Pollution Abatement and Control (AgNPS) program. Grant awards will benefit approximately 150 farms. Round 27 of the AgNPS program was released in May 2021 and awards were made available in November 2021. A total of $13.6 million was awarded to 25 SWCDs to support 43 project proposals. Through Round 27, more than 90 farms will receive funding to address water quality challenges within priority watersheds across the state. A variety of best management practice systems are supported through the AgNPS Program. Eligible systems can include those that involve changes in farm management, increase the amount of vegetation on highly erodible areas and along streambanks, or control surface runoff of agricultural pollutants through structural practices. Through Rounds 26 and 27, a total of 58,400 acres of cover crops, 50 acres of riparian herbaceous buffer, 28 acres of riparian forest buffers, and more than 140 structural best management systems will be implemented.

In 2021, more than 40 contracts from the AgNPS grant program were completed. These projects invested approximately $11 million in state funding to implement a wide range of conservation practices. Across the state, BMP systems were completed on 97 farms across the state.

AgNPS BMP Systems Implemented:

- **7500 Acres**
  - of cover crops

- **22 Acres**
  - of riparian forest buffer

- **34 Acres**
  - of riparian herbaceous buffer

- **540 Acres**
  - of prescribed rotational grazing

- **25 Nutrient Management Systems**
  - consisting of manure storage facilities

Ecosystem Based Management Program

At its core, Ecosystem-Based Management (EBM) is a comprehensive, place-based approach to resource management distinctive from traditional approaches that manage resources individually. The EBM program recieves funding through the Ocean and Great Lakes Initiative.

Soil and Water Conservation Districts (SWCDs) have been instrumental in transferring the principles of EBM to on-the-ground practices. In 2021, SWCDs received funding to implement 430 acres of water-saving irrigation water management systems. High-efficiency systems, particularly micro irrigation systems (e.g., trickle, drip, and low flow emitters) strategically place irrigated water within the root zone of the target crop. These systems conserve water resources and can be used to transport nutrients and pesticides, reducing the potential of runoff and groundwater contamination.

EBM funding was also used to support implementation of Agricultural Environmental Management plans on New York State Grown & Certified farms. The New York State Grown & Certified program is a voluntary program that helps consumers identify local, safely handled, and environmentally responsible agricultural products. SWCDs assist farms with documenting stewardship practices and implementing additional environmental safeguards. In 2021, SWCDs were awarded 13 projects to implement an array of conservation practices, including nine agricultural chemical handling facilities.
Climate Resilient Farming

Climate change impacts the agricultural sector in a variety of ways. From increasing the risks of soil erosion, reduced soil quality, and pollution events to threatening agricultural productivity, and impacting food security, these effects can be felt by farmers, the communities they live in, and consumers.

The Climate Resilient Farming (CRF) program offers grants to help farmers to adopt transformative management practices that reduce GHG emissions, increase carbon storage in soils and woody plants, and protect at-risk agricultural lands, all while providing multiple benefits that improve the health and resiliency of the state’s farms, ecosystems, and communities. CRF supports farmers to proactively address climate concerns across the state. Eligible projects include agricultural waste storage cover and flare systems, water management systems, and soil health management practice systems.

Round 5 of CRF grants allocated $4 million in funding and was released in 2020. Round 6 of CRF, released in 2022 will have $8 million allocated for cost share grants.

CRF IMPACTS:

$12 Million awarded to date

200 Farms supported through CRF cost share funding to date

320,000 Metric Tons CO2/yr estimated reduced emissions

Highlighting Climate Resilient Farming

Best Management Practice Systems

Agricultural Waste Storage Cover and Capture

Agricultural waste storage cover and flare systems have the capacity to immediately impact both the greenhouse gas (GHG) emissions from the farm and the farm’s resiliency from major precipitation events. Stored manure can produce methane, a GHG that is 86 times more potent than carbon dioxide on a 20 year timeline. Cover and capture systems involve installing an impermeable cover over a manure storage facility, piping the emitted methane and other gases away from the facility, and destroying the gas in a flare, significantly reducing the global warming potential of the system. A cover also eliminates millions of gallons of clean rainwater from entering the storage, keeping clean water clean, and reducing emissions associated with spreading millions of gallons of rainwater on fields.

Water Management Systems

Water management is an effort to prepare agricultural producers for two anticipated and experienced impacts of climate change: flood events and drought. The water management systems include many conservation systems and best management practices that stabilize and reduce flows, and/or store water, such as riparian forest buffers, stream corridor and shoreline management, erosion control, ponds, and wetlands. Some conservation systems, such as transferring land to perennial production or forest buffers, can also create beneficial carbon sinks.
CLIMATE LEADERSHIP AND COMMUNITY PROTECTION ACT

Signed into law in July 2019, the Climate Leadership and Community Protection Act (CLCPA) establishes ambitious emission reduction targets for New York State. Targets include economy-wide greenhouse gas emissions reductions by 40 percent of 1990 levels by 2030 and no less than 85 percent by 2050. The CLCPA creates a Climate Action Council (CAC) is a 22-member committee informed by sector-specific advisory panels and is charged with developing a scoping plan of recommendations to meet CLCPA targets.

The Agriculture and Forestry Advisory Panel is chaired by the Department of Agriculture and Markets Commissioner, Richard Ball, and includes 18 sector experts representing interests from academia, public policy, farming and forestry interests, and Soil and Water Conservation Districts. Over the course of 2021, Soil and Water Conservation Committee staff worked with the Panel to develop a set of recommendations in the following subtopics for the CAC Draft Scoping plan:

- Soil Health
- Nutrient Management
- Agroforestry
- Alternative Manure Management
- Precision Feed, Forage, and Herd Management
- Avoided Land Use Conversions
- Forest Management
- Reforestation
- Afforestation
- Urban Forestry
- Climate-Focused Bioeconomy

The Draft CAC Scoping Plan was released for public comment in January 1, 2022 through July 1, 2022. The CAC will review feedback and work to develop a final scoping plan to be released by the end of 2022.

NEW YORK STATE ENVIROTHON: CHAMPION WINS AT NATIONAL LEVEL

Thirty-two teams from across New York State participated in the 32nd annual New York State Envirothon Competition. The event serves high school students throughout the state, developing their natural resource science knowledge, public speaking skills, and civic engagement.

The New York Envirothon is coordinated by the New York State Envirothon Committee, comprised of members of the New York State Conservation District Employees Association, Soil and Water Conservation Committee, Department of Environmental Conservation, Department of Agriculture and Markets, and USDA Natural Resource Conservation Service.

The New York Envirothon Committee hosted the 2021 competition virtually for regional champions. The Mont Academy team in Ulster County was named New York State Champion. The OCM BOCES team from Cortland and Skaneateles High School from Onondaga were awarded second and third place, respectively.

On July 28, the Mont Academy team from Ulster County proudly represented New York State at the National Conservation Foundation Envirothon. They competed against 41 teams from the U.S., Canada, and China at the National Conservation Foundation Envirothon. The Mont Academy team was named the 2021 National Conservation Foundation Envirothon Champion.
Soil Health: Protecting One of New York’s Most Precious Resources

Soil Health in New York

499 Soil Health Projects
conducted by SWCDs in 2021 across the state

48,195 Acres
of cover crops planted by farmers in collaboration with SWCDs in 2021

2021 witnessed a revitalization of interest in agricultural conservation, particularly soil health. Healthy soils are critical to agricultural viability and sustainability. However, human activities can have adverse impacts on soil health. Soil health can become degraded, causing decreased nutrient content, increased erosion, topsoil loss, and other environmental and agricultural concerns. There are many practices that can bolster soil health, including cover cropping, increasing organic matter, adopting reduced or no-till, inter-seeding, and more.

Soil Health Policy

Recent state and federal legislative trends are indicative of a broader policy focus on soil health. The Soil Health and Climate Resiliency Act was signed into law by Governor Hochul on December 22, 2021. The Act charged the Department of Agriculture and Markets in collaboration with the Soil and Water Conservation Committee (SWCC) with developing efforts to promote and encourage soil health in urban, suburban, and rural communities in addition to conducting and distributing soil health research. This fits within the current framework of SWCC initiatives including grant opportunities, State Aid, and District engagement. Moving forward, the SWCC will continue to work with stakeholders to further soil health in New York State.

Maintaining and improving soil health will be an integral component of achieving the emission reduction goals put forward by the Climate Leadership and Community Protection Act (CLCPA).

Collaboration, Research, and Outreach

The New York Soil Health Initiative was created in recent years through collaboration between the United States Department of Agriculture Natural Resources Conservation Service, Cornell College of Agriculture and Life Sciences, and the Department of Agriculture and Markets. Born out of a need to improve soil health and conservation in New York State for generations to come, the initiative has developed numerous resources available to both conservation professionals and the public, including:

• New York Soil Health Roadmap
• Factsheets for greenhouse gas benefits of soil health management practice systems in New York
• Technical report on the Characterization of Soil Health in New York

The New York State Soil Health Initiative continues to work toward improving soil health through applied research and continued support for soil health trainings and outreach.

For more information, please visit: https://www.newyorksoilhealth.org/

Schuyler County SWCD’s Hi-boy interseeder is used to aid farmers in planting cover crops directly within an existing crop to improve soil health through reduced erosion, increased soil organic matter, and improved water retention.

A farmer in Wayne County utilized the Wayne County SWCD’s no-till drill to grow a cover crop mix of oats, radish, and peas to bolster soil health through reduced compaction, improved drainage, and increased nutrient content.
**STATE AID TO SOIL AND WATER CONSERVATION DISTRICTS**

**PROTECTING COMMUNITY, PROMOTING CONSERVATION**

The Soil and Water Conservation Committee administers State Aid funding to 58 Soil & Water Conservation Districts (SWCDs) through the New York Environmental Protection Fund. In 2021, SWCDs received a total of $11 million to support technical assistance and conservation programs to municipalities, landowners, and producers.

**ASSISTING AGRICULTURE**

Pollinator species such as birds, bees, and butterflies are essential for agricultural production because they facilitate the ecosystem service of pollination. The vast majority of crops require pollination to produce food. These species, however, are experiencing reduced population numbers due to multiple causes, including decreased habitat. By planting a variety of pollinator plants, gardens can have a significant impact on pollinator species vitality. In 2021, the Lewis and Albany County SWCDs, among others, utilized State Aid to increase pollinator habitat. The Albany County SWCD distributed 4000 Latris bulbs to encourage landowners to plant pollinator friendly gardens. Pollinator gardens were established by both Lewis and Albany County SWCDs, increasing pollinator species habitat. These pollinator gardens will also provide educational opportunities for surrounding communities.

**FOSTERING EDUCATION**

Youth conservation education has many benefits including increasing time spent outside, gaining understanding of the food system, learning responsibility, and instilling environmental awareness and knowledge of natural systems. Many SWCDs across the state work with schools and youth organizations to encourage agricultural education. In 2021, the Franklin County SWCD utilized State Aid to work with four schools to diversify and enhance conservation and natural resource curriculum. The District utilized State Aid to purchase materials for students to participate in a variety of conservation activities. By utilizing state aid, the Franklin County SWCD School Assistance Program allowed the District to create a lasting impact for future students.

**ASSISTING MUNICIPALITIES**

By monitoring streams to assess streambank integrity, locate woody debris, and identify potential areas of concern, SWCDs work with municipalities and other partners to reduce flooding, erosion, and water quality concerns. Due to limited access, visual observation techniques can be inaccessible and/or labor intensive. The Ontario County SWCD utilized State Aid to purchase a drone and train staff to safely monitor stream corridors more frequently. Information gathered through drone usage allows the District to develop and execute plans to swiftly resolve areas of snagging and debris jams along stream corridors. The drone and operating expertise will also allow the District to provide future support to partner agencies, municipalities, and landowners.
The New York State Soil & Water Conservation Committee (SWCC) operates under the leadership of the NYS Department of Agriculture and Markets to establish policy, foster partnerships, and support diverse conservation programming.

New York’s 58 county Soil and Water Conservation Districts (SWCDs) provide programs and services to conserve, enhance, and protect soil and water resources across the state. The SWCC works closely with SWCDs to implement conservation projects and initiatives.

Through the support of local SWCDs, State Aid, and programmatic funding opportunities, the SWCC works to protect the state’s natural resources, focusing on environmental planning, and conservation best practices. The NYS SWCC and partners work to benefit the public by working toward both improved environmental and health benefits through three major programs: Agricultural Environmental Management, Agricultural Non-Point Source Abatement and control, and Climate Resilient Farming.

**NYS Soil & Water Conservation Committee:**
- Dale Stein (Farm Interests, Committee Chair)
- David Brass (New York State Grange)
- Darin Hickling (New York Farm Bureau)
- Erica Goodman (Urban-Suburban and Rural Interests)
- Scott Ryan (New York Association of Conservation Districts)

**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

For more information, please visit:
www.agriculture.ny.gov/soil-and-water/soil-water-conservation-committee