



2018 Annual Report

T I O G A  C O U N T Y

SOIL  **WATER**

C O N S E R V A T I O N D I S T R I C T



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A NOTE FROM THE DISTRICT MANAGER

2018 proved to be another challenging year for the residents of Tioga County. As a result of numerous rain events throughout the county, we saw flooding impacts to homes, municipal infrastructure, (including roads, bridges, and culverts), and businesses. Agricultural producers were also impacted by the frequent rain events that made harvesting crops a significant challenge and has even left some fields untouched at the end of the year. Tioga County SWCD Staff and Board of Directors continue to develop programs, provide technical assistance and secure funding to assist those impacted by these events, while we also focus on continued support of our existing programs. While we work to address and clean up impacts of these events we also look forward to 2019 where we plan to utilize work completed in 2018 to further our mission and address local resource concerns. For instance, we were able to complete several watershed assessments which will assist us in developing recommendations and identifying projects for future implementation within three watersheds. We will also continue to work to secure funding for ag programming, including implementation work such as cover cropping, buffer establishment and farmstead conservation work. So as I look ahead our focus will continue to be finding ways to meet those local needs.

Wendy Walsh

Danielle Singer, Nutrient Management Specialist

2018 Board of Directors

Dale Weston, Chairman, County Legislature

Tracy Monell, Vice Chairman, County Legislature

Ronald Dougherty, Treasurer, Member At Large

Mark Kwiatkowski, Grange Representative

Robert Aman, Farm Bureau Representative

2018 DISTRICT STAFF

Wendy Walsh, District Manager

Lisbeth Monell, Administrative Assistant

Miranda Palmer, Administrative Assistant

Mike Jura, Technician

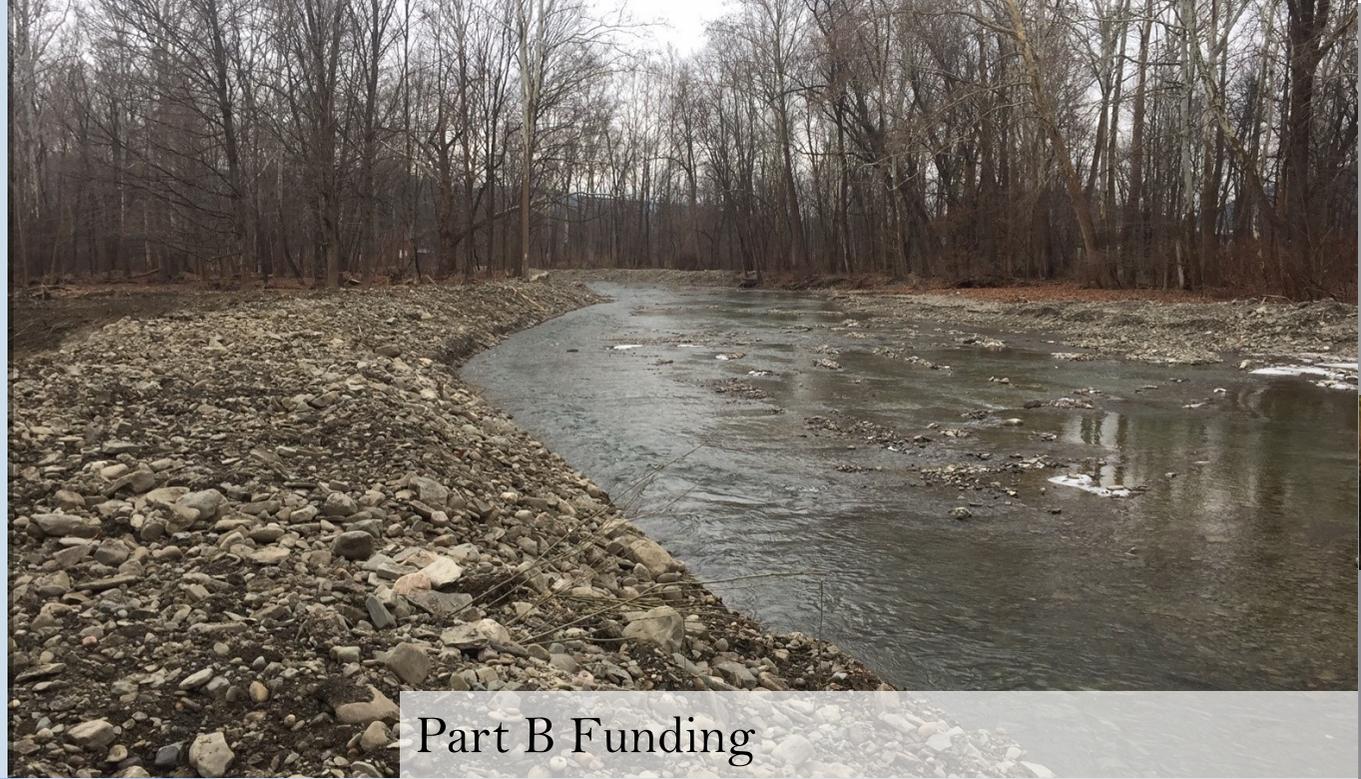
Alex Marks, Technician

Brian Reaser, AEM Specialist



SWCC Funding

Through the New York State Soil and Water Conservation Committee, Soil and Water Conservation Districts are eligible to receive additional funding to complete implementation projects that further our mission and goals. In 2018, Tioga SWCD requested and received \$6,000.00 to implement emergency stream intervention techniques. Additionally, Part C funding was made available to Districts who meet the required performance measures established by the state. This funding is awarded competitively, Tioga County Soil and Water Conservation District was awarded \$87,882.23, qualifying for the highest award amount because we met all established performance measures!



Part B Funding

In August of 2018, a flash flooding event caused waters to flow into the adjacent hamlet of Tioga Center, flooding approximately 12 homes. In addition to the flooding, the rushing waters caused severe erosion on two outside bends of the stream, significantly reducing the bank full capacity of the channel. A total of six-hundred feet of stream was addressed, the channel dimensions were re-established using the Emergency Stream Intervention method. On-site large woody debris were used to install root wads into the affected banks, with willow cuttings also planted in the backfill. An in-stream rock barb was also installed with large stones that were found on the site. The photo above shows the project after completion.

Part C Funding

In 2018 the District utilized Part C Funding for a variety of projects. Funds were utilized to cover staff time for both our Ag and Stream Programs. This year the county sustained two major flash flood events, one in August, and one in September. As a result of these events, our stream technician made 74 site visits to provide technical advice to residents throughout the county. The District also purchased a new 7-foot ESCH No Till Drill, a drone, upgraded engineering software, completed soil sampling on local farms, and assisted a local farm with a manure pump room repair.



AEM Program - Funding Conservation On Our Farms

Through our voluntary AEM program, the District focuses on providing sound environmental planning and implementation on our farms, while focusing on maintaining farm sustainability and protection of our natural resources. This year we assisted 73 farms with conservation planning, survey & design work, and implementation of grazing & livestock waste practices. Funding for AEM projects were completed utilizing a combination of sources including NRCS EQIP, NYS Ag Non-point Source funds, NYS Ag & Markets, and landowner match.



AEM Award - Recognizing Conservation Efforts Of Local Producers

Robinson Farm is the 12th farm in Tioga County to be presented with an AEM sign award. Both past and present AEM honorees have shown that they are exemplary stewards of our soil and water resources in the county, and the road-side AEM sign is a way to make both the public and farming community aware of their high level of commitment to protecting the environment, which benefits us all. Robinson Farm is owned and operated by Jim, Delos and Josh Robinson. The farm is located in Owego in the Little Nanticoke Creek watershed. They are farming 875 acres and milking 230 cows. The family has been farming at the location for 152 years. This year they were chosen for the award, as the Robinson's have made it a priority to implement practices that prevent soil erosion, keep nutrients on the farm, and maintain our valuable soil and water resources.



Pictured left: Jim Robinson of Robinson Farm and Brian Reaser (District AEM Specialist)



Agricultural Environmental Management

73

Farms assisted through the AEM Program

74

Site visits conducted as a result of flash flooding events in August & September utilizing Part C Funds

\$178,882

Available for planning and implementation through Part B, Part C, and AEM Funding

249

Farms enrolled in the District's AEM program

600

Feet of streambank stabilization completed with Part B funds

Education & Outreach Events

In 2018, the District made a conscious effort to reach out to our ag and rural landowners to help them understand the assistance that we can offer with natural resources in the county. Here is a glimpse of the events that the District participated in 2018.

- ◆ Sundaes at the Farm - The event was held at the Mead Dairy Farm in South Owego with the goal of educating the public about life on a dairy farm. There were over 700 attendees.
- ◆ Open House - This year the District held an open house in June where attendees could walk around and learn about programs that the District offers. We interacted with about 50 people.
- ◆ Tioga County Fair - In 2018 the District worked to educate the public on a different topic everyday. Activities included interactive point and non-point pollution table (Enviroscape), butter making, and a presentation on dairy animals by a local veterinarian. This year there were over 10,000 people that attended the Tioga County Fair.
- ◆ School Events - The District participated in career day at the Owego Free Academy to educate students about job opportunities in the conservation field. We also attended the Tioga Central Harvest Festival where we engaged with elementary students on the importance of soil health. During Ag Literacy Week in 2018 we read to a total of 5 second grade classes at Apalachin Elementary School, Owego Elementary school, and Nathan T Hall Elementary school. This year's book educated children on the process that agricultural products take on their journey from farm to table. Lastly, we participated at a farm days event at the Lawton Dairy farm where students from the Newark Valley High School Ag Program had an opportunity to learn about life on a dairy farm, and partners that farms often work with.
- ◆ Other Education Events - Attended Ward and VanScoy Farmer Appreciation Luncheon, iMap Invasive Species Workshop, Candor Daffodil Festival, and Cornell Cooperative Extension Grant Workshop for Farmers. We also gave presentations to local Lions Club, Rotary Club, and Kiwanis, on Districts programs and events.
- ◆ Envirothon - We hosted the Regional Envirothon where teams comprised of area high school students from Broome, Chemung, Schuyler, Tioga, and Tompkins Counties test their knowledge in five natural resource categories including soils/land use, aquatic ecology, forestry, wildlife, and current environmental issues. In 2018, there were 10 teams from 3 Tioga County school Districts that competed. One team from Candor Central School District, Candor Core, won the Regional competition where they competed against 36 other teams.



2018 Activity Snapshot

Ag

 156,107 acres of conservation planning reported to the Chesapeake Bay Program

 2,636 acres of cover crops funded

Wetland

 30 small wetlands constructed

 4,300 acres of wetland rehabilitation projects reported to the Chesapeake Bay Program

Buffer

 10,000 trees planted on permanently protected riparian area.

 479 acres of prescribed grazing applied

Stream

 7 Watersheds Assessed (2 in Tioga County!)

 4,150 stream sites inventoried and evaluated



Phase III WIP

The U.S. Environmental Protection Agency's (EPA) Chesapeake Bay Total Maximum Daily Load (TMDL) requires New York to reduce nutrient and sediment pollutant loads to the Chesapeake Bay (in New York, the Susquehanna and Chemung rivers flow south to the Chesapeake Bay). New York's efforts to meet its Chesapeake Bay restoration goals rely heavily on the work of the USC to implement best management practices (BMPs) to reduce pollutant loads and to collect data about BMPs that are implemented. As such, the USC along with other partners have been assisting NYSDEC with the drafting of NY's Phase III Watershed Implementation Plan. This plan focuses on strategies for all sectors to implement practices that will assist us in meeting our pollutant loads. While the focus is on agriculture, the USC is working with NYSDEC to make sure that all of the work we do within the watershed counts. Over the coming months, the USC plans to collaborate with NY Farm Bureau and NYSDEC and hold farmer outreach meetings where we will review what is in the plan and receive feedback from the agricultural community on what needs to be done.

The Upper Susquehanna Coalition (USC) is a network of 21 Conservation Districts in NY and PA. The mission of the USC is to protect and improve water quality and natural resources in the Upper Susquehanna River Basin with the involvement of citizens and agencies through education, partnerships, planning, implementation and advocating for our water resources. The USC is led by the Tioga County SWCD through a signed Memorandum of Understanding with all members. The USC utilizes a multiple barrier approach on a watershed basis and focuses on 3 key areas—Agriculture, Streams, and Wetlands.

WIP Timeline

January 2019
Complete draft WIP III
by the end of the month

February/
March 2019
DEC internal review
(at least 6 weeks)

April 12, 2019
Draft WIP III posted
online for public review

August 9, 2019
Final draft posted online

Upper Susquehanna Coalition

Stream Program

In 2018, the District assisted several landowners and municipalities with technical advice as well as stream stabilization and rehabilitation projects. Funding came from a variety of sources including: municipal highway funds (flash flood recovery), landowner match, WQIP grant, NFWF funding, and Part B & C funding. Design and construction oversight was provided and permits were secured by the District, reducing the burden on landowners and municipalities. A total of 12 projects were completed; 2,720 feet of streambank was stabilized with an estimated total cost of \$75,000.00.

Long Creek Streambank Rehabilitation

This project was located .8 miles up Long Creek Road from the intersection of Pennsylvania Ave in the Town of Owego. The District partnered with the Upper Susquehanna Coalition to complete this project. At the property location there was a severely eroded bank that was threatening an adjacent home and had migrated within 50 feet of Long Creek Road. The District installed 220 feet of rip rap to prevent the bank from further migration and installed two rock in stream barbs. In the photo to above you can see the eroded bank and the photo to the right shows the completed project with gravel chinked over the rip rap placement.

2018 Flash Flooding in Tioga County

A series of severe rain events affected several communities in Tioga County over the course of 2018. Beginning in late July, and through September isolated events caused damages in different areas of the county. Damages ranged from overbank flood flows and waters affecting roadways, and residences to severe erosion and debris pile ups in and around large and small streams. Some of the hardest hit areas were in the Apalachin Creek Watershed, the Owego and Catatonk Creek Watersheds and an area in the Town of Barton. District staff assisted both municipal agencies and private landowners in recovery efforts through technical advice/assistance and permitting assistance. We also worked with local highway departments and contractors to assist with the repair of damages and reduce risk of future damages. In addition, the flash floods occurring between August 12-14 were declared a state and federal disaster which allowed municipalities to apply for disaster assistance funding. The District is an applicant for this funding and has been working with State Emergency Management Office and FEMA to inventory damages and move forward in the process.



Prospect Valley Flash Flood Recovery Work

This project was located .2 miles south on Prospect Valley Road from the intersection with Vanderpool Road on Prospect Valley Creek in the Town of Candor. The District partnered with the Town of Candor Highway Department by providing technical advice and permit assistance. A flash flooding event caused waters to overtop the road in this location, causing damage to previous rip rap work that was done to the bend just upstream of the bridge and at the bridge abutment location. The town Highway department re-aligned the stream channel to coincide with the bridge opening and installed 300 ft. of rip rap on the eroded bank to prevent further migration of the channel in this location. The photo to the left was taken facing downstream to town road bridge, the channel was re-aligned back into position and riprap was installed to prevent further migration.

Watershed Assessments and Flood Mitigation Planning

NFWF I4 Grant

The I4 project that was funded by the National Fish and Wildlife Foundation was completed in 2018. Two watersheds in the county were assessed. The District developed a background report that included an exhaustive literature search of physical and social aspects of the watershed, conducted a physical assessment of the blue line streams in the watershed, identified potential projects and coordinated with watershed communities on restoration, management, and educational projects. Through this project the District was able to complete a streambank rehabilitation project on Long Creek, information on this project can be found on page 8.

NY Rising Community Reconstruction

The District secured funding through the U.S Department of Housing and Urban Development (HUD) Community Development Block Grant-Disaster Recover (CDBG-DR) funding, to identify sustainable flood mitigation measures for three priority watersheds within the county. Watersheds that were assessed in 2018 include Apalachin Creek, Huntington Creek, and Wappasening Creek. Through the assessments, reports for each watershed will be compiled to summarize current conditions in the watersheds, describe flood-related vulnerabilities, and identify opportunities for both infrastructure and natural systems options for mitigating flood impacts and increasing community resilience while maintaining or improving aquatic habitat.



109

Technical Assistance/
Site Visits

4

DEC Stream Disturbance Permits

16

DEC Emergency Authorization General Permits

11

Army Corps of Engineers Nationwide Permits

40

Army Corps of Engineers Emergency Permits

Stream Program Highlights

Conservation Programs

Natural resources include air, water, soil, minerals, plants, and animals, and through a variety of programs the District is committed to assisting in the implementation of conservation practices to care for these resources so that we may ensure their sustainability now and in the future. The District continues to provide a variety of conservation programs including the tree & shrub seedling sale, conservation tillage and no-till drill rental program, hydroseeding, riparian buffer planting, and nutrient management planning. Through these programs the District is able to conserve and develop the county's natural resources to reduce soil erosion, improve water quality and help landowner's better care for their natural landscapes.



The Benefits of Conservation Tillage and Cover Cropping

No-till farming is a way of growing crops or pasture from year to year without disturbing the soil through tillage. It is an agricultural technique which increases the amount of water that infiltrates into the soil and increases organic matter retention and cycling of nutrients in the soil. In many agricultural regions it can reduce or eliminate soil erosion, and increase the abundance and diversity of soil organisms. In 2018, there were 427 acres of cover crops planted and 168 acres of conservation tillage.

Hydroseeding

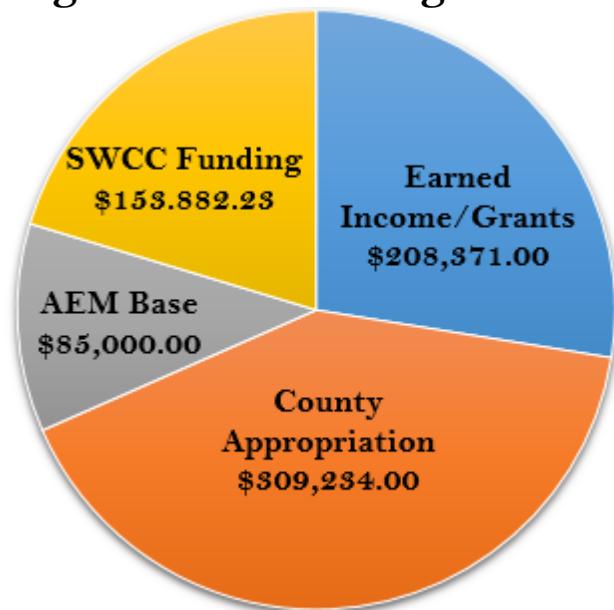
Hydroseeding offers a degree of built in erosion control, making it ideal for municipalities to utilize along freshly exposed road banks and ditches. Homeowners also find hydroseeding a better alternative to seeding and mulching on exposed ground. This is because it is applied at an even rate with a great mulch and fertilizer mix, which then allows it to grow into a beautiful healthy lawn. In 2018 the District hydroseeded 3.75 acres of ditches for municipalities and 1.625 acres of bare ground for private landowners.



Riparian Buffer Planting

Saying that Tioga County experienced a lot of rain this year would be an understatement. On average Tioga County experiences around 39 inches of rainfall per year, this year county residents saw anywhere from 10-20 inches above this average. One way to alleviate the effects of excess precipitation is to implement a riparian buffer. A riparian buffer is the vegetated land along streams and waterways. Riparian areas have many benefits including soil stabilization, land and aquatic habitat value, and filtering of nutrients! This year the District planted 18.3 acres of forested buffers with an estimated cost of \$59,772.00 These buffers were funded through a combination of CREP, USC Buffer Program, and the NYS DEC Trees for Tributaries program.

Tioga SWCD Funding Sources



2018 Funding Sources

- ◆ The Districts total 2018 operating expenses were \$653,331.83
- ◆ SWCC and Earned Income/Grant Funding amounts include funds utilized for project implementation in 2018.

2019 New Grant Awards

Ag Non Point Source—Round 24

This grant will provide \$61,370 in state funding with a required landowner match of \$14,161.50. This project will exclude livestock from all riparian and wetland areas on a farmstead, which are the headwaters to several tributaries to Pipe Creek, provide alternative watering methods for livestock, and implement 135 acres of prescribed grazing.

DEC WQIP Round 15

This grant will provide \$145,926.28 in state funding with a required landowner match of \$48,642.10. This project involves stream restoration work along Owego Creek. The project will install 375 feet of heavy rip rap up to the 100 year flood elevation to prevent further erosion, install tree root balls, and the planting of live willow stakes. This project will protect two homes, and improve water quality along with habitat.

NFWF Regional Delivery

This funding was secured through a competitive application process via the Upper Susquehanna Coalition. In 2018 the District was awarded \$175,466.73 in federal funds, with a required match of \$36,749.66 in landowner funds, to complete a total of 5 projects on farms located throughout the county. This funding will implement 6.5 acres of forested buffer, 1.6 acres of grass buffer, 1,418 feet of stream corridor, rehabilitation, and 174.9 acres of rotational grazing.

Looking ahead to 2019



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Tioga SWCD Staff