NEW YORK
STATE OF
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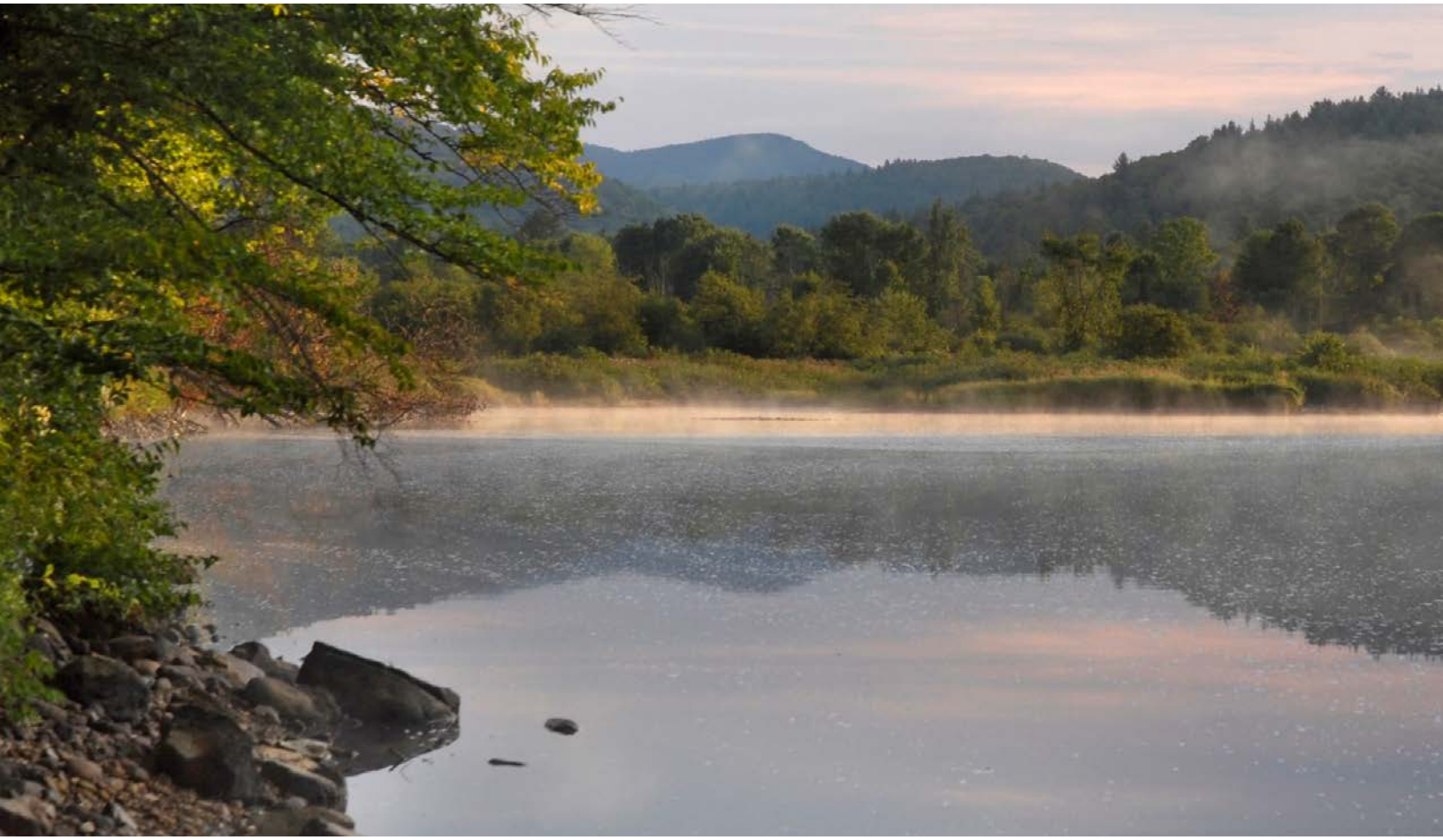
Department of
Environmental
Conservation

NONPOINT SOURCE POLLUTION MANAGEMENT PROGRAM

Annual Report for April 1, 2020 to March 31, 2021



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Nonpoint Source Pollution Program Mission

The goals of New York's Nonpoint Source Program are to control pollution from nonpoint sources to the waters of the state and to protect, maintain and restore waters of the state that are vulnerable to, or are impaired by nonpoint source pollution.

About the Nonpoint Source Pollution Program

New York's NPS Program is established under the leadership of the New York State Department of Environmental Conservation (NYSDEC), as NYSDEC is the state lead agency for the Federal Clean Water Act Section 319 Program and many other closely related programs. Significant state agency partnerships and program roles are shared with:

- New York State Department of Agriculture and Markets (NYSAGM)
- New York State Soil and Water Conservation Committee (NYSSWCC)
- New York State Department of State (NYSDOS)
- New York State Department of Health (NYSDOH)
- New York State Environmental Facilities Corporation (NYSEFC)
- New York State Department of Transportation (NYSDOT)

These state agency partnerships are complemented by regional and local partnerships, with special emphasis on county Soil and Water Conservation Districts (SWCD), county health agencies, county and regional planning agencies, and watershed coalitions. Key federal agency partnerships include the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Agriculture (USDA). New York's NPS program places highest priority on the management of sources of nutrients in the landscape, with significant priorities also assigned to management of pathogen and sediment sources. The program was updated in 2020 in accordance with EPA's nonpoint source program guidance.

Objectives of the Nonpoint Source Pollution Program

Objective 1: Develop watershed management plans, and other comprehensive and strategic plans to improve the management of nonpoint pollution sources on a watershed basis

Objective 2: Implement watershed projects to reduce nonpoint source pollution of waters of the state

Objective 3: Assess the quality of waters of the state related to nonpoint source pollution

Objective 4: Protect and maintain unimpaired waters of the state from additional nonpoint source pollution, and restore or prevent further degradation of waters of the state impaired by nonpoint source pollution

Objective 5: Integrate management of nonpoint pollution sources into applicable state and local agency programs (including both regulatory and non-regulatory programs), and provide overall policy coordination among state, local and federal agencies

Objective 6: Develop and maintain the capacity of state, regional and local agencies and organizations to provide nonpoint source management assistance to communities and landowners through assessment, planning, technical support and education

Major Accomplishments

During the annual reporting year (April 1, 2020 to March 31, 2021), NYSDEC and its partners initiated and completed a variety of nonpoint source projects and reduced the amount of NPS pollutants entering New York lakes, streams, and rivers through implementation of state programs. Projects initiated during the reporting period resulted in a reduction of 11,541 pounds of nitrogen, 1,683 pounds of phosphorus, and 549 tons of sediment per year. $29.3 million of state funding was dedicated, within the reporting period, to projects that implement best management practices (BMPs) to reduce nonpoint source pollution. This report describes New York's reporting measures and accomplishments for each of the nonpoint source program's six objectives.

Objective 1: Develop watershed management plans, and other comprehensive and strategic plans to improve the management of nonpoint pollution sources on a watershed basis

Watershed management planning is conducted directly by, or through the support and guidance of, several NPS Program partner agencies, including NYSDOS and the NYSSWCC. Partnerships for watershed planning have also been established through the state's major basin and estuary programs (e.g. Chesapeake Bay Program, Hudson River Estuary Program, NYC Watershed Program, Mohawk River Basin Program, Lake Champlain Basin Program). The Chesapeake Bay Watershed Program has completed several watershed implementation plans (WIP) to meet the goals and objectives of the Chesapeake Bay Total maximum daily load (TMDL). Several watershed plans were also completed through the NYSDOS, including the Harlem River Watershed and Natural Resources Management Plan for the Bronx; the St. Lawrence River Watershed Management Plan; and the Upper Hudson Watershed Revitalization Plan. Plans currently under development include: Owasco Lake Watershed, Seneca Lake Watershed, Skaneateles Lake Watershed, Oneida Lake Watershed, Canandaigua Lake Watershed, Regional Niagara/Lake Erie Watershed, and Wappinger Creek Watershed.

At the local level, watershed planning is conducted by regional and county planning agencies, watershed coalitions (Appendix A), and Soil and Water Conservation Districts (SWCDs). County Water Quality Coordinating Committees (CWQCC) develop and update County Water Quality Strategies that address NPS issues at the local level. Watershed plans are also developed through partnerships with regional basin planning commissions and other states for New York's significant interstate and international waters. Development of watershed management plans by local governments has also been supported through the New York Coastal Nonpoint Pollution Control Program and funded through the Local Waterfront Revitalization Program (LWRP). Approximately 28,730 square miles of watershed area in New York State are now covered by watershed plans completed by watershed coalitions or other planning entities.

Objective 1: Reporting Measure Accomplishments

Reporting Measure	Accomplishment
Watershed area (cumulative statewide) covered by watershed plans which are consistent with the Section 319 NPS Program and Grant Guidelines	Nine Element plans are in development for the following watersheds: • Canandaigua Lake, • Skaneateles Lake, • Seneca/Keuka Lakes, • Oneida Lake, • Owasco Lake, • Wappinger's Creek, • Nassau County, • Hutchinson River,

	• Lake Erie/Niagara River watersheds.
Watershed area (cumulative statewide) covered by watershed plans completed by watershed coalitions and other planning entities	During the reporting period, a Nine Element Plan was completed for Suffolk County. The area covered by watershed plans is now 912 square miles.
Number of updated County Water Quality Strategies	No County Water Quality Strategies were updated in this period.
Number of Agricultural Environmental Management (AEM) Strategic Plans updated or revised through the AEM Framework	52 Soil and Water Conservation Districts participated in Round 16 of the AEM Base Program. All 52 Districts updated their local, five-year AEM Strategic Plans. Based on their AEM Strategies, Districts develop two-year AEM Action Plans to prioritize and deliver technical assistance with farmers progressing through the AEM Tiers; outreach, education, and partnership activities; and AEM Tier 4 BMP implementation projects.
Watershed area (cumulative statewide) addressed by TMDLs or other specific NPS pollutant load reduction goals	No TMDLs were completed during the reporting period. The area covered by watershed plans remains at 6,335 square miles.

Objective 1 Highlight: Suffolk County Nine Element Plan

The Suffolk County Nine Element Plan is the product of years of intensive research, documentation, modeling, and evaluation of all of Suffolk County's water resources and provides a parcel-specific roadmap on how to address the nitrogen crisis through wastewater upgrades and other nitrogen pollution mitigation strategies. The plan seeks to arrest and reverse the existing trend of degrading water quality over a 10-year period. NYS DEC, through its Long Island Nitrogen Action Plan (LINAP) program, provided assistance to Suffolk County for this endeavor.

The estimated population of Suffolk County was approximately 1.5 million (with 568,943 housing units), larger than the population of 11 states. The groundwater and surface water resources in the County are extremely valuable to residents, businesses, and visitors. The US EPA designated sole source aquifer provides a source of fresh water to meet the County's potable drinking water, irrigation, and grey water needs. Surface water resources provide recreational opportunities such as swimming and boating, a flourishing tourist industry, a once great fishing and shell fishing industry, and coastal protection from storm surges. While all sources of water pollution are concerning, nitrogen pollution from septic systems has clearly emerged as the most widespread and least well addressed of the region's growing list of water pollutants.

The Nine Element Plan provides a roadmap of wastewater management recommendations through suggested wastewater upgrades to every parcel in Suffolk County. Wastewater management options and recommendations explored include connection of parcels to community sewers by expanding existing sewer districts or creating new sewer districts where possible, upgrading cesspools or conventional onsite sewage disposal systems to innovative and alternative onsite wastewater systems (I/A OWTS) that treat nitrogen, and requiring I/A OWTS on all new construction countywide.

Objective 2: Implement watershed projects to reduce nonpoint source pollution of waters of the state.

New York continued to implement watershed projects to support NPS Program objectives using state funds. The primary programs used to implement nonpoint source projects include:

- Agricultural Nonpoint Source Control and Abatement (AgNPS) Program, providing support to producers for implementation of agricultural NPS watershed projects; and

- Water Quality Improvement Program (WQIP), providing support to municipalities and SWCDs for implementation of non-agricultural NPS watershed projects.

Both programs are fully supported through New York's Environmental Protection Fund. BMPs initiated through both programs can be found in Appendix B. Other programs used to implement nonpoint source projects include but are not limited to: Local Waterfront Revitalization Program (LWRP), Finger Lakes-Lake Ontario Watershed Protection Alliance (FLLOWPA) Grants, Lake Erie Watershed Protection Alliance (LEWPA), Hudson River Estuary Program Grants, Mohawk River Watershed Grants and New York City Department of Environmental Protection Green Infrastructure Grant Program.

New York leverages state dollars to receive grant funding from federal agencies to implement multiple programs, including but not limited to the following programs:

- Clean Water State Revolving Fund (CWSRF), providing low-cost financing to communities to implement water quality infrastructure projects with funding from EPA;
- Green Innovation Grant Program (GIGP), providing support for implementation of NPS watershed projects with funding from EPA;
- Regional Conservation Partnership Program (RCPP), a partnership between USDA Natural Resource Conservation Program (NRCS) and other agencies to help producers install and maintain conservation activities through existing NRCS conservation programs; and
- Chesapeake Bay Implementation Grant (CBIG), a grant provided by EPA to states located in the Chesapeake Bay watershed for restoration activities that will reduce nutrient pollution.

A full list of funding programs and program descriptions can be found in Appendix C.

Objective 2: Reporting Measure Accomplishments

Reporting Measure	Accomplishment
Number of cost-shared watershed projects initiated	54 projects
Number of specific cost shared BMPs initiated	40 BMP types (See Appendix B for list of initiated practices)
Estimated load reductions for initiated projects through AgNPS and non-AgNPS	Nitrogen: 11,541 pounds Phosphorus: 1,683 pounds Sediment: 549 tons
Funding provided to support cost-shared watershed projects (through AgNPS and WQIP programs)	$29,313,621 in State Fiscal Year 2020
Number cost-shared watershed projects completed	74 projects were completed during the reporting period (see Appendix D for list of completed projects).
Number of specific cost shared BMPs completed	256 BMPs

Objective 2 Highlight: Owasco/Cayuga Cover Crop BPM implementation Project

This project was focused in the Owasco/Cayuga Lake Watersheds. These watersheds are located in the Finger Lakes region and are considered high priority watersheds. Both Owasco Lake and Cayuga Lake are used as a sources of public drinking water for communities in central New York. Within each watershed nutrient and sediment runoff from agriculture has been documented as a cause of pollution. Through this project, winter and fall cover crops were installed to reduce an estimated soil loss of approximately 20 tons of soil per acre per year.

Through this project, over 950 acres of cover crops were planted. Four farms utilized cost share assistance provided by the Agricultural Non-Point Source Pollution Abatement and Control Program to plant cover crops on corn silage stubble, soybean and wheat ground that was designated as Highly Erodible Land (HEL). Cover crops were also planted on areas of land where surface runoff was causing soil and nutrient particles to be removed from the soil structure. The participating farms planted a variety of different cover crops. Winter Rye, Winter Wheat, Oats, Red Clover, Triticale, Soybeans, and Tillage Radish were planted to achieve the maximum soil health benefits.

Applying cover crops to fields has many benefits to soil, plant, and water health. These include, conserving soil moisture, adding organic matter, trapping nutrients, reducing weed competition, and improving soil tilth. A cover crop can significantly reduce soil erosion. Additionally, by implementing cover crops producers reduce soil erosion, improve soil quality, decrease nutrient leaching (nitrogen), suppress weeds, and attract beneficial organisms. Implementing core conservation practices, such as cover crops, can improve their farm's productivity along with soil and water quality.

This project has helped to demonstrate the environmental and production benefits soil health practices like cover crops. The success of this project has helped to encourage other producers within the region to adopt cover cropping and reduced tillage practices to further reduce soil loss, improve water quality and promote the development of healthy soils.

Objective 3: Assess the quality of waters of the state related to nonpoint source pollution

New York evaluates water quality issues related to nonpoint sources within the context of its Statewide Waters Monitoring and Assessment Program (SWMP). The components of this monitoring program include:

- Rotating Integrated Basin Studies (RIBS) program for rivers and streams;
- Lake Classification and Inventory (LCI) program for lakes and ponds;
- Stream Biomonitoring Program and Toxicity Testing Program;
- Citizens Statewide Lake Assessment Program (CSLAP), a volunteer-based lake assessment program;
- Water Assessments by Volunteer Evaluators (WAVE), a volunteer-based stream assessment program; and
- Monitoring activities by other DEC Programs and other state and local agencies.

Monitoring program descriptions can be found in Appendix C. The SWMP includes three types of monitoring activities:

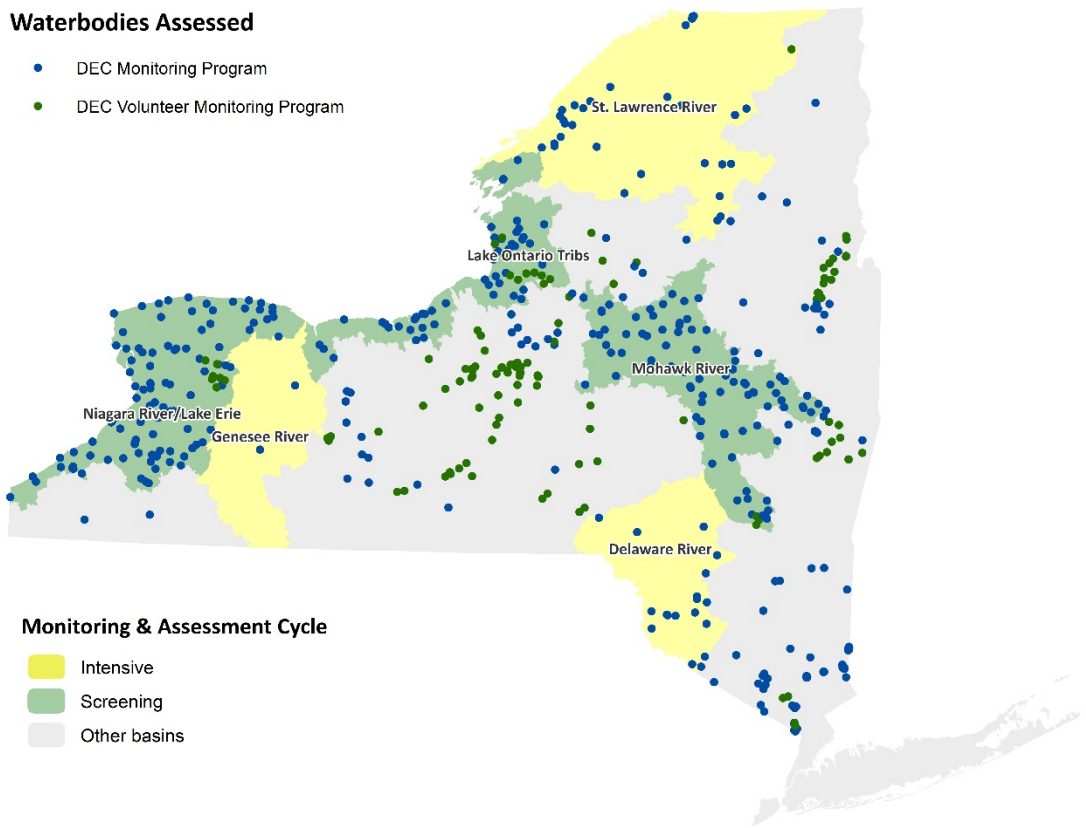
1. Water quality screening is conducted to provide a qualitative assessment of water quality at a large number of sampling sites (e.g., on-site biological sampling and visual lake surveys).
2. Intensive basin monitoring employs more frequent, comprehensive, and integrated multi-media sampling to provide more detailed water quality information for a smaller number of waterbodies in selected drainage basins.
3. Routine trend monitoring provides continuous (annual) sampling at fixed sites across the state to monitor basic water quality characteristics, establish baseline conditions and evaluate long-term trends.

All monitoring activities, from the multiple programs, are linked with the Waterbody Inventory/Priorities Waterbodies List (WI/PWL). The WI/PWL is a compilation of water quality information for all individual waterbodies (lakes, rivers, streams, estuaries, and coastlines) in the state. The WI/PWL includes waterbody factsheets that outline the most recent assessment of the waterbody. The WI/PWL serves as a basis for setting NPS management priorities to guide the selection of BMP implementation projects for state financial assistance.

Objective 3: Reporting Measure Accomplishments

Reporting Measure	Accomplishment
Percent of waterbodies assessed (cumulative statewide)	55%

Major drainage basins are monitored on a five-year rotating schedule. Screening basin monitoring was conducted in the Mohawk River, Lake Ontario tributaries and Niagara River/Lake Erie basins during the reporting period. Intensive basin monitoring was conducted in the St. Lawrence River, Genesee River and Delaware River basins. During the reporting year, 579 locations on 408 waterbodies were monitored through DEC programs (points shown on map below).



Objective 3 Highlight: Harmful Algal Blooms (HABs) Mitigation Studies

DEC began mitigation pilot projects on waterbodies representative of a range of water quality conditions commonly associated with Harmful Algal Blooms (HABs) in NYS in 2018. Treatment strategies were selected based on literature supporting effectiveness at mitigating HABs, history of application in NYS, and/or potential for cost-effective deployment on a larger scale. Results from previous and ongoing pilot studies are currently being analyzed and will be shared as they become available. DEC continues to identify potential HAB mitigation technologies for research projects across NYS.

In July 2020, DEC announced a collaborative project to study the HAB mitigation technologies on Lake Neatahwanta, Oswego County, NY, a small lake with a history of lake-wide HABs. Two pilot treatment systems were designed to collect algae-laden water near the surface, clarify and clean the water then return the water back to the lake. The study will include rigorous water quality monitoring within each treatment system and in study plots in the lake before, during, and after treatments to determine the effectiveness of the technologies.

On August 12, 2020 DEC presented a public webinar about the project, The presentation included a summary of Lake Neatahwanta water quality, a description of the two technologies, and an overview of the study's design.

View a recording of the presentation of the NYS Center of Excellence Challenge Project Public Meeting Webinar.

Objective 4: Protect and maintain unimpaired waters of the state from additional nonpoint source pollution, and restore or prevent further degradation of waters of the state impaired by nonpoint source pollution

The fundamental priority of New York's NPS Program is to protect and restore all waters of the state, including both surface and ground waters, for beneficial uses. Impaired waters, as identified on the WI/PWL and the federal Section 303(d) list of impaired waters, may be "fully restored" and/or "partially restored" by the strategic implementation of watershed projects selected by priority ranking procedures established in state funding program protocols, and other actions, leading to their removal from the 303(d) list.

"Partially restored" includes either of the following:

- A water that is impaired for more than one use, but is restored for one or more (but not all) of those uses, and
- A water that has a use that is impaired by more than one pollutant but meets the criteria for one or more (but not all) of those pollutants.

"Fully restored" means that all uses for the waterbody are now being met.

The Section 303(d) list is updated every two years. The review and update of the WI/PWL assessment information is a continuous process. Waterbody assessment fact sheets are updated as sampling results and/or other water quality information becomes available. Updates typically align with the DEC's five-year rotating basin schedule; however, fact sheets may be revised more frequently if needed.

New York's Final 2018 Section 303(d) List of Impaired/TMDL Waters remains the latest final and approved 303(d) list.

Objective 4: Reporting Measure Accomplishments

Reporting Measure	Accomplishment
Percent of waters identified as having a significant nonpoint source contribution to an impairment, based on the NYS Waterbody Inventory/Priority Waterbodies List (WI/PWL)	44%
Number of newly identified as "impaired" waters and added to the final Section 303(d) list of impaired waters due to nonpoint sources	The 2018 NYS Section 303(d) list identified 12 additional waterbody segments as "impaired" due to various nonpoint sources.
Percent of waters assessed as having "No Known Impact" (fully supporting), and thus needing protection	43%

Objective 5: Integrate management of nonpoint pollution sources into applicable state and local agency programs (including both regulatory and non-regulatory programs), and provide overall policy coordination among state, local and federal agencies

New York's NPS Program includes statewide and targeted voluntary and regulatory management approaches. Coordination between NPS partner agencies and other relevant environmental quality programs is facilitated through the NPS Program participation in other relevant advisory and technical committees (such as the Lake Champlain Basin Program Technical Advisory Committee, the State Soil and Water Conservation Committee, and the NRCS State Technical Committee).

NPS Program staff and NPS Committee representatives also routinely communicated and consulted on a variety of interagency NPS issues:

- Routine coordination meetings with DOH were conducted to review water supply protection and water quality management concerns.
- Watershed planning coordination meetings were conducted with DOS, which funds watershed planning by localities.
- Coordination meetings with the EFC were conducted to review CWSRF and GIGP issues
- NPS Program staff routinely participated in the Technical Advisory Committee (TAC) of the State Soil and Water Conservation Committee to review AEM Framework issues and implementation of the AgNPS Program.
- NPS partner agencies participated in regular meetings of other advisory and technical committees closely related to NPS management, notably the NYSSWCC State Committee and the NRCS State Technical Committee.
- NPS Program staff and other NPS partner agency staff participated in numerous interstate and federal meetings and conference calls which address national or regional coordination for NPS issues, notably the Coastal States Organization Coastal NPS Workgroup, the New England Interstate Water Pollution Control Commission (NEIWPCC) Nonpoint Source Management Workgroup; the Association of Clean Water Administrators (ACWA) Section 319 Workgroup; the ACWA Watersheds Committee; and the ACWA TMDL Committee.

These state and federal level coordination activities were complemented by the participation of NPS Program staff and NPS partner agency staff in local coordination meetings of County Water Quality Coordinating Committees and meetings of watershed coalitions and local watershed planning and management committees.

Objective 5 Highlight: Draft Mohawk River Basin Action Agenda

In response to recommendations contained in the 2009 *Our Waters, Our Communities, Our Future* report by the New York Ocean and Great Lakes Ecosystem Council, DEC's Mohawk River Basin program was formed, tasked with implementation of the *Mohawk River Basin Action Agenda*. Designed to mirror and compliment the successful Hudson River Estuary Program, the Mohawk River Basin Program fostered partnerships regionwide to manage and protect the natural resources of the river and its watershed for a sustainable future. The Mohawk River Basin Program is funded annually through the Environmental Protection Fund. These funds are provided to facilitate implementation of the *Mohawk River Basin Action Agenda*.

During the reporting period, the draft 2021 Mohawk River Basin Action Agenda was released for public comment. The draft Mohawk Action Agenda is divided between the following goals:

Goal 1 – Water Quality: Improve water quality to reduce risks to human health, safeguard water supplies, provide safe recreational opportunities, and protect aquatic habitats.

Goal 2 - Fisheries and Habitats: Enhance aquatic and riparian habitats, increase populations of desirable fishes, mitigate the spread of invasive species, and support recreational angling opportunities within the Mohawk River watershed.

Goal 3 – Flooding and Resiliency: Support community planning and the sustainable use of working landscapes to enhance the resiliency of Mohawk River communities and their ability to recover from extreme weather events and disturbances.

Goal 4 – Recreation and Stewardship: Improve and increase recreation and stewardship of the Mohawk River watershed by creating and fostering partnerships and stakeholder engagement through education, outreach, and collaboration

The Mohawk River Basin Program Steering Committee oversees the development of the Mohawk River Basin Action Agenda and brings together appropriate partners in the watershed to implement the targeted actions of the Action Agenda to fulfill the mission of the Mohawk River Basin Program. The Steering Committee is comprised of federal, state, and local partners.

Objective 6: Develop and maintain the capacity of state, regional and local agencies, and organizations to provide nonpoint source management assistance to communities and landowners through assessment, planning, technical support, and education

A key emphasis of the NPS Program has been to support local agency outreach to municipalities and landowners. Local partners providing outreach include County Water Quality Coordinating Committees, Soil and Water Conservation Districts (SWCDs), watershed coalitions, and planning and health agencies. Contributions from Cornell Cooperative Extension, Cornell Pro-Dairy, public water suppliers, and citizen groups complement this network to provide nonpoint source-related technical assistance and guidance to municipalities and landowners.

Trainings and technical guidance documents created to support local agencies' outreach efforts included:

- The NYS Annual Water Quality Symposium, conducted through a partnership with the New York State Conservation District Employees Association, provides an important forum for delivering nonpoint source technical guidance to local agencies. Nonpoint source management topics addressed during the 2021 Symposium included: soil health, forest management, integrated pest management planning, and nutrient management,
- Dairy Advancement Program, coordinated through Cornell University Pro-Dairy and Cornell University Cooperative Extension, provides education and planning services to dairy farmers to create more economically viable and environmentally sustainable operations.
- Conservation Skills Workshops, held in 2021, conducted through a partnership with New York State Conservation District Employees Association, USDA NRCS, and NYSSWCC, provide class and field trainings annually on various agricultural nonpoint source topics. Topics covered in 2021 workshops included: surveying, AEM Tier 3A farmstead and cropland planning, water management BMPs, and silvopasturing,
- Post-Flood Emergency Stream Intervention Trainings were given by DEC staff, in cooperation with Soil and Water Conservation Districts. Trainings are geared toward municipal employees, local contractors, district staff, environmental organizations, and county legislators.
- NPS staff work to provide the most current technical guidance through practice design manuals and fact sheets that are available for free on various state agency websites.

Objective 6 Highlight: DEC Endorsed Four-Hour Erosion and Sediment Control (E&SC) Training

Soil and Water Conservation District staff administered 68 4-Hour Erosion and Sediment Control Trainings across New York State during the reporting period. The 4-Hour Erosion & Sediment Control Training is a

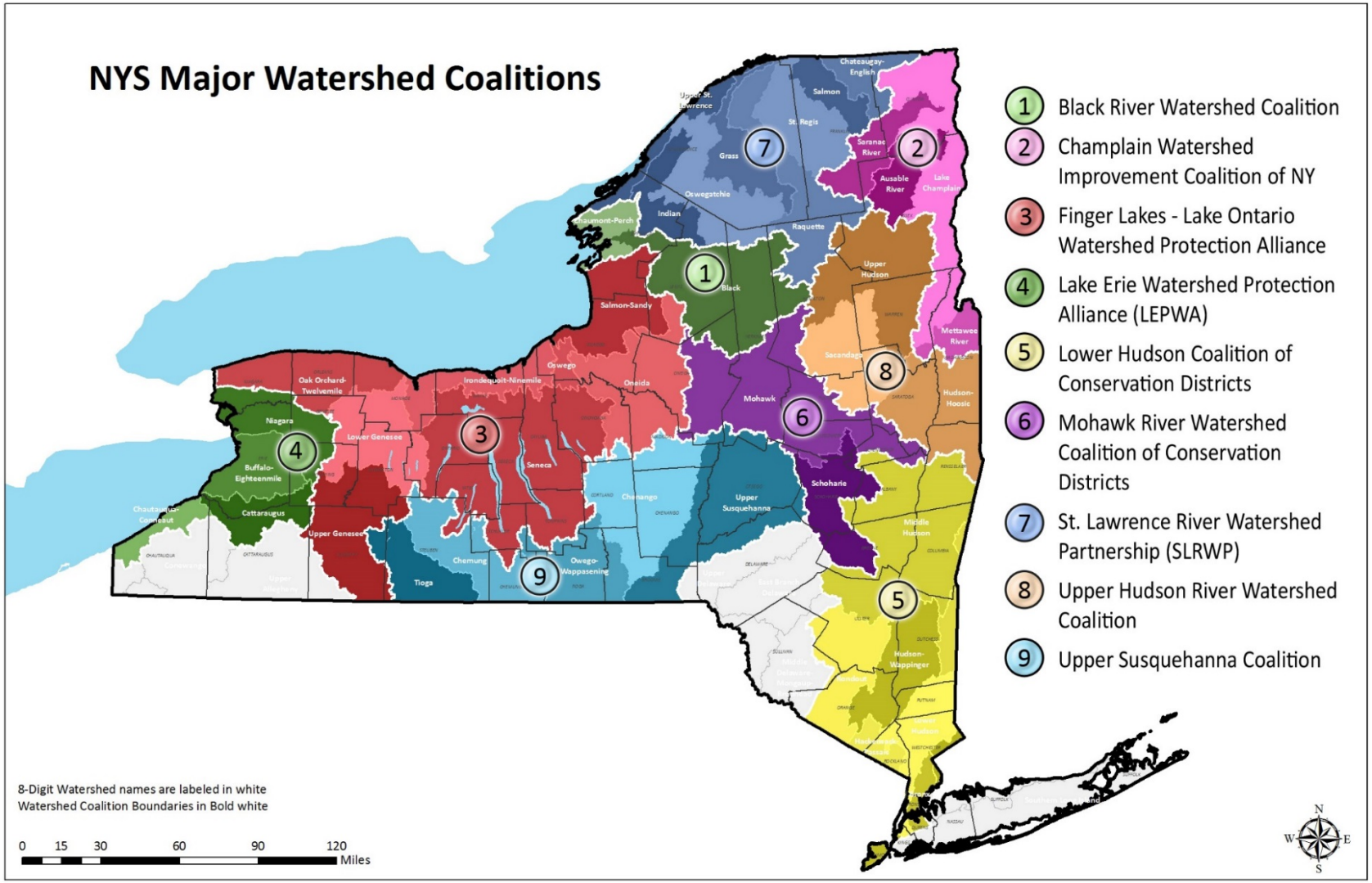
required course for qualified individuals which will be involved with the implementation of the Stormwater Pollution Prevention Plans on construction sites which have coverage under a NYSDEC State Pollution Discharge Elimination System (SPDES) permit for Stormwater Discharges from construction activity.

Under the SPDES General Permit for Stormwater Discharges from Construction Activity, certain contractors (Trained Contractor) and certain Qualified Inspectors are required to complete 4 hours of Department endorsed training in the principles and practices of erosion and sediment control (E&SC) every 3 years. The trainings cover topics such as: Site Planning/Management, Erosion Prediction, Runoff Management, Soil Stabilization, Erosion & Sediment Control and Site Inspection and Maintenance and aim to:

- Heighten proficiency in erosion and sediment control field
- Perform Qualified Inspector construction site duties
- Enhance technical and professional credibility
- Encourage greater commitment to protecting New York's natural resources

More information on the trainings and upcoming courses can be found on the NYS DEC website.

Appendix A: Watershed Coalition Map



Appendix B: Initiated Cost Shared BMPs

BMP Type	Units to be Installed	
Access Road	775	acres
Agrochemical Mixing Facility	5	units
Animal Trails and Walkways	4	acres
Brush Management	26	acres
Conservation Cover	1	acre
Conservation Crop Rotation	140	units
Controlled Drainage	82	acres
Cover Crop	4,270	acres
Critical Area Planting	27	acres
Diversion	1	acre
Fence	61	acres
Filter Strip	1	unit
Forage and Biomass Planting	23	acres
Grassed Waterway	8,885	acres
Heavy Use Area Protection	127,781	acres
Irrigation Water Management	2	acres
Livestock Pipeline	41	acres
Mulching	5	acres
Nutrient Management	82	acres
Pond	1	unit
Pond Sealing or Lining - Soil dispersant	8	acres
Prescribed Grazing	321	acres
Pumping Plant	34	units
Residue & Tillage Management	1	acre
Riparian Forest Buffer	57	acres
Riparian Herbaceous Cover	62	acres
Roof Runoff Management	45	units
Sediment Control Basin	23	acres
Spring Development	5	units
Stream Crossing	13	units
Structure for Water Control	1	unit
Subsurface Drain	9	units
Tree/Shrub Establishment	26	acres
Underground Outlet	26	units
Vegetative Barrier	6	acres
Waste Facility Cover	1	acre
Waste Management System	57	units
Waste Storage Facility	41	units

BMP Type	Units to be Installed	
Waste Utilization	5	units
Watering Facility	73	units

Appendix C: Nonpoint Source Funding Program Descriptions

STATE AND LOCAL FUNDING SOURCES

New York State Agricultural Environmental Management (AEM) Program

Eligible applicants:	Soil and Water Conservation Districts administer and implement AEM at the county level based on the local AEM Strategic Plan. SWCDs engage local partners such as Cooperative Extension, NRCS, AEM Certified Planners, Certified Crop Advisors, USDA Technical Service Providers, and agri-businesses.
Summary of program:	The New York State Agricultural Environmental Management (AEM) Program supports farmers in their efforts to protect water quality and conserve natural resources, while enhancing farm viability. New York's AEM Program helps farmers protect water quality by providing a framework to assess environmental stewardship and coordinate technical and financial assistance from the Federal, State, and local levels to address priority water quality and other natural resource opportunities on the farm.
Website:	https://agriculture.ny.gov/soil-and-water/agricultural-environmental-management

Agricultural Nonpoint Source Abatement and Control Program (ANSACP)

Eligible applicants:	Soil and Water Conservation Districts
Summary of program:	Competitive financial assistance program available to Soil and Water Conservation Districts that provides funding to plan, design, and implement priority BMPs, as well as cost-share funding to farmers to implement BMPs.
Website:	https://agriculture.ny.gov/soil-and-water/agricultural-non-point-source-abatement-and-control

Climate Resilient Farming Program (CRF)

Eligible applicants:	Soil and Water Conservation Districts
Summary of program:	Competitive financial assistance program with funds applied for and awarded through county Soil and Water Conservation Districts on behalf of farmers in one of three project categories: agricultural waste storage cover and flare for methane reduction, on-farm water management, and soil health systems.
Website:	https://agriculture.ny.gov/soil-and-water/climate-resilient-farming

Water Quality Improvement Project (WQIP) Program

Eligible applicants:	Municipalities, municipal corporations, soil and water conservation districts
Summary of program:	Provides funding statewide for non-agricultural nonpoint source projects implementing best management practices
Website:	http://www.dec.ny.gov/pubs/4774.html

Non-Agricultural Nonpoint Source Planning Grant

Eligible applicants:	Municipalities, soil and water conservation districts
Summary of program:	Provides funding for the initial planning of non-agricultural nonpoint source best management practices
Website:	https://www.dec.ny.gov/pubs/116725.html

Clean Water Act Section 604(b) Funding

Eligible applicants:	Regional public comprehensive planning organizations in New York State and interstate planning organizations working in New York State

Summary of program:	Provides funding for to regional planning organizations for planning activities
Website:	http://www.dec.ny.gov/lands/53122.html

Finger Lakes – Lake Ontario Watershed Protection Alliance (FLLOWPA)

Eligible applicants:	25 counties in the Finger Lakes and Lake Ontario watershed receive FLLOWPA funding. Those eligible to receive a portion of the funding distributed to the 25 counties varies by county.
Summary of program:	Provides funding for to regional planning organizations for planning activities
Website:	http://www.fllowpa.org/county.html

Hudson River Estuary Program Grants

Eligible applicants:	Municipalities and not-for-profit corporations with a 501(c)(3) designation. Projects must be within the Hudson River estuary geographic boundaries.
Summary of program:	In prior years, funds have been awarded for green infrastructure improvements for stormwater management.
Website:	http://www.dec.ny.gov/lands/5091.html

Environmental Justice Community Impact Grant Program

Eligible applicants:	Community-based organizations that must also meet several other criteria, as explained on the below website.
Summary of program:	Previously awarded projects have included green infrastructure demonstration projects. In the 2012 grant cycle, smaller “Green Gems” projects must involve education, stewardship, and/or monitoring activities related to parks, open space, community gardens or green infrastructure.
Website:	http://www.dec.ny.gov/public/31226.html

Urban & Community Forestry Program Cost Share Grants

Eligible applicants:	Municipalities and not-for-profit corporations acting on behalf of a public ownership interest in the property or acting on behalf of a public property owner.

Summary of program:	Street tree planting, one eligible project type, may fit well with green infrastructure projects.
Website:	http://www.dec.ny.gov/lands/5285.html

Environmental Facilities Corporation Green Innovation Grant Program (GIGP)

Eligible applicants:	Any county, city, town, village, district corporation, county or town improvement district, Indian reservation wholly within NYS, any public benefit corporation, public authority and certain New York State agencies, as well as other organizations empowered to develop a project, as described on the below website.
Summary of program:	Provides funding for eight specific green infrastructure practices: permeable pavement; bio-retention; green roofs and green walls; stormwater street trees/urban forestry programs; riparian buffers, floodplains and/or wetlands; downspout disconnection; stream daylighting; and stormwater harvesting and reuse.
Website:	https://www.efc.ny.gov/GIGP

Department of State Local Waterfront Revitalization Program (LWRP) Grants

Eligible applicants:	Villages, towns, or cities, and counties which are located along New York's costs or inland waterways designated pursuant to Executive Law, Article 42.
Summary of program:	The LWRP grant program provides matching grants on a competitive basis to revitalize communities and waterfronts. Funding is available for both planning and implementation, and funded projects may include green infrastructure components.
Website:	https://dos.ny.gov/local-waterfront-revitalization-program

NYS Homes & Community Renewal Community Development Block Grant – Public Infrastructure Funds

Eligible applicants:	Town, City or Villages with population less than 50,000, counties with a population less than 200,000 designated principal cities of Metropolitan Statistical Areas.
Summary of program:	Funding is available for drinking water, clean water and stormwater, and public works. Green infrastructure components may be a part of these larger public infrastructure projects.

Website:	http://www.nyshcr.org/AboutUs/Offices/CommunityRenewal/FundingOpportunities.htm

Greenway Communities Grant Program

Eligible applicants:	Municipalities that have adopted a resolution stating the community's agreement with the Greenway criteria.
Summary of program:	Site planning/design projects may include green infrastructure.
Website:	https://hudsongreenway.ny.gov/grants-funding

New York City Department of Environmental Protection Green Infrastructure Grant Program

Eligible applicants:	Private property owners in combined sewer areas of New York City
Summary of program:	Funds are available for design and construction of green infrastructure projects such as blue or green roofs, rain gardens, porous pavement, and rainwater harvesting.
Website:	https://www1.nyc.gov/site/dep/water/green-infrastructure-grant-program.page

City of Binghamton Green Stormwater and Landscaping Management Fund

Eligible applicants:	Residential property owners, non-profits, and small business owners in the City of Binghamton.
Summary of program:	This grant was created to help homeowners and businesses pursue small green infrastructure projects that will contribute to the City's resilience to flooding and help improve water quality. Total project area must be less than 5,000 square feet.
Website:	https://www.binghamton-ny.gov/government/departments/engineering/water-management

Onondaga County "Save the Rain" Program: Green Improvement Fund (GIF)

Eligible applicants:	Owners of a commercial business or not-for-profit facility located within the Green Improvement Fund boundary.
Summary of program:	The grant is intended to offer assistance to applicants installing GI technologies as an aspect of the development, and/or retrofitting of certain classes of privately owned properties (commercial, business, and not-for-profit owned properties) in specific geographical locations within the Clinton, Harbor Brook, and Midland combined sewer system, as outlined in the Green Improvement Fund Program Boundary Map, and generally located in the City of Syracuse.
Website:	https://savetherain.us/programs/green-improvement-fund/

Onondaga County "Save the Rain" Program: Suburban Green Infrastructure Program (SGIP)

Eligible applicants:	Municipal entities within Onondaga County that are planning projects to reduced inflow and infiltration to the sanitary sewer system. Projects must be on municipal property within the Onondaga County sewer system.
Summary of program:	The program is designed to support the development of green infrastructure and stormwater mitigation techniques on public property within the Onondaga County sanitary sewer district but outside of the City of Syracuse.
Website:	https://savetherain.us/suburbs-green-projects/

FEDERAL FUNDING SOURCES

EPA Urban Water Small Grants

Eligible applicants:	States, local governments, territories, Indian Tribes, and possessions of the U.S., public and private universities and colleges, public or private nonprofit institutions/organizations, intertribal consortia, and interstate agencies.
Summary of program:	Grants are available to fund research, investigations, experiments, training, surveys, studies, and demonstrations that will advance the restoration of urban waters by improving water quality through activities that also support community revitalization and other local priorities. Depending on each fiscal year's Request for Proposals, this may include green infrastructure.
Website:	https://www.epa.gov/urbanwaters/urban-waters-small-grants

EPA Great Lakes Restoration Initiative (GLRI)

Eligible applicants:	Non-federal governmental entities, including state agencies, interstate agencies, federal-recognized Indian tribes and tribal organizations, and local governments; institutions of higher learning; and nonprofit organizations. In 2014, green infrastructure projects conducted by a municipality located directly on the shore of a Great Lake or a Great Lakes connecting channel are ineligible. Green infrastructure projects conducted by other eligible applicants are eligible.
Summary of program:	Green infrastructure projects that improve habitat and other ecosystem functions in the Great Lakes are eligible for funding.
Website:	https://www.epa.gov/great-lakes-funding/great-lakes-restoration-initiative-glri

EPA Challenge Cost Share Grant Program

Eligible applicants:	U.S. non-federal organization and tribal agencies
Summary of program:	Green infrastructure projects that improve habitat and other ecosystem functions in the Great Lakes are eligible for funding.
Website:	https://www.epa.gov/great-lakes-funding/great-lakes-restoration-initiative-glri

National Fish and Wildlife Foundation Chesapeake Bay Stewardship Fund

Eligible applicants:	Non-profit 501© organizations, local governments and agencies, state government agencies and academic institutions. Projects must be implemented entirely within the Chesapeake Bay watershed.
Summary of program:	Nonpoint source best management practices meeting Chesapeake Bay priorities
Website:	https://www.nfwf.org/chesapeake/Pages/home.aspx

National Fish and Wildlife Foundation Delaware River Restoration Fund

Eligible applicants:	Non-profit organizations and local governments. Projects must be implemented entirely within the Delaware River watershed.
Summary of program:	Nonpoint source best management practices to benefit the Delaware River basin.
Website:	https://www.nfwf.org/delaware/Pages/home.aspx

National Fish and Wildlife Foundation Urban Waters Restoration

Eligible applicants:	Any entity that can receive grants. While partnerships are encouraged to include state and federal agencies as partners, those entities **may not** serve as the grantee **unless** the community partners demonstrate that the state or federal agency is best suited to coordinate the community-based project.
Summary of program:	In 2014, project priorities include addressing developing educational programs to provide training to schools, businesses, community groups and homeowners on how to implement green infrastructure practices including sustainable forestry practices; or designing projects intended to control rain water though green infrastructure tools such as tree canopy, permeable pavement, green street designs, bioswales, planter boxes and green roofs, to reduce stormwater flow, controlling flooding and slowing run-off into surface water.
Website:	http://www.nfwf.org/fivestar/Pages/home.aspx#.VDblP1OZ1gp

National Fish and Wildlife Foundation Long Island Sound Futures Fund

Eligible applicants:	Non-profit 501© organizations; state, tribal, and local governments; and academic or educational institutions. Nonpoint source or stormwater management, education, and fish passage projects may be in any portion of the Long Island Sound and its watersheds within the states of Connecticut and New York, but must demonstrate a quantifiable and measurable impact on improving Long Island Sound or its ecosystem.

Summary of program:	Funding priorities include planning and implementing green infrastructure projects.
Website:	http://www.nfwf.org/lisff/Pages/home.aspx#.VdbnIlOZ1gp

FEMA Hazard Mitigation Grants

Eligible applicants:	States, local governments, tribes, private non-profit organizations
Summary of program:	Provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. FEMA Hazard Mitigation grants will fund green infrastructure if a benefit-cost analysis shows that the damages saved from the project exceed the cost of the project.
Website:	https://www.fema.gov/hazard-mitigation-grant-program

USDA-FSA Conservation Reserve Program (CRP)

Eligible applicants:	Landowners with eligible land
Summary of program:	CRP is a voluntary program for agricultural landowners. Through CRP, farmers can receive annual rental payments and cost-share assistance to establish long-term, resource conserving covers on eligible farmland.
Website:	http://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/index

USDA-FSA Conservation Reserve Enhancement Program (CREP)

Eligible applicants:	Landowners with eligible land
Summary of program:	The Conservation Reserve Enhancement Program (CREP) is an offshoot of the Conservation Reserve Program (CRP). CREP targets high-priority conservation issues identified by local, state, or tribal governments or non-governmental organizations. In exchange for removing environmentally sensitive land from production and introducing conservation practices, farmers, ranchers, and agricultural landowners are paid an annual rental rate and incentive payments.
Website:	http://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-enhancement/index

USDA-FSA Debt for Nature (DFN) Program

Eligible applicants:	Landowners with eligible FSA loans and land
Summary of program:	Debt for Nature (DFN) is available to persons with Farm Service Agency (FSA) loans secured by real estate. These individuals may qualify for cancellation of a portion of their FSA indebtedness in exchange for a conservation contract with a term of 50, 30, or 10 years. The conservation contract is a voluntary legal agreement that restricts the type and amount of development that may take place on portions of the landowner's property. Contracts may be established on marginal cropland and other environmentally sensitive lands for conservation, recreation, and wildlife purposes.
Website:	https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdafiles/FactSheets/archived-fact-sheets/debtfornature07.pdf

USDA-FSA Farmable Wetlands Program (FWP)

Eligible applicants:	Landowners with eligible land
Summary of program:	The Farmable Wetlands Program (FWP) is a voluntary program is designed to restore previously farmed wetlands and wetland buffer to improve both vegetation and water flow. Participants must agree to restore the wetlands, establish plant cover, and to not use enrolled land for commercial purposes.
Website:	http://www.fsa.usda.gov/programs-and-services/conservation-programs/farmable-wetlands/index

USDA-NRCS Agricultural Conservation Easement Program (ACEP)

Eligible applicants:	Landowners with eligible land
Summary of program:	The Agricultural Conservation Easement Program (ACEP) provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits. Under the Agricultural Land Easements component, NRCS helps Indian tribes, state and local governments and non-governmental organizations protect working agricultural lands and limit non-agricultural uses of the land. Under the Wetlands Reserve Easements component, NRCS helps to restore, protect and enhance enrolled wetlands.
Website:	http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/acep/

USDA-NRCS Agricultural Management Assistance (AMA) Program

Eligible applicants:	Landowners with eligible land
Summary of program:	The Agricultural Management Assistance (AMA) provides financial and technical assistance to agricultural producers to voluntarily address issues such as water management, water quality, and erosion control by incorporating conservation into their farming operations.
Website:	http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/ama/

USDA-NRCS Conservation Stewardship Program (CSP)

Eligible applicants:	Landowners with eligible land
Summary of program:	The Conservation Stewardship Program (CSP) helps agricultural producers maintain and improve their existing conservation systems and adopt additional conservation activities to address priority resources concerns.
Website:	http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/

USDA-NRCS Environmental Quality Incentives Program (EQIP)

Eligible applicants:	Landowners with eligible land
Summary of program:	The Environmental Quality Incentives Program (EQIP) is a voluntary program that provides financial and technical assistance to agricultural producers to plan and implement conservation practices that improve soil, water, plant, animal, air and related natural resources on agricultural land and non-industrial private forestland. EQIP may also help producers meet Federal, State, Tribal, and local environmental regulations.
Website:	http://www.nrcs.usda.gov/wps/portal/nrcs/main/ny/programs/financial/eqip/

USDA-NRCS Healthy Forests Reserve Program (HFRP)

Eligible applicants:	Landowners with eligible land
Summary of program:	The purpose of the Healthy Forests Reserve Program (HFRP) is to assist landowners, on a voluntary basis, in restoring, enhancing and protecting forestland resources on private lands through easements, 30-year contracts and 10-year cost-share agreements.
Website:	http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/forests/

Regional Conservation Partnership Program (RCPP)

Eligible applicants:	Agricultural or silvicultural producer associations, farmer cooperatives or other groups of producers, state or local governments, American Indian tribes, municipal water treatment entities, water and irrigation districts, conservation-driven nongovernmental organizations and institutions of higher education
Summary of program:	The Regional Conservation Partnership Program (RCPP) promotes coordination between Natural Resource Conservation Service (NRCS) and its partners to deliver conservation assistance to producers and landowners. NRCS provides assistance to producers through partnership agreements and through program contracts or easement agreements.
Website:	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/rcpp/

USDA-NRCS Watershed and Flood Prevention Operations (WFPO) Program

Eligible applicants:	States, local governments and Tribes
Summary of program:	The Watershed and Flood Prevention Operations (WFPO) Program provides technical and financial assistance to plan and implement authorized watershed project plans for the purpose of: watershed protection, flood mitigation, water quality improvements, soil erosion reduction, rural, municipal and industrial water supply, irrigation, water management, sediment control, fish and wildlife enhancement, and hydropower.
Website:	http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/wfpo/

Appendix D: Completed Projects and Reductions

Project Title	Nitrogen Reduction (lbs./yr.)	Phosphorus Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)
Wilmar Farm Waste Storage System	2.9	0.3	0.1
Lake Ontario Ag. Waste Management Systems	10.4	1.5	0.5
CAFO Waste Storage and Transfer System	1137.4	165.4	5.1
Buffalo Creek Nutrient & Sediment Reduction Project	7.4	1.1	0.4
Tonawanda Creek and Karst Bedrock Protection Project	277.1	23.1	90.8
Mid North Cayuga Nutrient Reduction	0.7	0.8	1.2
J Stanton Milkhouse Waste System Project	0	0	0
Greater Onondaga Lake Ag NPS Reduction	533.7	59.1	193.6
Chautauqua Lake Agricultural Nutrient Management Project	117.6	102.8	8.7
Budnick 23	0.9	0.8	2.0

Project Title	Nitrogen Reduction (lbs./yr.)	Phosphorus Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)
Woody Hill Farm Waste Storage	262.7	21.7	85.9
White Creek Nutrient and Sediment Reduction Project	26.3	1.3	1.8
Wallkill River Watershed Farm Runoff Control 3	3353.6	294.4	1167.1
Veterans Park Stormwater Project	4.0	0.6	0.2
Upper Susquehanna River Cover Crop Project	4200.0	343.2	1368.0
Onondaga Lake Watershed AgNPS Reduction	360.7	46.5	140.5
Interseeding Cover	4987.5	407.6	1624.5
Farmstead Silage Leachate Control	6.5	1.6	2.2
Eighteenmile Creek Cover Crop Project	1531.3	125.1	498.8
Cover Cropping in Orleans County	875.0	71.5	285.0

Project Title	Nitrogen Reduction (lbs./yr.)	Phosphorus Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)
Chemung River Ag Implementation Phase IV	2.9	3.3	4.9
Chautauqua Lake Watershed Rehabilitation - North Basin Periphery	0.2	0.1	0.1
Champlain Farmstead Runoff Control	0.5	0.5	0.7
Canajoharie 22	0	0	0
Broome Rotational Prescribed Grazing System Implementation	27.8	36.4	52.8
AgNPS Reduction in the Greater Chittenango Creek Watershed	0.1	0.2	0.2
Adirondack Ag Waste Management	0.3	0.3	0.5
Wellsville Water Supply Phase 2	0.2	0.2	0.4
Wappinger Lake Inflow Quality Improvements	0.2	0.1	0.1
Upper Tonawanda Creek Public Drinking Water Supply Protection	0.1	0.1	0.1

Project Title	Nitrogen Reduction (lbs./yr.)	Phosphorus Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)
Upper Chenango River AG NPS Elimination Project	2129.2	215.8	1033.7
Tivoli Lake Preserve Stream Daylighting Project	0.4	0.1	0.1
Susquehanna River Stream Restoration and Water Quality Improvement Phase II	0.3	0.1	0.1
Piloting Cover Crops In Tioga County	630.0	51.5	205.2
Phased Prescribed Grazing Management Implementation	10.1	9.6	14.4
Onondaga Lake Watershed Ag. NPS Reduction Project	25.0	50.9	59.4
Mount Vernon MS4 Illicit Discharge Investigation	0	0	0
Fuel Tank Replacement for the Protection of Suffolk's Sole Source Aquifer	0	0	0
DeGlee Farm Leachate Collection and VTA Abatement	0.1	0.1	0.1
Controlled and Limited Livestock Access Using Riparian Buffers	8.3	6.5	9.9

Project Title	Nitrogen Reduction (lbs./yr.)	Phosphorus Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)
Clear Creek Watershed Protection Project	3.8	4.2	6.3
Cayuga Lake Nutrient and Sediment Reduction	91.4	99.6	156.4
Cattaraugus Creek Ag BMP Implementation Project	489.7	41.3	161.2
Warren County Stormwater Improvement Project	15.1	2.6	0.3
Wallkill River Watershed Farm Runoff Control	6075.9	1098.5	18.2
Walkill River Watershed Livestock Waste Runoff Control	17829.0	2467	20.7
Village of Patchogue Cesspool Eilimination	3775.0	.00.0	0.0
Susquehanna Cover Crop Initiative for Improving Soil Health	20153.0	268.0	77.6
Seneca Lake Watershed CAFO Ag Impl. Phase II	21304.0	3018.0	3.23
SLWAP Agriculture BMPs	313.0	30.0	2.6

Project Title	Nitrogen Reduction (lbs./yr.)	Phosphorus Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)
Regional Stormwater Management Initiative	13500.0	2000.0	250.0
Oil Creek BMP Watershed Protection	1814.0	219.0	44.6
Northern Owasco Lake Tier IV	111240.0	1587.0	16.9
Honeoye Inlet Restoration Project	10911	0	1073
Fulton County Hydro Seeding Program	17.0	3.1	0.8
FLCC/CMAC Stormwater Project	13.7	2.3	0.7
Chesapeake Bay Watershed Imp. Project #3	27717	5345.0	55.5
Central Canal Corridor Watershed Ag Program:Phase IV Lower Ganargua Cr	8220.0	1201.0	56.7
Beaver Creek Sewershed Overflow Abatement and Flood Mitigation	81.4	17.3	2.1
Trumbulls Corners Water Quality Enhancement and Habitat Improvement Project	233.0	90.0	127.0

Project Title	Nitrogen Reduction (lbs./yr.)	Phosphorus Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)
Schuyler and Chemung Counties Road Ditch Stabilization Flood Damage Repair and Prevention Implementation and Training	7406.0	3703.0	3703.0
Schuyler and Chemung Counties Multiple Barrier Approach to Flood Damage Repair and Prevention	3850.0	1925.0	1925.0
Ontario County Municipal Road Bank/Ditch Stabilization Program	11873.5	4568.0	1775.0
Mill Creek Watershed Stabilization	0	0	25.5
Leicester Salt Storage Barn	0	0	0
Honeoye Lake Watershed Sediment and Nutrient Mitigation Phase II	473.8	96.3	22.0
Central Canal Corridor Watershed Ag Program Phase 3	10261.0	1523.0	48.9
Upper Cohocton Streambank Restoration	0	0	0
Spring St. Green Infrastructure Project	16.7	2.6	0.4
Galatia Street Stream Bank Stabilization	0	0	0

Project Title	Nitrogen Reduction (lbs./yr.)	Phosphorus Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)
Demonstration of Strategies for Retrofitting Existing Urban and Suburban Areas with Green Infrastructure to improve Water Quality	0	0	00
Putnam County - Department of Highways and Facilities, Maintenance Facility Stormwater Improvement	0	9.0	0
Nassau County Milburn Pond Floatables Collection System	0	0	4.0
Black Ash Project Streambank Stabilization	0	0202.5	0

Appendix E: Monitoring Program Descriptions

Citizens Statewide Lake Assessment Program (CSLAP): CSLAP is a volunteer lake monitoring and education program managed by DEC and the New York Federation of Lake Associations (NYSFOLA). The data collected through the program is used to understand lake conditions and develop lake management plans. To participate in the program, lakes first need to be a member of the NYSFOLA (http://www.nysfola.org/). More information about the program can be found at: http://www.dec.ny.gov/chemical/81576.html.

Lake Classification and Inventory (LCI) Program: DEC conducts water quality sampling of lakes, ponds, and reservoirs through the LCI program. The LCI monitoring program collects data that supports water quality assessments and management activities including: updating the WI/PWL, identifying water bodies not meeting their designated uses for inclusion on the New York State Section 303(d) List, preparing the New York State 305(b) Water Quality Report, supporting the development of TMDL plans and evaluating the effectiveness of TMDL implementation, supporting the development of nutrient criteria in New York State, expanding the inventory of waterbodies infested with aquatic invasive species, and aiding in the identification of and response to harmful algal blooms. For more information about the program can be found at: http://www.dec.ny.gov/chemical/31411.html.

Rotating Integrated Basin Studies (RIBS) Program: The objectives of DEC's RIBS program are program are to assess water quality of all waters of the state, including the documentation of good quality waters and the identification of water quality problems; identify long-term water quality trends; characterize naturally occurring or background conditions; and establish baseline conditions for use in measuring the effectiveness of site-specific restoration and protection activities. The program is designed so that all major drainage basins in the state are monitored every five years. RIBS program water quality data and information are used to support assessment and management functions within NYSDEC Division of Water (DOW), including the Waterbody Inventory/Priority Waterbodies List (WI/PWL), New York State's Clean Water Act Section 305(b) Water Quality Report, and Section 303(d) List of Impaired Waters of the state. For more information about the program can be found at: http://www.dec.ny.gov/chemical/30951.html.

Stream Biomonitoring Monitoring Unit: DEC's Stream Biomonitoring Unit Department of uses aquatic macroinvertebrates to monitor the water quality of the State's rivers and streams. Biomonitoring surveys are primarily assessed by collecting benthic (bottom dwelling) macroinvertebrate samples from riffle habitats in streams and rivers. Fish and algae communities are also used in intensive surveys to assess the magnitude and type of environmental stress or impact in waterbodies. More information about the program can be found at: http://www.dec.ny.gov/chemical/23847.html.

Toxicity Testing Unit (TTU): DEC's Toxicity Testing program is a component of the RIBS program. Bioassays are used to identify toxicity in surface waters and sediments. Tests on ambient surface waters are conducted using the water flea (*Ceriodaphnia dubia*), to identify toxic effects on survival and reproduction. Collected sediments are also analyzed using the Microtox® toxicity testing system, which uses the bioluminescent bacterium, *Vibrio fischeri*, to look for the presence of toxicity in bottom sediments. The TTU also provides technical oversight of Whole Effluent Toxicity (WET) testing programs required at some industrial, municipal and remediation facilities as part of the State Pollutant Discharge Elimination Systems (SPDES) permit program. More information about the program can be found at: http://www.dec.ny.gov/chemical/29854.html.

Water Assessments by Volunteer Evaluators (WAVE) Program: WAVE is a citizen-based water quality assessment developed by DEC. The purpose of WAVE is to enable citizen scientists to collect biological data for assessment of water quality on streams in New York State. The WAVE data augment the professional monitoring conducted by DEC's Stream Biomonitoring Unit. WAVE data classified as "Possibly Impaired" serve as a red flag for sites that may deserve further investigation at the professional level.