



Department of
Environmental
Conservation

NONPOINT SOURCE POLLUTION MANAGEMENT PROGRAM

Annual Report for April 1, 2015 to March 31, 2016



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 (NYSDAM)
- 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 bacteria (indicators of pathogens) and sediment sources. The program was updated in 2014 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, 2015 to March 31, 2016), 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 will result in a reduction of **724,084** pounds of nitrogen, **106,060** pounds of phosphorus, and **18,017** tons of sediment per year. **\$23,474,548** of New York State Environmental Protection Fund (EPF) 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, Lake Champlain Basin Program). The Great Lakes Basin Program has completed two Nine Element Watershed Plans for the Black and Genesee Rivers. The Chesapeake Bay Program has completed several watershed implementation plans (WIP) to meet the goals and objectives of the Chesapeake Bay total maximum daily load (TMDL).

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 NYSDOS Local Waterfront Revitalization Program (LWRP). Approximately 20,854 square miles of watershed area in New York State are now covered by watershed plans completed by watershed coalitions or other planning entities.

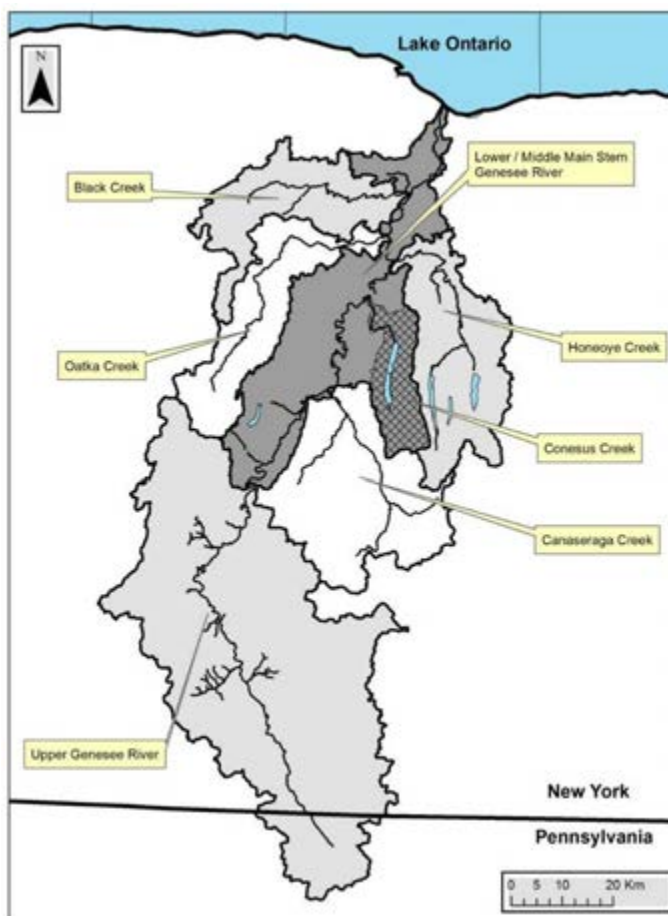
Objective 1: Reporting Measure Accomplishments

Reporting Measure	Accomplishment
Watershed area (cumulative statewide) covered by watershed plans which are consistent with the Section 319 NPS Program and Grant Guidelines	The Genesee Rive Nine Element Watershed Plans was completed within the reporting period, which covers a watershed area of 2,490 square miles square miles. A Nine Element plan is in the beginning stages of development for Black River and Owasco Lake watershed.
Watershed area (cumulative statewide) covered by watershed plans completed by watershed coalitions and other planning entities	Watershed plans funded by the NYSDOS LWRP that were completed during the reporting period include the Alley Creek Watershed (13 square miles) and Owasco Lake watershed

Reporting Measure	Accomplishment
	(207 square miles). 20, 854 cumulative square miles are now covered by watershed plans across New York State.
Number of updated County Water Quality Strategies	County Water Quality Strategies were updated in one county (Herkimer County). Three other counties began the strategy updating process and will be finalized in the next reporting period (Tioga, Warren and Washington Counties).
Number of Agricultural Environmental Management (AEM) Strategic Plans updated or revised through the AEM Framework	50 Soil and Water Conservation Districts participated in the AEM Base Program. All 50 Districts implemented and advanced their AEM 5-Year Strategic Plans through progress on AEM Tier work and outreach/education/coordination work with farms according to their Year 11 AEM Annual Action Plans.
Watershed area (cumulative statewide) addressed by TMDLs or other specific NPS pollutant load reduction goals	A TMDL was completed during the reporting period for Lake Carmel, which has a total watershed area of 12.7 square miles. The cumulative watershed area addressed by TMDLs for nonpoint sources statewide is 6,249 square miles.

Objective 1 Highlight:

New York’s first nine element plan was approved by NYSDEC in June 2015. The plan was prepared by NYSDEC Great Lakes Program staff to address phosphorus and sediment. The Genesee River originates in Potter County, Pennsylvania and then flows north across New York to Rochester where it flows into Lake Ontario. Impacts from nutrient and sediment are observed throughout the watershed and within the Rochester embayment of Lake Ontario. The Genesee River is the second largest tributary loading of phosphorus to Lake Ontario. To address nutrient and sediment pollution within this large watershed (2,490 square miles), management practices are needed in all of the major sub-basins. This 9 Key Element Watershed Plan identifies and prioritizes areas within the major sub-basins where conservation efforts should be focused. Major water quality concerns in the watershed are primarily related to nonpoint source pollution, including urban stormwater and industrial runoff from the Rochester area and agricultural nonpoint source pollution. Protection of the municipal water supply in the Hemlock Lake sub-watershed is a key water quality goal the nine element plan.



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 New York’s Environmental Protection Fund. 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. The 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 (FOLLOWPA) Grants, 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	84 projects
Number of specific cost-shared BMPs initiated	61 BMP types (See Appendix B for list of initiated practices)
Estimated load reductions for initiated projects through AgNPS & non-AgNPS	Nitrogen: 724,084.46 pounds Phosphorus: 106,060.17 pounds Sediment: 18,017.19 tons
Funding provided to support cost-shared watershed projects (through AgNPS and WQIP programs)	\$23,474,548 in State Fiscal Year 2016
Number cost-shared watershed projects completed	82 projects were completed during the reporting period (see Appendix D for list of completed projects). The total estimated load reductions per year for the completed projects are 163,496.74 pounds of nitrogen, 139,771.35 pounds of phosphorus, and 170,373.06 tons of sediment.

Reporting Measure	Accomplishment
Number of specific cost-shared BMPs completed	367 BMPs
Number of GRTS entries for AgNPS & non-AgNPS	130

Objective 2 Highlight:

The “Monroe County Collaborative MS4 Stormwater Retrofits Using Green Infrastructure” project was completed during the reporting period. This project was funded through New York’s Water Quality Improvement Project (WQIP) program, funded by the EPF; \$192,100 of was awarded to the project. The County of Monroe installed green infrastructure retrofits in eight parking lots within the county, including the following stormwater management practices:

- Bioretention practices (Bioswales and Biofilter Islands)
- Rain gardens
- Porous Pavement
- Streambank Stabilization/Restoration

The installation of these green infrastructure practices will reduce stormwater pollution from reaching the following waterways listed as impaired by urban/stormwater runoff due to nonpoint source pollution:

- NYS Barge Canal
- Mill Creek
- Helmer Nature Center Creek – a tributary to the Rochester Embayment
- Buckland Creek – a major tributary of Allen Creek
- Thomas Creek/White Brook
- Genesee River

It is estimated that the completed project will reduce nitrogen by 69 pounds per year, phosphorus by 9 pounds per year and sediment by 1 ton per year.

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:

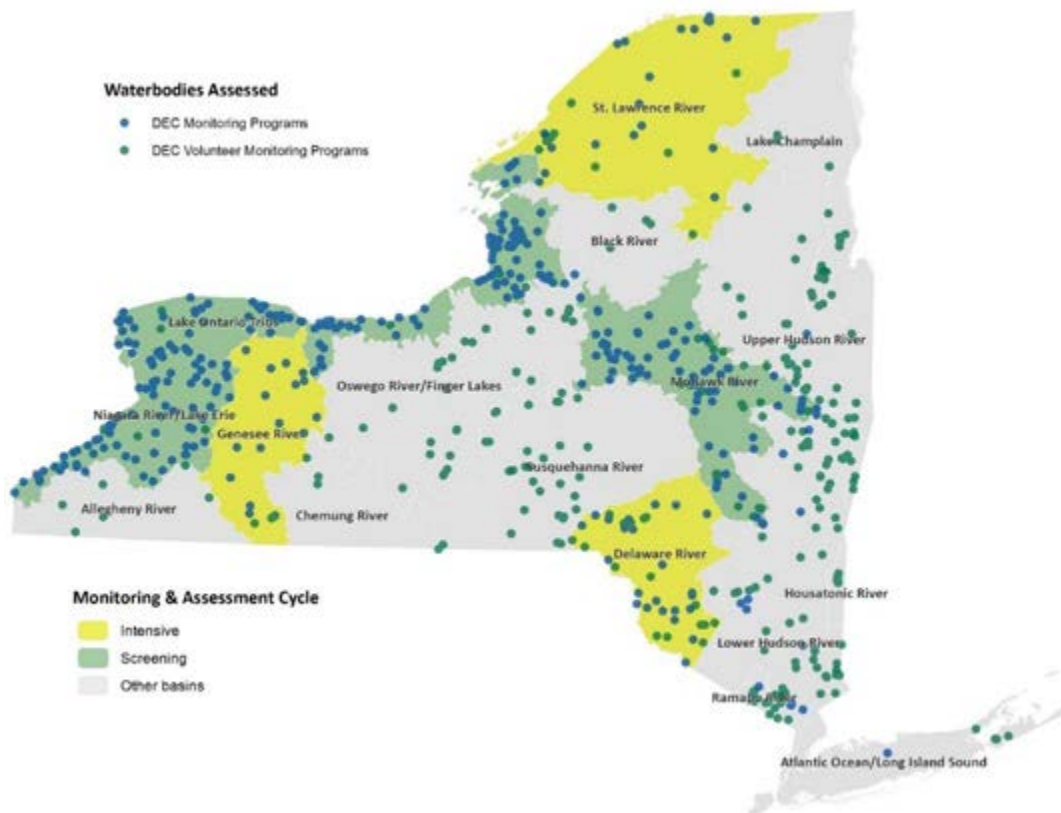
1. Water quality screening is conducted to provide a qualitative assessment of water quality at a large number of sampling sites (e.g., on-site biological sampling and visual lake surveys).
2. Intensive basin monitoring employs more frequent, comprehensive and integrated multi-media sampling to provide 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 fact sheets that outline the most recent assessment of the waterbody, identification of water quality problems and sources, and summary of activities taken to restore and protect each individual waterbody. The WI/PWL incorporates input from the public, along with state and local agencies and 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

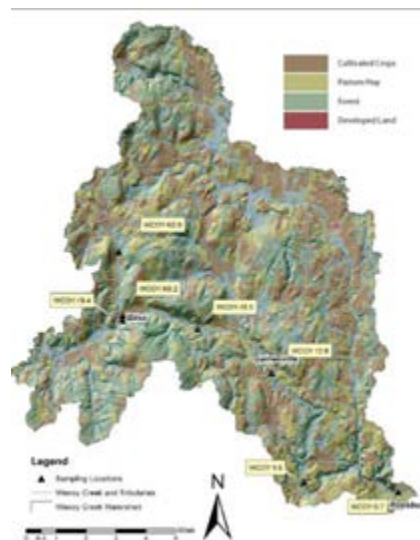
Reporting Measure	Accomplishment
Percent of waterbodies assessed (cumulative statewide)	55%

Major drainage basins are monitored on a five year rotating schedule. Screening basin monitoring was conducted in the Niagara River/Lake Erie, Lake Ontario Tribs, and Mohawk River basins during the reporting period. Intensive basin monitoring was conducted in the Genesee River, Delaware River, and St. Lawrence River basins. During the reporting year, 529 locations on 453 waterbodies were assessed through DEC programs (points shown on map below).



Objective 3 Highlight: Wiscoy Creek Biological Assessment Report

Biological assessment of Wiscoy Creek, in the Genesee River Watershed, was conducted to address angler concerns, compare water quality information with historical data and collect baseline data at locations within the watershed that were previously unassessed. Water quality was assessed at 7 locations on Wiscoy Creek and 2 locations on the North Branch of Wiscoy Creek. Kick samples were collected from riffle areas at each location; benthic macroinvertebrate community metrics were calculated from a 100-specimen subsample from each location. Biological assessment results indicated that Wiscoy Creek is fully supporting aquatic life and biological assessment indicates non- to slightly impacted conditions. In addition, 2015 results compared to historical biological assessments (1999, 2000, 2004 and 2009) indicate that water quality has remained fully supportive of aquatic life. The full report, [Wiscoy Creek Biological Stream Assessment](#) is posted on NYSDEC’s website.



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.

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)	53% of impaired waterbodies
Number of newly identified as "impaired" waters and added to the final Section 303(d) list of impaired waters due to nonpoint sources	The draft 2016 NYS Section 303(d) list proposed to add 26 (new) waterbodies as “impaired” due to nonpoint sources. The draft was made available for public comment ending March 4 th , 2016. The Final 2016 Section 303(d) list was submitted to EPA for review during the next reporting period.
Percent of waters assessed as having "No Known Impact" (fully supporting), and thus needing protection	40%

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 New York Nonpoint Source Committee and through NPS Program participation in other relevant advisory and technical committees (such as the New York Water Management Advisory Committee, the State Soil and Water Conservation Committee, and the NRCS State Technical Committee).

Notable partnership activities during the reporting period included the following:

- SPDES General Permit for Municipal Separate Storm Sewer Systems (MS4s): NYSDEC publicly noticed the proposed modifications to the 2015 MS4 General Permit for urbanized or additionally designated MS4 areas to incorporate compliance schedules. This permit authorizes stormwater discharges from MS4 systems.
- Long Island Nitrogen Action Plan: NYSDEC in partnership with the Long Island Regional Planning Council, Suffolk County and Nassau County held public meetings in Suffolk and Nassau Counties to start discussing the nitrogen action plan with stakeholders and a [Conceptual Draft Scope for the Long Island Nitrogen Action Plan](#) was developed and posted for public review.
- TOGS 5.1.9: In-Water and Riparian Management of Sediment and Dredged Material: NYSDEC's Division of Water in partnership with and the Division of Fish, Wildlife, and Marine Resources (DFWMR) developed the document to provide sediment guidance values (developed in cooperation with DFWMR) that are used to classify sediments based on degree of contamination. The resulting classifications are used to determine appropriate dredging and dredged material management permit conditions. The document is being revised to reflect current scientific information. The TOGS is currently under internal review.
- Conservation Reserve Enhancement Program (CREP) State Incentives for the Chesapeake Bay watershed: NYSDEC in partnership with USDA Farm Service Agency (FSA), NYSDAM and the Upper Susquehanna Coalition (USC), developed and launched a new CREP incentive program that provides farmers additional incentive awards in exchange for installing riparian forest buffers adjacent to streams, rivers or other waterbodies located within New York's portion of the Chesapeake Bay watershed.

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

- Routine coordination meetings with NYSDOH were conducted to review water supply protection and water quality management concerns
- Watershed planning coordination meetings were conducted with NYSDOS, which funds watershed planning by localities
- Coordination meetings with the NYSEFC 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 New York State Water Management Advisory Committee, the NYSSWCC State Committee and the NRCS State Technical Committee.

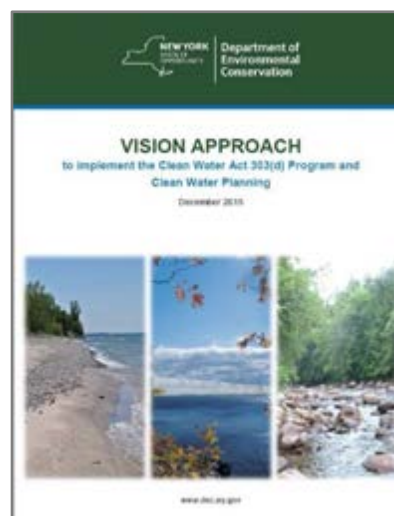
- NPS Program staff and other NPS partner agency staff participated in numerous interstate and federal meetings and conference calls which address national or regional coordination for NPS issues, notably the Coastal States Organization Coastal NPS Workgroup, the New England Interstate Water Pollution 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: Vision Approach to implement CWA 303(d) and Clean Water Planning

DEC finalized [NY's strategy](#) to integrate US EPA's long-term vision goals for implementing the Clean Water Act 303(d) Program. The new long-term vision enhances the overall efficiency of the CWA 303(d) Program and provides States the flexibility to determine priority waters and use alternate tools beyond TMDLs to attain water quality restoration and protection. The document was submitted to EPA; the strategy addresses all of EPA's long-term vision and goals to:

- prioritization process for planning to achieve water quality goals,
- use monitoring data collected by DEC,
- integrate information from other DOW programs (NPS, permitting, assessment)
- incorporate alternative plans when applicable (including, watershed plans, permit modifications, long-term control plans, consent orders) and protection plans,
- foster new partnerships and enhance existing partnerships.



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:

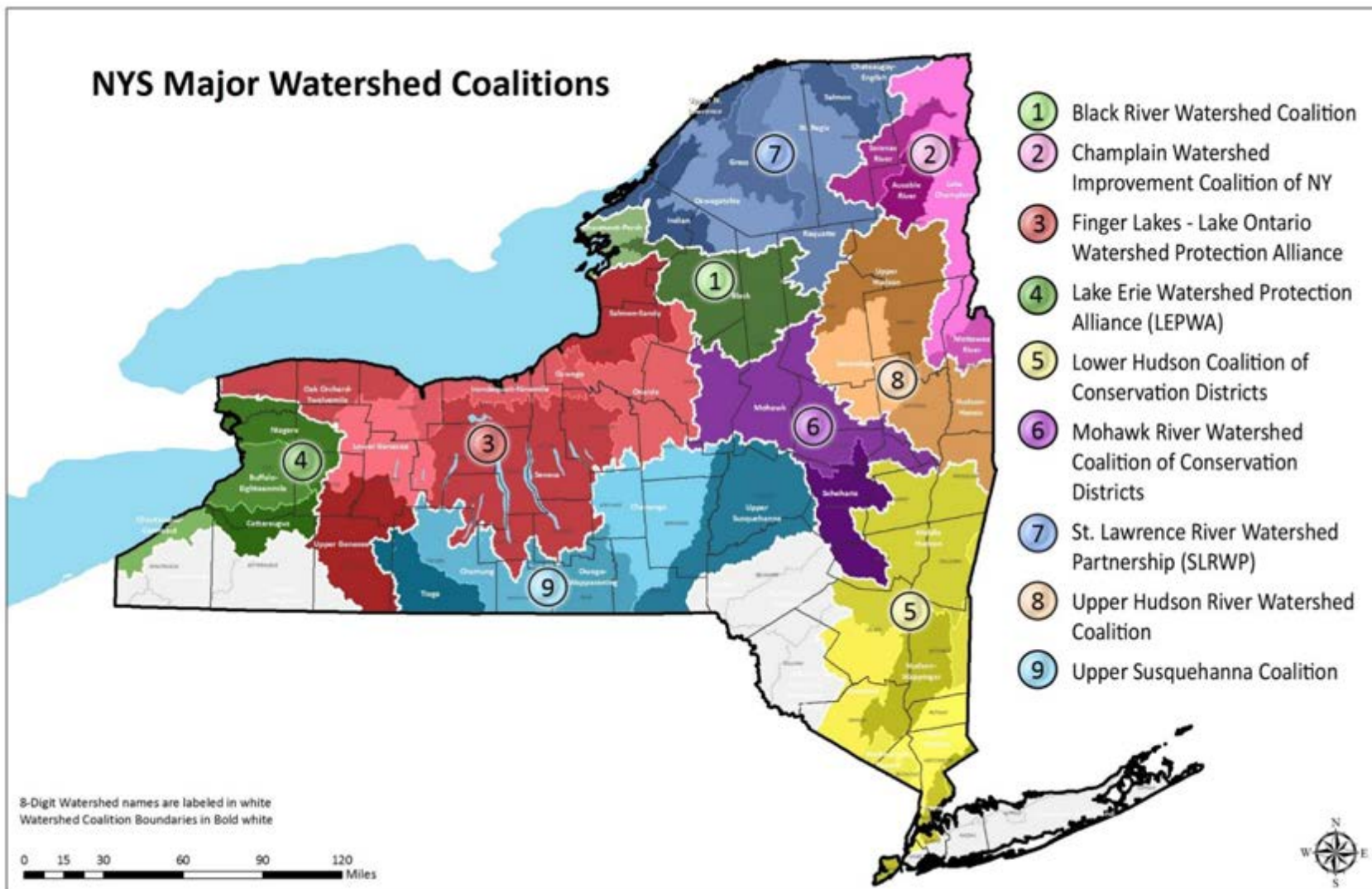
- The NYS Annual Water Quality Symposium, conducted through a partnership with the New York State Conservation District Employees Association, provides an important forum for delivering nonpoint source technical guidance to local agencies. Nonpoint source management topics

addressed during the 2016 Symposium included presentations on agricultural BMPs, stormwater management and nine element plan development.

- [Dairy Acceleration 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, 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 2015 workshops included: riparian corridor management, stormwater BMPs and agricultural BMPs.
- [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.
- [NYSDEC Endorsed 4-Hour Erosion and Sediment Control \(E&SC\) Trainings](#) were held by county soil and water conservation districts. Under the SPDES General Permit for Stormwater Discharges from Construction Activity, certain contractors and qualified inspectors are required to complete 4 hours of Department endorsed training in the principles and practices of erosion and sediment control every 3 years.
- NPS staff work to provide the most current technical guidance through practice design manuals that are available for free on various state agency websites.
- A NYSDEC funded [Cornell Local Roads workshop](#) was held in Otsego County for municipal highway employees and soil and water conservation district employees on stormwater management. The workshop focused on managing stormwater in relation to roadway infrastructure.
- The Starting at the Stream: Interagency Collaboration for Water Quality conference was held in Cortland. The conference was focused on issues related to riparian buffer establishment and available programs. The conference was attended widely by soil and water conservation districts, NRCS, FSA and NYSDEC staff working in the Chesapeake Bay watershed.
- NYSDEC funded outreach in Suffolk County, as part of Suffolk County's Nitrogen Fertilizer Reduction Initiative, to change lawn care practices by homeowners to reduce nitrogen runoff from lawns, included: social media on Facebook (<https://www.facebook.com/Suffolk-County-Nitrogen-Fertilizer-Reduction-Initiative-101666030175158/timeline/>); trained over 1,500 landscapers through the landscaper turf fertilizer training program; distribution of education signs and brochures; and production of free "green lawn" flag that homeowners can put in their yards to demonstrate their commitment to reducing nitrogen runoff.



Appendix A: Watershed Coalition Map



Appendix B: Initiated Cost Shared BMPs

BMP Type	Units to be Installed	
Access Road	16,583	feet
Agricultural Fuel Containment Facility	8,243	feet
Animal Trails and Walkways	9,911	feet
Catch Basin Vacuum Truck	1	unit
Composting Facility	1	unit
Conservation Cover	39	acres
Cover Crop	8,537	acres
Critical Area Planting	19	acres
Ditch Stabilization	5,400	feet
Diversion	12,480	feet
Drainage Water Management	1	unit
Fence	241,449	feet
Filter Strip	0.3	acre
Grassed Waterway	105	acres
Heavy Use Area Protection	14	acres
Hydroseeding	18	acres
Infiltration Basin	3	units
Irrigation Water Management	150	acres
Lined Waterway or Outlet	1,275	feet
Livestock Pipeline	73,037	feet
Manure Transfer	50	units
Mulching	43	acres
Nutrient Management	1,371	acres
Obstruction Removal	1	acre
Onsite Wastewater Treatment System Projects	401	units
Pond	4	units
Porous Pavement	5,000	sq. feet
Prescribed Grazing	55	acres
Pumping Plant	13	units
Raingarden/Biorention Basin	3	units
Recreation Trail & Walkway	1	unit
Riparian Buffers – Vegetative	8	acres
Riparian Forest Buffer	21	acres
Riparian Herbaceous Cover	18	acres
Riprap Shoreline	497	feet
Road Ditch Creation/Improvements	35	miles
Roof Runoff Management	42	units
Salt or Deicer Storage Facility	3	units

BMP Type	Units to be Installed	
Sediment Basin	1	unit
Sediment Forebay	1	unit
Spring Development	11	units
Stream Channel Stabilization	3,000	feet
Stream Corridor Improvement	6,000	feet
Stream Crossing	17	units
Streambank & Shoreline Protection	14,920	feet
Street Sweeper	1	unit
Structure for Water Control	7	units
Subsurface Drain	7,710	feet
Tree/Shrub Establishment	19	acres
Underground Outlet	20,781	feet
Use Exclusion	379	acres
Vegetated Filter	13	acres
Waste Management System	3	units
Waste Storage Facility	37	units
Waste Treatment Lagoon	1	unit
Wastewater Treatment Strip	5,700	feet
Water & Sediment Control Basin	20	units
Water Well	3	units
Watering Facility	22	units
Wetland Creation	1	unit
Wetland Enhancement	1	unit

Appendix C: Nonpoint Source Funding Program Descriptions

STATE AND LOCAL FUNDING SOURCES

New York State Agricultural Environmental Management (AEM) Program

Eligible applicants:	County Soil and Water Conservation Districts administer and implement AEM at the local level through. 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 issues on the farm.
Website:	http://www.nys-soilandwater.org/

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:	http://www.nys-soilandwater.org/aem/nonpoint.html

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

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
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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 (FOLLOWPA)

Eligible applicants: 25 counties in the Finger Lakes and Lake Ontario watershed receive FOLLOWPA 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.followpa.org/county.html>

Hudson River Estuary Program Grants

Eligible applicants: Municipalities and not-for-profit corporations with a 501©(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/Default.aspx?tabid=461>

Department of State Local Waterfront Revitalization Program (LWRP) Grants

- Eligible applicants:** Villages, towns, or cities, and counties which are located along New York's coasts 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:** http://www.dos.ny.gov/opd/grantOpportunities/epf_lwrpGrants.html

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:** <http://www.hudsongreenway.ny.gov/GrantFunding/CommunityGrants.aspx>

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:** http://www.nyc.gov/html/dep/html/stormwater/nyc_green_infrastructure_grant_program.shtml

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:** <http://www.binghamton-ny.gov/grant-opportunities>

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:** <http://savetherain.us/green-improvement-fund-gif/>

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:** <http://savetherain.us/sgip/>

City of Binghamton 50/50 Stormwater Management Fund & Green Stormwater and Landscaping

Eligible applicants: Landowners and developers

Summary of program: An incentive program for landowners and developers to implement green infrastructure practices that exceed the requirements of the City of Binghamton Erosion Control and Stormwater Management Ordinance. Approved projects are eligible for a 50 percent match, not to exceed \$25,000, toward the cost of installation of green infrastructure. Developments funded through this program will function as case studies to demonstrate the cost, construction techniques and maintenance requirements of green infrastructure.

Website: <http://www.binghamton-ny.gov/grant-opportunities>

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 Shoreline Cities Green Infrastructure Grants

Eligible applicants: Cities with shoreline that directly touches one of the Great Lakes or a connecting channel, with a population greater than 25,000 and less than 50,000.

Summary of program: Grants to eligible shoreline cities to fund green infrastructure projects that will improve Great Lakes water quality. Green infrastructure projects must be within ½ mile of the shoreline of a Great Lake or connecting channel. Available funding for each application was capped at \$250,000.

Website: <https://www.epa.gov/great-lakes-funding/great-lakes-shoreline-cities-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>

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: <http://www.nfwf.org/chesapeake/Pages/2014-chesapeake-rfp.aspx#.Vdbe1FOZ1gg>

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: <http://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 through 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#.VDbIP1OZ1gp>

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#.VdbnllOZ1gp

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 land owners 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/Internet/FSA_File/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:** <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/farmbill/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.)
Ag Waste Facility Implementation Beck Farms LLC	2496	3120	780
Bacon Hill/Hudson River Tributaries Project	3266	4083	324
Black River Watershed Implementation Project I	0	830	0
BMP Implementation in Salmon Creek Watershed	137	171	400
Buffalo River Watershed	1659	2074	4791
C. Putnam	2780	897	5
Canandaigua Lake Watershed Agricultural Program Phase VIII	108	136	24
Catherine Creek Ag BMP Project	0	630	0
Cayuga County Regional Digester	0	0	1
Cayuga Lake Watershed Tier IV	461	576	1
Central Canal Corridor Agriculture Program - Phase 2 Black Brook	552	690	8
Chateaugay Watershed Agricultural Waste Management Project	0	370	0
Chemung County Steele Memorial Library Green Roof	0	0	1
Chenango River Watershed Ag NPS Reduction Project	5285	6570	746
Chesapeake Bay Watershed Implementation Project #2	27144	5421	63
City of North Tonawanda Manhattan Street Parking Lot - Municipal Rain Garden	0	0	1
City of Rome Urban Canopy Restoration for Stormwater Management	0	0	1
Conewango Creek Nutrient Management	3549	4437	319
Controlled and Limited Livestock Access using Riparian Forest Buffer 2010	992	1240	4154
Controlled and Ltd Livestock Access using Riparian Forest Buffers 2011	872	1090	316
Cryder Creek BMPs	6680	1028	12

Project Title	Nitrogen Reduction (lbs./yr.)	Phosphorus Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)
Cuddeback-Reception Waste Storage Facility	554	693.00	500
Delaware County SWCD Controlled & Limited Livestock Access Using Riparian Forest Buffers	70	88	141
Dutchess County SWCD Hydroseeding Equipment Purchase	0	0	465
Eureka Farms Ag Waste Storage	2368	505	2
Evaluation of Undesigned Ag Waste Storage for Clinton Co. CAFO Farms	0	807	0
Golden Hill Creek Implementation Project	0	142	0
Keuka Lake Watershed Vineyard Erosion and Pesticide Management	9	11	0.2
Lake Champlain Agriculture Nutrient Containment	0	426.	0
Lake Erie Drainage Basin Ag BMP Implementation Project	15773	19717	10000
Lamoka and Waneka Lakes Nutrient Reduction	1685	2107	197
Limestone and Butternut Creek WS Ag NPS Reduction Project	2186	2733	4204
Lincoln Manure Management	154	192	0
Lower Tioughnioga Ag Waste and Nutrient Management	12314	2469	96938
Lower Unadilla- Windsor Acres Project	732	915	100
Ludlowville Stormwater Control	44	16	4
Madison County Oriskany Creek Watershed Ag NPS Elimination Project	1504	1880	4493
Madison County SWCD Upper Chanango River WS Ag. Pollution Prevention Project	3690	4642	11403
Martin Liddle Stream Stabilization to Facilitate CREP	0	60	0
Mohawk River Basin BMP Implementation Project	955	1194	900
Monroe County Stormwater Coalition of Monroe County Collaborative MS4 Stormwater Retrofits Using Green Infrastructure	69	9	1
North Branch of the Snook Kill	817	1037	244
Northern Watersheds Agricultural Program Phase V	4603	5754	61

Project Title	Nitrogen Reduction (lbs./yr.)	Phosphorus Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)
Northern WS Agricultural Program IV	6410	8021	11330
Northern WS Agricultural Program-Phase III C	0	2268	0
Oatka Creek Watershed Agricultural Nutrient Reduction Project	8453	10567	693
Oneida Creek Stream Bank Stabilization Project	133	66	66
Oneida Lake Watershed Ag NPS Implementation	84	105	0
Onondaga Lake WS AEM Implementation Project	0	2617	0
Otsego County Waterpoint Farms Wastewater Treatment Project	1425	1781	3582
Otselic River Watershed 2007 Agriculture Management	0	247	0
Owasco Lake and Tribs Tier IV	417	2812	11
Pathogen Management BMP's on the Skaneateles Lake Watershed	967	90	2886
Phase I Partnered Approach to Pathogen Nutrient and Sediment Reduction in the 4-County Seneca River WS	1685	2107	197
Phased Prescribed Grazing Management Imp	611	764	96
Prescribed Grazing in Cayuga County	0	808	0
Salmon Creek Waste Storage Implementation at Jeff Cook Farm	338	423	0
Saratoga State Park Stormwater Improvements at Columbia and Ferndell Picnic Areas	0	0	1
Seneca Lake Watershed Vineyard Erosion and Pesticide Mgt, Grant	16	20	1
Silage Leachate for 2 CAFOs in Salmon River Watershed	1936	2420	130
South Branch Cattaraugus Creek Nutrient Management Implementation Project	1848	2311	238
Southern Cayuga Runoff Mgt Project Sweylokan Farms	344	440	160
Southern Watersheds Non-Point Source Abatement Program	2877	3597	181
St. Lawrence County Willainge to Protection Water Quality	426	532	1064
Steuben County SWCD Canisteo River Watershed CAFO Ag Implementation	1102	1378	3180
Steuben County Water Quality Implementation	1294	1617	100
Suffolk County Lindenhurst Memorial Library	0	0	1

Project Title	Nitrogen Reduction (lbs./yr.)	Phosphorus Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)
The Susquehanna River Basin Management Intensive Grazing Project II	0	297	0
Tioga County SWCD Susquehanna River Lower Mainstem Watershed Protection Project	481	601	1134
Tioga County SWCD Wetland Restoration in the NY Susquehanna River Basin	0	0	1
Tompkins County Soil and Water Conservation District (SWCD) Hydro-Seeding Road Ditches/Banks and Other Critical Areas – Countywide	0	1100	1100
Town of Newstead Murder Creek Bank Stabilization Project	46	23	23
Upper Susquehanna Leachate Treatment Project	26820	4330	38
Upper Tioughnioga River Project	133	166	25
Upper Tioughnioga River WS Imp Project	189	237	0
Upper Tioughnioga Watershed CAFO Waste Management Plan	759	949	0
Upper Tioughnioga WS CAFO Nutrient Mgt Imp 2010	1049	1049	2417
Utica Green Engineering Program	0	0	1
Village of Greenwood Lake Village Hall Complex Stormwater Management Plan	0	0	1
Walker Farms LLC Anaerobic Digester	12	15	100
Wellsville Water Supply BMP Implementation	118	147	6
Will-O-Crest Agricultural Project	0	6790	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. More information about the program can be found at: <http://www.dec.ny.gov/chemical/92229.html>.