

Connecticut Nonpoint Source Management 2018 Annual Report

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Connecticut Department of
**ENERGY &
ENVIRONMENTAL
PROTECTION**

**Connecticut Department of
Energy & Environmental Protection**

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1. Introduction

In 2018 the Connecticut Department of Energy and Environmental Protection (CTDEEP), Bureau of Water Protection and Land Reuse (WPLR) continued management of the Clean Water Section 319 grant program, made progress in implementing the Connecticut Nonpoint Source Management Program Plan, and addressed nonpoint sources of pollution through its various programs. Additionally other Connecticut state agencies were involved with addressing nonpoint source pollution. This annual report to the U.S. Environmental Protection Agency (EPA) summarizes Connecticut's 2018 efforts by highlighting the pertinent activities to address nonpoint source pollution, and provides a summary of the Section 319 funded projects that were completed in 2018.

Areas of particular success and interest in implementation of the [Connecticut Nonpoint Source Management Program Plan](#) in 2018 are as follows:

2. Watershed Management

Connecticut's Nonpoint Source Program (NPS) Staff serve a critical coordination role within each of the eight major basins on the state. Staff not only manage the specific 319 funded projects but also link up complementary efforts within the basins and within CTDEEP.

[319 Program Management](#)

In 2018, CTDEEP issued a solicitation for FY18 319 grants. Of the proposals received, staff selected 9 projects to receive a total of \$982k. Contracting and implementation for the FY18 319 projects is underway. These selected projects for FY18 are:

- Block Grant to Conservation Districts for Implementation
- Block Grant to Conservation Districts for Technical Assistance
- Birch Plain Creek Stormwater Improvement Project
- French River Watershed Based Plan Stormwater Implementation
- Watershed Based Plan and Pollution Load Reduction for the Norwalk River
- Watershed Based Plan for Deep Brook
- Hamden Town Center Park Stormwater BMP Implementation Project

NPS Program staff also successfully closed out eleven 319 projects in 2018. The list of completed projects is shown in the table below. Short summaries of the completed projects are listed in Appendix A. CTDEEP also completed all but one of the milestones for the 319 program for 2018 in the Performance Partnership Agreement (see Appendix B). The one milestone missing was a success story. This milestone was not met because no projects in 2018 met the definition in the 319 guidance to be a success story.

State Project Number	Project Title
13-01e-i	Roseland Lake Nutrient Loads Modeling Project (ECCD)
13-04b	9 Element, WBP Upgrade for Pomperaug Watershed with Emphasis on 303(d) Listed Bacteria Impairments (PRWC)
13-04d	Globe Hollow - Hop Brook Implementation Project - Hockanum WBP (NCCD)
13-05	New Haven - Mill River Watershed Based Plan (CFE/STS)
14-03j	Mashamoquet NPS Implementation - Septic System Upgrades (ECCD)
14-03k	North Eagleville Road Green Street Implementation (UConn) (See also 12-05 L)
16-01 ECCD(i)	ECCD - Grand Street (East Lyme) Stormwater Project (also see 12-05j, 14-01 ECCD(i); 15-01 ECCD(i); 15-10)
16-02 CRCCD(p)(i)	CRCCD - NPS Management
16-02 ECCD(p)(i)	ECCD - NPS Management
16-02 NCCD(p)(i)	NCCD - NPS Management
16-02 NWCD(p)(i)	NWCD - NPS Management

Watershed Coordination

NPS Program Staff continuously review permit applications subject to CTDEEP approval and planning documents developed by CTDEEP and other state agencies with an eye towards water quality protection and improvements. These reviews include but are not limited to water diversion permits, state inland wetland permits, stormwater certifications for state facilities, flood management certification, Section 401 water quality certifications, and projects subject to the Connecticut Environmental Policy Act. In addition, NPS Program Staff review state planning documents such as the state Green Plan, TMDLs, and State Plan of Conservation and Development as part of their ongoing responsibilities. Nonpoint Source Program staff also review potential purchases of open space lands by CTDEEP as well as grants applications from communities requesting CTDEEP grants to purchase open space to determine the potential for projects to protect and improve water quality.

NPS Program Staff sit on numerous standing committees including: The Last Green Valley, Inc, Eight Mile River Wild and Scenic Coordinating Committee, Farmington River Coordinating Committee (for Upper Farmington River Wild & Scenic area), Lower Farmington River and Salmon Brook Wild and Scenic Study Committee, and the Niantic River Nitrogen Workgroup, among others. Staff also serve as a contact for the Housatonic PCB issue and attend EPA-sponsored Citizen Coordinating Council meetings regarding the GE-Pittsfield/Housatonic River Site. In addition to day meetings, NPS Program staff spend approximately one night per week attending meetings with local and regional watershed groups and other public forums to assure that CTDEEP water

management goals are communicated to as broad an audience as possible. In 2018 Connecticut sent 4 staff members to the 29th annual NEIWPCC NPS Conference in Glens Falls, New York.

Statewide NPS Pollutant Specific Initiatives

Nitrogen Strategy

EPA approved a Total Maximum Daily Load (TMDL) in 2001 to achieve water quality standards for dissolved oxygen in Long Island Sound. CT DEEP developed a general permit for nitrogen for its wastewater treatment plants (WWTP) and implemented a water quality trading program. As a result, the nitrogen reduction goals for WWTPs were achieved by 2014. In 2015, EPA developed a Nitrogen Reduction Strategy to enhance the 2001 TMDL and address nearshore embayments as well. As a result, CT DEEP prepared a Second Generation Nitrogen Strategy in 2016. This strategy enhances the 2001 TMDL by including additional nitrogen reductions at WWTPs, and addresses nitrogen to embayments, from nonpoint sources. Efforts made by CT DEEP to meet the goals of the nitrogen strategy in 2018 include:

- Continuation of the nitrogen trading program for wastewater treatment plants
- Continued upgrades to the Farmington WWTP and completed work at the Rocky Hill WWTP.
- Finalized Phase I of the Onsite Wastewater Treatment Systems (OWTS) study. This study involved an assessment of the condition of OWTS in CT's coastal areas and estimation of nitrogen loading.
- Participated in the Niantic River Nitrogen Work Group, including one staff that chairs the meetings, and worked with a consultant to synthesize nitrogen data and develop a nitrogen processes model of the Niantic River estuary. Obtained funding to initiate a monitoring and modeling study in the Pawcatuck River estuary. Tasks completed include planning meetings with local, academic, state, and federal partners; and water quality monitoring and analyses.
- Participated in development of the Stormwater and NPS Tracking Tool RFP.

Phosphorus Strategy

Public Act 12-155 required CTDEEP and municipalities mandated by EPA to construct and treat wastewater for advanced phosphorus removal, to collaboratively evaluate and make recommendations regarding a state-wide strategy to reduce phosphorus loading to inland non-tidal waters. PA 12-155 also provided legislation enabling municipalities to receive additional funds from Connecticut's Clean Water Fund to remove phosphorus in WWTP plant discharges, regulates fertilizer use and the amount of phosphorus in fertilizers, and required CTDEEP to work with affected municipalities to develop a state-wide response to address phosphorus in nonpoint source pollution.

To develop this state wide phosphorus response, a NPS Workgroup made up of municipal representatives, Federal and state environmental professionals, environmental consultants, and academicians was formed to evaluate the sources of phosphorus from NPS pollution. The NPS Workgroup met thirteen times to review sources of phosphorus in stormwater, agricultural runoff, septic system leachate, and soil erosion. The NPS Workgroup also reviewed existing programs that address NPS pollution, studied the status and trends of phosphorus in NPS pollution, and identified and assessed methods and strategies to reduce phosphorus in NPS runoff. The NPS Workgroup concluded their report by making recommendations to expand or add programs to address phosphorus in NPS pollution. A final report from the NPS Workgroup is included in [Recommendations for Phosphorus Strategy Pursuant to PA 12-155](#) which was finalized by CTDEEP in 2016 and submitted to the Connecticut General Assembly during the 2017 session. In 2018, CTDEEP has worked to implement the strategy as described in the following sections on Agriculture and Subsurface Disposal Systems.

[Hydrologic and Habitat Modification](#)

[Streamflow Classifications](#)

In 2005 the Connecticut General Assembly passed Public Act 05-142 (CGS Section 26-141a and b) which required the CTDEEP to work with the Connecticut Department of Public Health and stakeholders to update standards for maintaining minimum flows in rivers and streams. This Act required these standards to balance river and stream ecology, wildlife and recreation needs while providing for public health, flood control, industry, public utilities, water supply, public safety, agriculture and other lawful uses of water.

Extensive efforts by CTDEEP and numerous stakeholder work groups culminated in adoption of the Stream Flow Standards and Regulations on December 2011. A five-year process to classify all the streams across the state based on how altered the flow of the stream is from natural flow began in 2014. Classifications for the Connecticut River were finalized in February of 2018, and classifications for the final set of basins (Housatonic, Hudson and Southwest Coastal River Basins) continued in 2018 and were ultimately completed in spring of 2019. Requirements to begin making releases from dams to support flow downstream begin ten years after classification, and therefore will begin in the Thames, Pawcatuck and Southeast Coastal Basins in 2024.

[Dam Removals](#)

Many of Connecticut's rivers are blocked by dams from the state's industrial past. Many of these dams are no longer used for their original industrial purpose, may cause flooding, prevent fish migration, increase eutrophication and degrade habitat in the watercourse.

In 2018 CTDEEP and its conservation partners were involved with planning or implementation of removal projects for the following dams:

- The Flock Process Dam on the Norwalk River just south of CT Route 15 in Norwalk, CT was removed in 2018. The removal of the Flock Process Dam was completed under budget so 319 funds that were made available to complete the project were not needed for the project. See before and after photos on the next page.
- Heminway Pond Dam (Steele Brook, Watertown). This dam was substantially removed in 2018. Some final tasks remain to complete in 2019. To assist with removal of Heminway Pond Dam, CTDEEP dedicated Section 319 funds to this project in 2017. The Section 319 funds are providing only a portion of the funds needed to remove this dam but have been necessary to help bring this project to fruition.
- The Springborn Dam (Scantic River, Enfield) was removed.
- The Blackledge River Dam (Blackledge River, Glastonbury) was removed.
- The Old Papermill Pond Dam (East Aspetuck River, New Milford) was removed. The project is mostly done, except that the contractor needs to come back and seed some areas in 2019.

Flock Process Dam

Before Removal (2018)



Flock Process Dam

After Removal (October 2018)



State Water Plan

In 2017 the Connecticut Water Planning Council completed a State Water Plan. The Plan seeks to preserve Connecticut's valuable water resources while balancing the need for fair and effective water use. The need to develop the plan was driven by the threat of droughts becoming more common and a concern about severe water shortages in other parts of the country. The process to develop the Plan was a two year stakeholder and publicly-driven planning process. The Plan serves as a compilation of state water resources, water use data, and consensus-based principles that will help to frame future water management policies, laws and regulations in the state. The Plan sets out recommendations for next steps, including additional data needs, outreach suggestions, and other initiatives that can help achieve progress on current and future water issues. The State Water Plan seeks to:

- Provide a consistent platform for decision making around water usage based on sound science, consensus-based guiding principles, and clear roadmaps;
- Reinforce Connecticut's long-standing practice of maintaining the highest quality drinking water;
- Balance the use of water to meet all needs (instream and out-of-stream);
- Emphasize the need to focus on improved water conservation by all stakeholders, including water companies, individuals, corporations, agriculture, recreation, and government, among others; and,

- Reinforce the importance of maintaining and centralizing scientific data to inform future water use plans.

The Plan will provide a solid foundation for future water management decisions. The State Water Plan was submitted to the Connecticut General Assembly in January, 2018 and awaits legislative approval. Governor Malloy signed [Executive Order No. 66](#) in June, 2018 directing the state's Water Planning Council to immediately be guided by and implement the State Water Plan. More information on Connecticut's State Water Plan can be found at <https://www.ct.gov/water/cwp/view.asp?a=4801&Q=586878>.

[Land Use Planning](#)

Connecticut CTDEEP's Forestry Division has an active urban forestry program. CTDEEP's urban forestry program works closely with municipalities throughout the state, helping to educate regarding the benefits and importance of urban trees and also assist in the development of healthy, diverse urban forest canopies. Among the benefits of urban trees that are often cited are the work these trees do in encouraging infiltration of water into soils, leading to cleaner ground water, increased water storage and the reduction of storm water runoff. Within Connecticut, the number of green stormwater infrastructure projects are on the rise with recent examples in New Haven with Yale University's Urban Resource Institute, due in many cases to partnerships with groups whose primary focus is urban forestry. More information on Connecticut Urban Forestry programs can be found at:

http://www.ct.gov/CTDEEP/cwp/view.asp?a=2697&q=322872&CTDEEPNav_GID=1631.

The Forest Legacy Program awarded funding to a project in Stafford in 2015 is currently in progress and will place conservation restriction easements on approximately 771 acres in the Scantic River watershed and 690 acres in the Willimantic River watershed. In 2018, two conservation easements totaling 188 acres closed in Stafford, complete with forest stewardship plans, and another 186 acres in the Roaring Brook watershed, also with a completed forest stewardship plan. These actions are providing critical headwater protection support for downstream water quality challenges. Another Forest Legacy Program project application focusing on the Natchaug River watershed was submitted to the nationally competitive program in 2018 to fund the placement of conservation restriction easements on approximately 550 acres in the Natchaug River watershed. If funded that project will get underway in mid-2019 within the Mount Hope River and the Fenton River sub-regional watersheds, both DEEP priority action plan watersheds.

CTDEEP's Office of Planning and Program Development has two programs dedicated to preserving public open space. The Recreation and Natural Heritage Trust Program purchases properties to add land to the state's system of Parks, Forests, Wildlife management areas, and water access areas. The Open Space and Watershed Land

Acquisition Grant Program provides grants to communities for the acquisition of open space.

The State has a goal to preserve or otherwise protect 673,210 acres or 21% of Connecticut's land base as open space by year 2023. This initiative includes 10% of open space to be held by CTDEEP and 11% to be held by municipalities, private non-profit land conservation organizations, and water companies. As of March 31, 2019, CTDEEP estimates that 508,279 acres, or 75.5% of the total goal has been reached through the direct purchase of open space by the State and its conservation partners or by donations from landowners. In 2018 through its grant program, CTDEEP helped fund the preservation of 1,443 acres of open space and announced new awards to support the protection of another 1,139 acres. More information on CTDEEP land acquisition programs can be found at www.ct.gov/deep/openspace.

3. Water Quality Planning and Management

In addition to the NPS Program Staff, CTDEEP's Water Quality Monitoring Program collects data to assess water bodies and visits many long term monitoring stations in basins with active Section 319 projects. An objective of the water quality monitoring program is to evaluate the effectiveness of current water quality programs and policies, and communicate monitoring information to the public and resource agencies including the Nonpoint Source Program. NPS Program Staff make annual requests to the Water Quality Monitoring Program to add monitoring stations to support Section 319 water quality projects. Data is then reviewed and assessed in the Integrated Water Quality Report to determine if a project was successful in improving water quality to a level that meets Connecticut Water Quality Standards. If the monitoring data proves that the impairment no longer exists, the water body is then removed from the CWA Section 303d list in the next reporting cycle. CTDEEP Water Quality Monitoring Program staff also provide technical assistance to the NPS Program by reviewing and approving Quality Assurance Project Plans for Section 319 funded projects that include a water monitoring component.

In 2016, CTDEEP developed a program for Integrated Water Resource Management (IWRM). The IWRM approach is a new initiative for CTDEEP, consistent with the EPA Long-Term Vision for Assessment, Restoration and Protection under the CWA Section 303d Program. Through this process, CTDEEP identified priority waters for action plan development. During the 2018 calendar year CTDEEP worked on action plans for priority waters. TMDLs were completed for bacteria pollution in Norwalk, Westbrook, and Greenwich-Stamford estuaries. Work continued on a nutrient TMDL for Bantam Lake. Data were collected for a Healthy Waters Plan for the Natchaug River Watershed. Finally, CTDEEP and the Rhode Island Department of Environmental Management secured funding from the Southeast New England Program for nutrient monitoring in the Pawcatuck River watershed. This monitoring, which will start in 2019, will be used to

develop a nutrient action plan for this estuary. The process used will serve as a pilot for future embayment studies.

In 2018, CTDEEP continued to develop Watershed Based Plans (WBP) with partners using CWA Section 319 and other funding. The following WBPs were completed in 2018:

- 9 Element, WBP Upgrade for Pomperaug River Watershed with Emphasis on 303(d) Listed Bacteria Impairments (Pomperaug River Watershed Coalition)
- Mill River WBP (Connecticut Fund for the Environment/Save The Sound)
- Roseland Lake Nutrient Management Plan (Eastern Connecticut Conservation District)

4. Coastal Nonpoint Source Control

CT DEEP Coastal Nonpoint Pollution Control Program

Connecticut's Coastal Nonpoint Pollution Control Program (CNPCP) established pursuant to Section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA), addresses several major categories of NPS pollution including agriculture, urban sources, marinas and recreational boating, hydromodifications, and wetlands and riparian areas. The CNPCP is a networked program that relies on several well-established and effective programs to reduce or eliminate NPS pollution affecting coastal waters, and several of them are administered or overseen by CT DEEP.

Connecticut's CNPCP is based primarily on the Connecticut Coastal Management Act, the Section 319 Nonpoint Source Pollution Control Program, and the state's broad Water Pollution Control Authority. In addition to these foundation programs, there are several networked programs and authorities that are used to implement each CNPCP program component.

The CT DEEP Land and Water Resources Division (LWRD) is responsible for administering the CNPCP in conjunction with the Water Planning and Management Division in the Bureau of Water Protection and Land Reuse. LWRD also is responsible for administering statutes related to coastal NPS problems, including the state's Tidal Wetlands Act and Structures, Dredging, and Fill Act.

Implementation of Connecticut's CNPCP is focused on:

- Controlling nitrogen and pathogens, especially from new development, existing urban sources, and runoff from marinas that are proximate to Long Island Sound and its major tributaries.
- Addressing NPS pollution control needs on both a case-by-case and a watershed basis through various methods including coastal site plan review, state regulatory authority (e.g., tidal wetlands and structures, dredging, and fill regulatory programs), Section 319 implementation projects, and broader watershed planning initiatives.

- Continuing technical assistance to municipalities to address nonpoint source impacts from new and existing development encouraging use of Low Impact Development and Green Infrastructure techniques.
- Protecting tidal wetlands and riparian areas, and promoting the use of Living Shorelines where appropriate.
- Improving the monitoring and tracking of septic system performance in areas impacting coastal waters.

Long Island Sound Study

CTDEEP continues to routinely incorporate relevant nonpoint source-related management measures as permit conditions for coastal regulatory programs (structures and dredging 22a-359 to 22a-363h and tidal wetlands 22a-28 to 22a-35a). In addition, relevant nonpoint source-related management measures are regularly incorporated into coastal site plan reviews. CTDEEP's Land and Water Resources Division comments on zoning regulation amendments that affect the coastal boundary and revisions to plans of conservation and development and/or municipal coastal programs in coastal municipalities as necessary.

CTDEEP is a partner in the EPA Long Island Sound Study (LISS), one of 28 National Estuaries Programs (NEP) established under the Federal Clean Water Act. The LISS is a federal and state partnership led by CTDEEP, New York (DEC), and EPA. In 2018 CTDEEP continued implementation of the LIS [Comprehensive Conservation Management Plan](#) (CCMP). Each NEP develops and implements a CCMP that recommends priority actions to restore and maintain the chemical, physical, and biological integrity of the estuary including water quality, a balanced indigenous population of shellfish, fish, and wildlife, critical lands and habitat, and recreation and public access. Information on the LISS is at the following links.
<http://longislandsoundstudy.net/about/our-vision/>

Boating and Marinas

During the 2018 boating season, CTDEEP pumpout facilities and pumpout vessel programs removed more than 1.074 million gallons of sewage from recreational vessels in Long Island Sound and Candlewood Lake. DEEP celebrated the launch of the world's first full-size zero emissions solar-electric pumpout vessel which will be used in Branford Harbor, providing both recreational vessel waste removal and an example of what can be accomplished with this new technology to reduce air pollution, and therefore atmospheric nitrogen deposition associated with traditional gasoline powered vessels. Funding for the program comes from the Sport Fishing and Boating Trust fund, which is supported by excise taxes on certain fishing and boating equipment and boat fuels. CTDEEP partners with the U.S. Fish and Wildlife Service and issues grants to marinas to establish pumpout

facilities that are free to boaters. Information regarding Connecticut's Clean Boater Program and Clean Vessel Act Program can be found at: http://www.ct.gov/CTDEEP/cwp/view.asp?a=2686&Q=326440&CTDEEPNav_GID=1620.

5. Pollution Prevention

Pollution prevention emphasizes preventing or minimizing pollution, rather than controlling it once it is generated. Pollution prevention is the most effective NPS pollution control strategy and therefore plays a central role in the state's NPS Management Program, which is consistent with CT DEEP's commitment to pollution prevention. Pollution prevention is essential to restoring impaired waters and protecting high quality waters. Numerous pollution prevention practices are available for a variety of land uses and NPS pollution source categories, many of which are emphasized throughout the recommendations contained in this plan. CT DEEP has a Pollution Prevention Program that coordinates pollution prevention activities in cooperation with the NPS Program. Information can be found at www.ct.gov/deep/p2.

6. Stormwater Program: Runoff from Developed Areas.

In 2017 Connecticut issued the revised General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4) general permit. The renewal of the MS4 general permit was the first time Connecticut's MS4 general permit has been reissued with significant modifications since it was issued in January 2004. The 2004 permit covers municipal separate storm sewer systems and how a municipality manages its stormwater infrastructure. Each municipality in the program developed a stormwater management plan that addresses six areas of responsibility: public education and outreach, public participation, illicit discharge detection and elimination, construction stormwater management, post-construction stormwater management, pollution prevention and good housekeeping. The reissued permit builds on six areas of responsibility and provides more detail and clarification on how to implement these measures as well as adding additional elements to help protect environmental resources. The reissued [MS4 general permit](#) also includes eight additional municipalities as well as state and federal institutions in its coverage. Connecticut's revised MS4 general permit became effective on July 1st, 2017. Connecticut issued its first DOT MS4 general permit, modeled after the MS4 general permit, which will become effective July 1, 2019. Connecticut also has in effect a Commercial Stormwater general permit that covers developments with five or more acres of impervious cover.

As part of the process to reissue the MS4 general permit, CTDEEP engaged UConn Center for Land Use Education and Research (CLEAR) to create a new website devoted to MS4 outreach and compliance. In 2017 CLEAR developed a website organized around

the six minimum management measures and included tools, maps, links, publications, tutorial videos and other resources for MS4 municipalities and communities interested in addressing stormwater issues <http://nemo.uconn.edu/ms4/index.htm>. As part of this outreach effort, CLEAR has dedicated a fulltime planner to serve as a resource for municipalities and institutions on MS4 issues.

7. Subsurface Disposal Systems

For the 2018 fiscal year CTDEEP once again was able to use Connecticut Clean Water Funds to meet its 40% Section 319 non-federal match requirement. With funding from Connecticut's Clean Water Fund, CTDEEP administers planning, design and construction projects that specifically target and correct community pollution problems arising from inadequate onsite sewage treatment and disposal systems. In 2018 CTDEEP's Municipal Wastewater Section, in coordination with the respective municipalities, made progress on the following projects:

- Old Saybrook: Substantially completed all individual non-waterfront septic system upgrades in 10 out of the 15 focus areas within the decentralized wastewater management district.
- Clinton: Continued study for a community wastewater management system. A preliminary draft of the study was completed in 2018 but it is anticipated that additional study revisions will be necessary to refine cost estimates and identify cost effective and technically feasible wastewater management alternative or combination of alternatives.
- Old Lyme: DEEP approved the wastewater management planning report for the three chartered beach associations. The sanitary sewers design phase commenced during the fall of 2018 with expected completion in late 2019. DEEP initiated the environmental screening process in accordance with the CT Environmental Policy Act for the town-controlled areas (i.e., Sound View and Miscellaneous Town Area B). Project bid documents for chartered beach associations (and Town-controlled areas) are expected to be advertised during the 2019/2020 winter season.
- Goshen: Started negotiations to send Woodridge Lake wastewater to Torrington WWTP.
- Westbrook: Began the design of onsite subsurface permeable reactive barrier ("PRB") systems for enhanced Nitrogen removal to be tested at two Town-owned sites. PRB systems are expected to be installed and monitored during the summer of 2019.

8. Agriculture

In 2018 the USDA, Natural Resource Conservation Service (NRCS) continued to fund several Resource Conservation Partnership Program (RCPP) projects in Connecticut.

These include four projects with nonpoint source management focus: the Connecticut Council on Soil and Water's Long Island Sound RCPP, The Last Green Valley's Soil Health and Water Quality in the Thames River Watershed RCPP, University of Connecticut's Bacterial Source Tracking RCPP, and The Last Green Valley's Accelerating the Pace of Conservation in the Southern New England Heritage Forest (SNEFH) RCPP. The Long Island Sound RCPP is funding land easements, working with producers on soil health, and implementing resiliency projects in areas that are vulnerable to soil erosion. The long-term objective of The Last Green Valley's RCPP is to implement soil health conservation practices through the NRCS Environmental Quality Incentives Program (EQIP) on 1,000 acres of cropland; this is being accomplished on a large dairy farm in Franklin. UCONN's Bacterial Source Tracking RCPP will prioritize dairy farm production areas within watersheds containing Recreation impaired freshwaters; these waters are covered under a Bacteria TMDL and in-stream and edge-of-field monitoring continues to document high bacteria concentrations. The project team will hold direct conversations with willing dairy farmers about current practices and seek opportunities to reduce barriers to producers in adopting pathogen practices. The Last Green Valley SNEFH is connecting forest landowners not traditionally interacting with NRCS with a suite of NRCS programs and services for sound management and forestry conservation practices through EQIP and permanent protection through easements under the Healthy Forests Reserve Program.

CTDEEP participates as a member of the Connecticut NRCS State Technical Committee. EQIP Programs are discussed and suggested priorities are provided to NRCS about farms that could benefit from NRCS assistance and funding. Meanwhile CTDEEP continues to work with NRCS to develop projects as part of the National Water Quality Initiative (NWQI). Two basins in Connecticut with NWQI designation are the Little River in Woodstock/Putnam and Broad Brook in Ellington. In 2018 NRCS announced a readiness pilot program under the NWQI for the Farm River watershed in the towns of North Branford, Branford, and East Haven which will provide assessment and planning for source water protection of public water supplies.

In 2017 the North Central Conservation District completed a second phase of a watershed based plan Broad Brook basin. The purpose of this phase was to develop projects in the Broad Brook basin. Funds for this project were provided through a Section 319 grant via CTDEEP. The Broad Brook Basin was selected to be part of the National Water Quality Initiative Program in 2015. In 2018 North Central Conservation District began planning and development of several projects identified in the second phase.

CTDEEP has continued discussions internally, with our partners, and farmers promoting anaerobic digesters as a means to address the surplus of livestock nutrients produced in state.

In 2018 CTDEEP used Section 319 funds to support and manage the following agriculture nutrient reduction projects:

- Little River, Valleyside Farm Tile Drain Denitrification - Bioreactor Effectiveness Monitoring
- Coginchaug River, Guilford Farm Water Supply
- Coginchaug River, Deerfield Farm Ag Waste Management
- Little River Fairvue Farm Waste Management Infrastructure

Landscaping and Turf Management

In 2018 CTDEEP continued to work with UCONN Cooperative Extension under a memorandum of Understanding to conduct Phase Two of the “Organic Turf and No Pesticides Turf Demonstration Project for Lawns and Athletic fields” (CTDEEP Section 319 Projects #12-02 and 15-04). This project includes 24 homeowner demonstration lawns and 24 demonstration athletic fields each having a different combination of fertilizer and pest management regimes. As part of this project, UCONN Cooperative Extension holds field days for municipal groundskeepers where proper fertilization techniques are discussed and equipment is calibrated to deliver the proper agronomic rate. Phase Two of this grant will advance these outreach efforts by educating more municipal officials, disseminating information to homeowners on proper lawn maintenance through a smart phone app, and updating Cooperative Extension websites with the results of the field plot information.

In 2018, as a deliverable for these projects, UCONN completed the FertAdvisor App to assist homeowners and turfgrass practitioners in calculating the amount of lawn fertilizer needed, drop and rotary spreader calibration, and reading a fertilizer label to properly apply fertilizer to turfgrass areas. Built-in calculators help determine how much fertilizer will be needed to properly fertilize turfgrass areas, streamline calibration calculations, and calculate the amount of nitrogen, phosphate and potash that will be applied to an area based on the fertilizer selected. Animations and videos guide turfgrass enthusiasts on how to take a soil sample, properly apply fertilizer using drop and rotary spreaders, calibrate a fertilizer spreader, and calculate lawn surface area. Tips on application techniques, accurate calibration, proper fertilizer timing, and nitrogen source selection combine to provide users a comprehensive tool that will help ensure accurate applications and reduce misapplications that can potentially damage turfgrass, waste fertilizer and/or pose environmental risk. The FertAdvisor App is available for both Apple and Android devices.

Additionally UCONN and the Connecticut Agriculture Experiment Station (CAES) provide soil testing analyses for homeowners, farmers and industry. These soil tests recommend nutrient needs for the intended crop and if followed, will prevent over fertilization of homeowner lawns and municipal fields. Together CAES and UCONN test approximately 8,000 soil samples each year.

9. Technical Assistance and Outreach

In addition to CT DEEP, Connecticut's Soil and Water Conservation Districts (Conservation Districts) and the University of Connecticut Nonpoint Education for Municipal Officials (NEMO) program, among other NPS Program partners, play a lead role in providing technical assistance and outreach on NPS management issues in Connecticut.

Conservation Districts

Conservation Districts deliver technical assistance and outreach to municipalities and landowners. Technical and educational services provided include erosion and sedimentation control, management and control of NPS pollution, management of stormwater runoff, and promotion of watershed management with recommendations for best management practices. Districts partner with various public and private stakeholders to develop and implement watershed management plans and local initiatives focused on protecting and restoring watershed health. Among others, partners include CT DEEP, NRCS, municipalities, regional planning entities, and natural resource and land preservation groups.

Connecticut NEMO Program

The NEMO program began in 1991 at the University of Connecticut, as a collaboration of the Cooperative Extension System, the Connecticut Sea Grant College Program and the Natural Resources Management and Engineering Department. The fundamental premise of the program is that education – not regulation – is the most efficient and cost-effective means of influencing land use decisions. Today, NEMO is a part of the Center for Land Use Education and Research (CLEAR) within the University of Connecticut College of Agriculture and Natural Resources. The NEMO program provides information, education and assistance to local land use officials and other community groups on how they can accommodate growth while protecting their natural resources and community character. NPS management issues addressed by the NEMO program and CLEAR include LID and green infrastructure, riparian buffers, and municipal plans and regulations that protect water quality.

10. Summary

As described above, Connecticut made significant progress in implementing the Connecticut Nonpoint Source Management Program Plan in 2018. Progress is expected to continue at a similar pace in 2019. This Annual Report is meant to provide a summary of activities of various CTDEEP programs and sister state agencies and institutions involved in nonpoint source pollution control. More detail can be found on each program by viewing CTDEEP's website.

Appendix A

Summaries of CWA Section 319 grant funded projects completed in 2018

FY	State Project Number	Project Title
2013	13-01e-i	Roseland Lake Nutrient Loads Modeling Project (ECCD)
<p>Roseland Lake is located in Woodstock, Connecticut. The lake is not meeting Connecticut water quality standards due to eutrophication and biological indicators, including Harmful Algae Blooms (HABs). Roseland Lake has been on the State of Connecticut List of Impaired Waterbodies since the list was developed in 1992. The Eastern Connecticut Conservation District (ECCD), with funding in part from an US EPA Clean Water Act § 319 Non-point Source Pollution grant through the CT Department of Energy and Environmental Protection (DEEP), and the Putnam Water Pollution Control Authority, conducted a water quality study of the lake and its watershed to determine if the source of nutrients causing the lake impairment was mostly from land runoff, in-lake sources or both. A lake consultant was hired to review the water quality data and interpret the data using accepted mathematical modeling practices in order to identify the nutrient sources fueling the seasonal algae blooms in the lake. Based on the outcomes of this effort, a Roseland Lake Management Plan was developed.</p> <p>The Roseland Lake Management Plan will act as a guide for future conservation efforts in the Roseland Lake watershed and in the development of future Roseland Lake in-lake management planning. The Town of Putnam Water Pollution Control Authority is considered a small water company by the CT Department of Public Health Drinking Water Division. Without the support of this project and funding by the Connecticut Department of Energy & Environmental Protection through a United States Environmental Protection Agency Clean Water Act Section 319 Nonpoint Source Grant, the Town of Putnam would not have had the staff or the expertise to investigate the watershed at this level to do the necessary nutrient modeling or develop a Roseland Lake Management Plan. The CT Department of Public Health Drinking Water Division supported this project as a potential model of partnerships that could be utilized for other publicly operated small water companies.</p>		
2013	13-04b	9 Element, WBP Upgrade for Pomperaug Watershed with Emphasis on 303(d) Listed Bacteria Impairments (PRWC)
<p>In response to new stream segments within the Pomperaug River watershed being added to the 303d impaired waters list in the 2012 Integrated Water Quality Report to Congress, the Pomperaug River Watershed Coalition (PRWC) recognized the need to develop an EPA 9-Element Watershed Based Plan (WBP) as a first step towards improving local water quality. In 2014, PRWC secured Section 319 funding from Connecticut Department of Energy and Environmental Protection (CT DEEP) and set forth in this planning effort.</p> <p>With funding in place, PRWC re-engaged its Land Use Committee to steer the project and hired the environmental consulting team of Fuss & O'Neill to complete tasks associated with developing an actionable WBP. These tasks included preparing a Quality Assurance Project Plan (QAPP), generating maps to reflect existing watershed conditions, applying a computer-based pollutant loading model to the watershed to estimate pollutant loading and load reductions necessary for streams to meet the water quality standard for recreation, conducting field assessment surveys, identifying locations conducive to implementing best management</p>		

practices, drafting BMP conceptual plans, identifying potential funding sources, and developing a prioritized implementation schedule.

Throughout the planning process, PRWC engaged stakeholders within the watershed community to keep them apprised of the project and to seek local input and feedback to help refine the Plan. The result of this effort is a thorough 9-element Watershed Based Plan for the Pomperaug River watershed to serve as an actionable guidance document for protecting and improving in-stream water quality in the communities surrounding Woodbury, Connecticut. The final Pomperaug River Watershed Based Plan was adopted by the PRWC Board of Directors at its regular monthly meeting held in September 2018.

2013	13-04d	Globe Hollow - Hop Brook Implementation Project - Hockanum WBP (NCCD)
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The Hockanum River is listed as an impaired waterbody under the 303d Impaired Waters List of Connecticut, and each segment of the river has at least one impaired designated use. A TMDL was developed to set pollutant reduction goals to aid in correcting the recreation impairment, indicated by heightened levels of Escherichia coli in water samples throughout the Hockanum River. Urban stormwater is listed as a potential source of bacteria, a cause of the recreation impairment, for all impaired waterbody segments of the Hockanum River in Manchester. A previously completed mini watershed-based plan and stormwater trackdown survey for the Hockanum River watershed within Manchester, by NCCD, identified a problematic outfall adjacent to Globe Hollow Park in Manchester, as high priority for a retrofit project. This retrofit was prioritized due to the sedimentation and polluted urban runoff that the existing stormwater structures were contributing to Hop Brook, a major tributary of the Hockanum River, draining most of southern Manchester.

The primary BMP implemented on this site was the construction of two water quality basins to manage stormwater from both an on-site paved parking area serving Globe Hollow Park and from a 12" stormwater outfall draining Town of Manchester Water Department land across Spring Street, which previously discharged directly to Globe Hollow Brook. Associated infrastructure, including a double catch basin, piping, curbing, and patch pavement were necessary components of this implementation project.

These water quality basins are intended to encourage infiltration of stormwater, to allow sediments and other pollutants commonly found in urban stormwater to settle out before reaching Globe Hollow Brook, to reduce erosion and sedimentation of Globe Hollow Brook due to scour, and to improve water quality within Globe Hollow Brook near its confluence with the Hop Brook, well before it reaches the Hockanum River. All tasks were successfully completed. Site work has been completed; the ground is stable, and the stormwater retrofit is functional.

2013	13-05	New Haven - Mill River Watershed Based Plan (CFE/STS)
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Save the Sound, a program of Connecticut Fund for the Environment (CFE/Save the Sound), the Connecticut Department of Energy and Environmental Protection (CTDEEP), the municipalities in the Mill River watershed, and other key stakeholders began working together in March 2018 to address water quality issues facing the river and its tributaries by developing a Mill River Watershed Based Plan. The Mill River has been identified as impaired for aquatic life and recreation due to elevated bacteria from combined sewer overflows, illicit discharges, stormwater runoff, and other non-point sources. Reaches of two tributaries to the Mill River, Willow Brook and Shepard Brook, have also been identified as impaired for recreation.

Projects identified in the Mill River Watershed Based Plan include rain gardens, bioswales, and other green infrastructure practices to capture and reduce stormwater runoff. Other goals include connecting more people with the river, educating residents on the connection between land use and river health, and promoting sustainable land-management practices throughout the watershed. Specific project recommendations were identified for 10 sites throughout the watershed, including the Strathmore drive neighborhood in Cheshire, Whitney High School in Hamden, and along James Street in New Haven. These projects were chosen both for their potential to reduce stormwater and bacterial loads to the Mill River and its tributaries and their utility as demonstration projects for similar properties throughout the watershed. As a result of continued outreach and opportunities to involve the public, more than 190 individuals and community groups have expressed interest in staying apprised of issues and opportunities in the watershed; with 40 new stakeholders joining the Mill River initiative at the celebration for the release of the final plan.

2014	14-03j	Mashamoquet NPS Implementation - Septic System Upgrades (ECCD)
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The purpose of this project was to educate homeowners in the Mashamoquet Brook watershed located primarily in Pomfret and Brooklyn, CT on the importance of proper on-site wastewater disposal (septic) systems. The Section 319 NPS funding also enabled ECCD to offer rebates to residential property owners in high priority areas who voluntarily upgraded their systems that were failing and not in compliance with current Connecticut Department of Public Health codes. Other water conservation methods, including free low flow showerheads and rebates for installation of EPA Water Sense certified low flow toilets were also offered to all watershed residents. A nine element watershed management plan with a bacteria trackdown survey of Mashamoquet Brook and its tributaries was developed by ECCD in 2011. A review of the land use upstream of the contaminated areas demonstrated stormwater runoff from residential and agriculture and wildlife as the most likely sources of the *E. coli* bacteria. A database of address and age of the homes on lots that abut streams with high *E. coli* levels was used to produce maps of priority areas. A database of high, medium or low priority addresses within those priority areas was made in consultation with CT DEEP and the Northeast District Department of Health. A packet of information, including a project overview and information about the rebate programs for both septic system upgrades or installation of low flow toilets, the resident survey for septic system knowledge, an invitation to the Septic System Care and Maintenance Workshop, an informational septic system record keeping file folder and information about the income criteria for the Hampton Regional Housing Rehabilitation Program was mailed to each address in the high priority areas for this project. Door knocking was also completed to the highest priority homes where no response was received. A multiyear education and outreach initiative, using the local free newspaper mailed to homes in Pomfret, and an e-newsletter in Brooklyn, was used to promote the initiative. For three years ECCD also was present at an annual community event, Positively Pomfret Day, held each September, to promote this project to area residents. With input from the DEEP, ECCD reviewed the available water quality data and other data in order to determine the highest priority areas for a high risk of septic system failures based on *E. coli* concentrations in nearby streams and the age of homes on parcels that abut those failing streams. ECCD produced priority area maps which were displayed in public locations, at outreach events and posted to our website. ECCD conducted an extensive outreach campaign to educate Mashamoquet Brook watershed residents of the importance of proper

<p>septic system maintenance, and about funding assistance available to them if their septic systems was not properly functioning. ECCD also publicized the Hampton Regional Housing Rehabilitation Program, a program available to Pomfret and Brooklyn homeowners who meet guidelines for financial assistance for major home repairs, including septic system upgrades. A septic system maintenance record keeping file folder was produced for distribution to the area residents (1500 distributed). Residents were surveyed on their knowledge of septic systems maintenance. A workshop on septic systems was well attended. Despite all outreach efforts, only one homeowner applied for a low flow toilet rebate. ECCD distributed 100 low flow showerheads. However, not one homeowner within the targeted priority areas applied for a septic system upgrade rebate. As a result of the failure to encourage any homeowners to repair or replace their septic system, ECCD closed out the project. Several lessons learned during this project were documented and reviewed with DEEP staff, local officials and the regional health district.</p>		
2014	14-03k	North Eagleville Road Green Street Implementation (UConn) (See also 12-05 L)
<p>Eagleville Brook drains a large portion of the University of Connecticut campus in Storrs. Like many other urban streams, it has suffered impairments for aquatic life support. A nationally unique total maximum daily load (TMDL) was implemented in 2007, with impervious cover (IC) as the surrogate pollutant. A target of 11% IC was set for the Eagleville Brook watershed. The objectives of this Section 319 project was to install two different types of green stormwater features along North Eagleville Road on the UConn campus in Storrs, CT. Two pervious interlocking concrete paver (PICP) bus stops and three tree box filters were installed during summer/fall 2018. Although delayed due to utility issues with the larger project, this section 319 project is considered a successful implementation of green stormwater features, and has disconnected 31,921 ft2 of impervious cover from the impaired Eagleville Brook.</p>		
2016	16-01 ECCD(i)	ECCD - Grand Street (East Lyme) Stormwater Project (also see 12-05j, 14-01 ECCD(i); 15-01 ECCD(i); 15-10)
<p>The Eastern Connecticut Conservation District conducted a stormwater retrofit project in the Niantic River watershed. Between June 2017 and May 2018, ECCD and project partner the Town of East Lyme installed twenty-six (26) tree wells and five dry wells in Niantic (East Lyme) in conjunction with a municipal roadway improvement project. The tree wells, designed by the Town of East Lyme Engineering Department, will treat stormwater runoff from an 80-acre “storm drain-shed” that discharges to the Niantic River from commercial and residential areas, capturing at least the first flush of runoff and infiltrating it into deep stratified drift deposits underlying the project area. Tree wells, which have design specifications similar to better-known stormwater tree filters, are highly suitable and effective stormwater BMPs due to their small footprint (3 x 4 ft.) which makes them relatively easy to retrofit into developed streetscapes. To ensure the tree wells will operate at maximum efficiency, ECCD prepared and distributed a Tree Well Operations and Management Plan to the East Lyme Department of Public Works and reviewed correct maintenance procedures with municipal staff. ECCD conducted outreach and education throughout the project to a wide variety of audiences. ECCD promoted the project via social media platforms. ECCD prepared an informational flyer that was distributed to all households and businesses in the project area. The Grand Street stormwater management practices will treat a combined volume of up to approximately 8.2 million gallons of stormwater annually from about 18 acres of impervious cover, reducing pollutant loading to the Niantic river, and will serve as a model for other similar stormwater BMP projects in the region. This retrofit, recommended in the 2006 Niantic River Watershed Protection Plan, is an important step towards improving water quality in the Niantic River.</p>		

2016	16-02 NCCD (p)(i)	NCCD - NPS Management
<p>The five Conservation Districts in the State of Connecticut provide baseline technical services to municipalities and landowners to assist these constituents with natural resource protection and preservation. Services to municipalities typically include identification of wetlands, review of sediment and erosion control plans, and review of stormwater management plans. Districts can also provide more generalized natural resource assessment services related to a broad range of project needs and goals. Assistance to private landowners may include similar issues, but often are related to the management of invasive plants, vegetation, and ponds. Most of these issues impact water quality to varying degrees.</p> <p>The North Central Conservation District (NCCD) provided assistance in the towns of Bloomfield, East Granby, East Windsor, Ellington, Farmington, Granby, Lebanon, Manchester, New Haven, Simsbury, South Windsor, Stafford, Suffield, Tolland, Vernon, Windsor, and Windsor Locks. NCCD also served as wetland agent in Bolton and Somers, and as the Interim Wetland Agent in Tolland. Work was conducted within several impaired waters (watersheds), including: Hockanum River, Tankherhoosen River, Connecticut River, Farmington River, Hop River, Broad Brook, and Scantic River.</p> <p>The District's Annual Report is available on our website, located at: http://conservect.org/northcentral</p>		
2016	16-02 NWCD (p)(i)	NWCD - NPS Management
<p>The five Conservation Districts in the State of Connecticut provide baseline technical services to municipalities and landowners to assist these constituents with natural resource protection and preservation. Services to municipalities typically include identification of wetlands, review of sediment and erosion control plan, and review of stormwater management plans. Districts may also provide more generalized natural resource assessment services related to a broad range of project needs and goals. Assistance to private landowners may include similar issues, but often are related to the management of invasive plants, vegetation, and ponds. Most of these issues impact water quality to varying degrees.</p> <p>The Northwest Conservation District (NWCD) provided assistance in the towns of Barkhamsted, Bethel, Bethlehem, Brookfield, Cornwall, Harwinton, Kent, Litchfield, Morris, New Hartford, New Milford, Salisbury, Sherman, Torrington, Washington, Watertown, Woodbury and District-wide through educational outreach programming.</p>		
2016	16-02 ECCD (p)(i)	ECCD - NPS Management
<p>Through funding from the Connecticut Department of Energy and Environmental Protection (CT DEEP) via the US Environmental Protection Agency (US EPA) Clean Water Act (CWA) Section 319 Nonpoint Source (NPS) grant program, the Eastern Connecticut Conservation District (ECCD) conducted technical reviews of site development projects for municipalities, provided on-site technical assistance to municipal and private landowners in watersheds of impaired waterbodies, conducted nonpoint source pollution education and outreach, and</p>		

promoted the use of the CT DEEP 2004 Connecticut Stormwater Quality Manual and The Low Impact Development Appendix to the Connecticut Stormwater Quality Manual.		
2016	16-02 CRCCD (p)(i)	CRCCD - NPS Management
<p>Following is a summary of NPS Technical Assistance provided by the Connecticut River Coastal Conservation District between July 2017 and February 2018 (to date) to municipalities and private landowners to prevent and address nonpoint sources of pollution throughout our District area, as well as in the Coginchaug River Watershed focused on implementation of the watershed-based plan.</p> <p><u>On-Site Assessment and Project Planning—Lyman Orchards Apple Barrel Pond and Lyman Meadow Brook</u></p> <p>District staff worked with the property owner and a landscape design professional to assess and discuss nonpoint source pollution sources and possible BMPs at Lyman Orchards Apple Barrel Pond and a section of Lyman Meadow Brook, made recommendations and plan for improvements.</p> <p><u>Technical Assistance/Planning Coordination—Coginchaug Watershed Towns</u></p> <p>District staff furthered ongoing efforts to address water quality concerns in the Coginchaug River watershed by engaging and assisting watershed stakeholders that comprise the Coginchaug Watershed-based Plan Implementation Committee in planning for water quality improvement projects.</p> <p><u>Technical Assistance—Coginchaug Nonpoint Source Pollution Surveys</u></p> <p>District staff provided technical assistance in planning and conducting nonpoint source pollution surveys in the Coginchaug watershed to inform water quality improvement efforts. This work included engaging watershed stakeholders in planning activities; recruiting, training and coordinating community volunteers to help conduct field work; compiling, analyzing and publicizing results.</p> <p><u>Technical Assistance—Municipal Outreach</u></p> <p>District staff contacted municipal land use staff throughout our 26-town area concerning availability of District technical/educational resources and provided copies for local distribution. These publications, developed by the District, are focused on building awareness about nonpoint source pollutants and promoting implementation of practices to protect water quality, and are targeted for homeowners and other landowner.</p>		

Appendix B

CTDEEP Accomplishments for PPA Milestones in 2018

PPG Commitment	CTDEEP Accomplishments
<p>National Guidelines: Use the Nonpoint Source Program and Grants Guidelines for States and Territories released on April 12, 2013, to identify eligible activities, program priorities, programmatic conditions, and reporting requirements. At least 50% of 319 funding will be used for watershed-based plan (WBP) implementation. One nine-element WBP will be submitted annually to Region1 for review; all alternative watershed-based plans will be submitted to the Region for review and approval. Target 319 funding toward restoration of priority segments, waters bodies or watersheds, and protection of documented high priority healthy and threatened waters consistent with the Integrated Water Resources Management (303d Vision).</p>	<p>Completed. FY18 319 Funds were obligated to XX projects. At least 50% of the funds were for WBP implementation. One new WBP was completed in 2018 (Mill River in New Haven). Another WBP was updated to address new impairments (Pomperaug Watershed). CT DEEP has developed an Integrated Water Resources Management Plan that targets agency effort toward high priority impaired or healthy waters.</p>
<p>Attendance at NPS meetings/training: Attend NPS and GRTS national and regional meetings convened by EPA unless prevented by state-wide travel bans. Use s.319 funds to cover travel expenses for NPS program staff to participate in regional and national GRTS training meetings, national NPS conferences, and regional meetings and conferences. Ensure that adequate 319 funding is set aside annually for this purpose.</p>	<p>Completed. In 2018 Connecticut sent 4 staff members to the 29th annual NEIWPC NPS Conference in Glens Falls, New York.</p>

PPG Commitment	CTDEEP Accomplishments
<p>Working with USDA and other agencies: Continue to work with USDA and other agencies through participation on the State Technical Committee to look for opportunities to leverage Farm Bill funds for high priority water restoration projects, including 319-related projects. In FY19 participate in the NRCS Water Quality Initiative. Collaborate on planning for monitoring one small NRCS WQI watershed (contingent upon NRCS providing adequate information to develop a targeted monitoring plan). Coordinate with partners to implement the NWQI monitoring plan contingent on the continued participation and support of NRCS in this initiative.</p>	<p>Completed. In 2018 DEEP participated in State Technical Committee meetings to track developing new Farm Bill rules and modified cost share programs to provide new financial assistance to eligible dairy farmers in two CT NWQI watersheds (Little River, Broad Brook), previously capped out in recent years as the previous Farm Bill expired.</p> <p>Little River watershed agricultural nutrient runoff being evaluated in pilot demonstration with an installed denitrifying bioreactor treating established tile drain flow before reaching nutrient impaired Mill Brook and Roseland Lake in Woodstock. Installation completed and 12 month water quality monitoring to be completed in Spring 2019 with peer farmer workshop review of installation and data expected later in 2019. The Farm River Readiness Project has been initiated, holding two stakeholder meetings with DEEP encouragement to develop a 9-element watershed based plan as a project deliverable; several subcommittees are forming including one for water quality and monitoring.</p>
<p>319 NPS Success Stories: By June 1st, submit success stories for waterbodies that have been fully or partially delisted in previous years (i.e., measure WQ-10) and/or that show improvement in water quality or demonstrate ecological restoration.</p>	<p>Not Completed. CT DEEP did not submit a success story because no projects in 2018 met the narrow definition in the 319 guidance.</p>
<p>GRTS: Within 90 days of receipt of a categorical grant or receipt of final 319 funding under a PPG award, enter into the Grants Reporting Tracking System (GRTS) all 319 grant mandatory data elements except for best management practices data and load reduction model and data. By February 15th, complete annual GRTS reporting by entering all remaining mandatory BMP and load reduction data (if applicable). Provide timely review of national GRTs reports prepared for the state.</p>	<p>Completed. Mandatory data elements for all new FY18 projects were entered into GRTS. For all the projects that were completed in 2018, CT DEEP ensured that their GRTS records were up-to-date and complete.</p>

PPG Commitment	CTDEEP Accomplishments
<p>Annual Report: Report annually on progress made in implementing the state's NPS Management Program, including a summary of major accomplishments and completed projects, a list of active 319 projects with expected completion dates, a brief summary of water quality improvements (e.g., restoration of impaired waters or other notable environmental results) and NPS pollutant load reductions (total phosphorus, nitrogen, and sediment reductions for the state, from the previous February's GRTS reporting). Where information is not yet available on load reductions and water quality improvement where implementation is underway, surrogate measures of environmental progress should be used.</p>	<p>Completed. CT DEEP completed an annual report that summarizes 2018 activities for all elements in the Connecticut Nonpoint Source Management Plan.</p>
<p>Annual Workplan: Submit an annual workplan that is responsive to National guidance and that describes 319-related work funded from both the Performance Partnership Grant (PPG) and Categorical grant, including how the state is organized to implement the NPS management plan and achieve its broad goals (e.g. staffing, training, technology transfer, financial assistance, public outreach, etc.) as well as proposed projects and activities for the year consistent with management plan priorities and milestones.</p>	<p>Completed. CT DEEP prepared an annual workplan that summarizes 2019 activities for 319-funded projects and programmatic activities.</p>
<p>Progress and Performance Review: EPA will use information provided by the state (annual report, workplan, GRTS entry, success stories) to determine whether the State has made satisfactory progress in implementing its NPS Management Program in accordance with CWA Section 319(h)(8). If appropriate, EPA will request additional information to assist with the determination. EPA will complete an annual checklist on Progress and Performance and document its findings.</p>	<p>Not Applicable.</p>