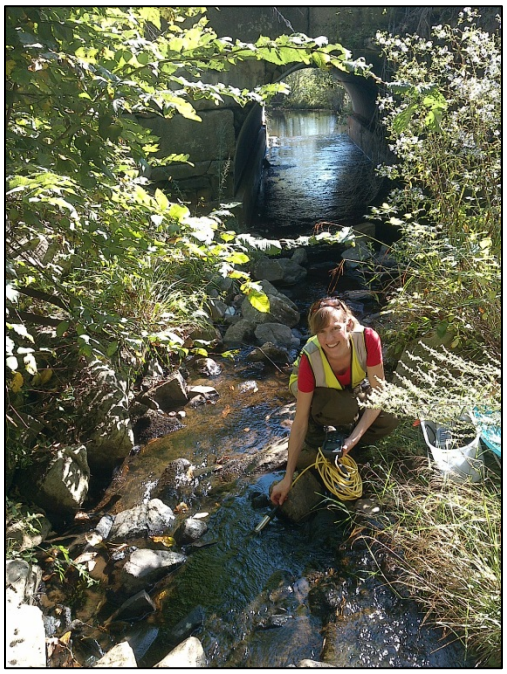
Nonpoint Source Management Program
2015 Annual Report



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June 2016

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
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Executive Summary

This report summarizes activities and accomplishments of the Maine Department of Environmental Protection's Nonpoint Source Program in 2015. DEP prepared this report to inform the public and EPA about Maine's progress controlling nonpoint source (NPS) water pollution. NPS pollution is a major source of water quality impact to Maine's lakes, streams, and coastal waters. DEP coordinates Maine's NPS pollution control programs to achieve widespread use of state-agency best management practice guidelines (BMPs) to prevent NPS pollution. The NPS program uses a combination of statewide programs and targeted watershed projects to make progress restoring and protecting water quality. The NPS program is funded, in part, under Section 319 of the Clean Water Act by the U.S. Environmental Protection Agency (EPA).

This report provides an overview of Maine's NPS management program, DEP's NPS grants program, staff services for communities, the NPS Training and Resource Center, the Maine Volunteer Lake Monitoring Program, and the Volunteer River Monitoring Program.

DEP uses a watershed-based approach as the coordinating framework to organize public and private sector efforts to identify, prioritize, and then implement activities to restore or protect waters. DEP administers a pass-thru grant program that awards and monitors grants of federal Clean Water Act Section 319 and 604b funds for watershed projects to help restore or protect lakes, streams, and coastal waters from NPS pollution. These grants help communities identify nonpoint sources, prepare watershed-based management plans, and take action to reduce or prevent NPS pollution.

In 2015, 11 NPS watershed projects funded through the NPS grants program in previous years were successfully completed. This report provides a two-page summary of the outcomes for each project. These projects reduced pollutant loads to waters by 312 tons of sediment and 284 pounds of phosphorus per year. DEP provided technical assistance and granted $512,550 of Federal Clean Water Act funds for these projects. Grantees, partners, and landowners contributed matching funds or services valued at $395,751. DEP issued eight new grants ($763,810) to help communities implement actions called for in their watershed management plan to restore impaired waters or protect waters threatened by NPS pollution. DEP issued one grant ($42,000) to develop watershed-based plan for Arctic brook in Bangor.

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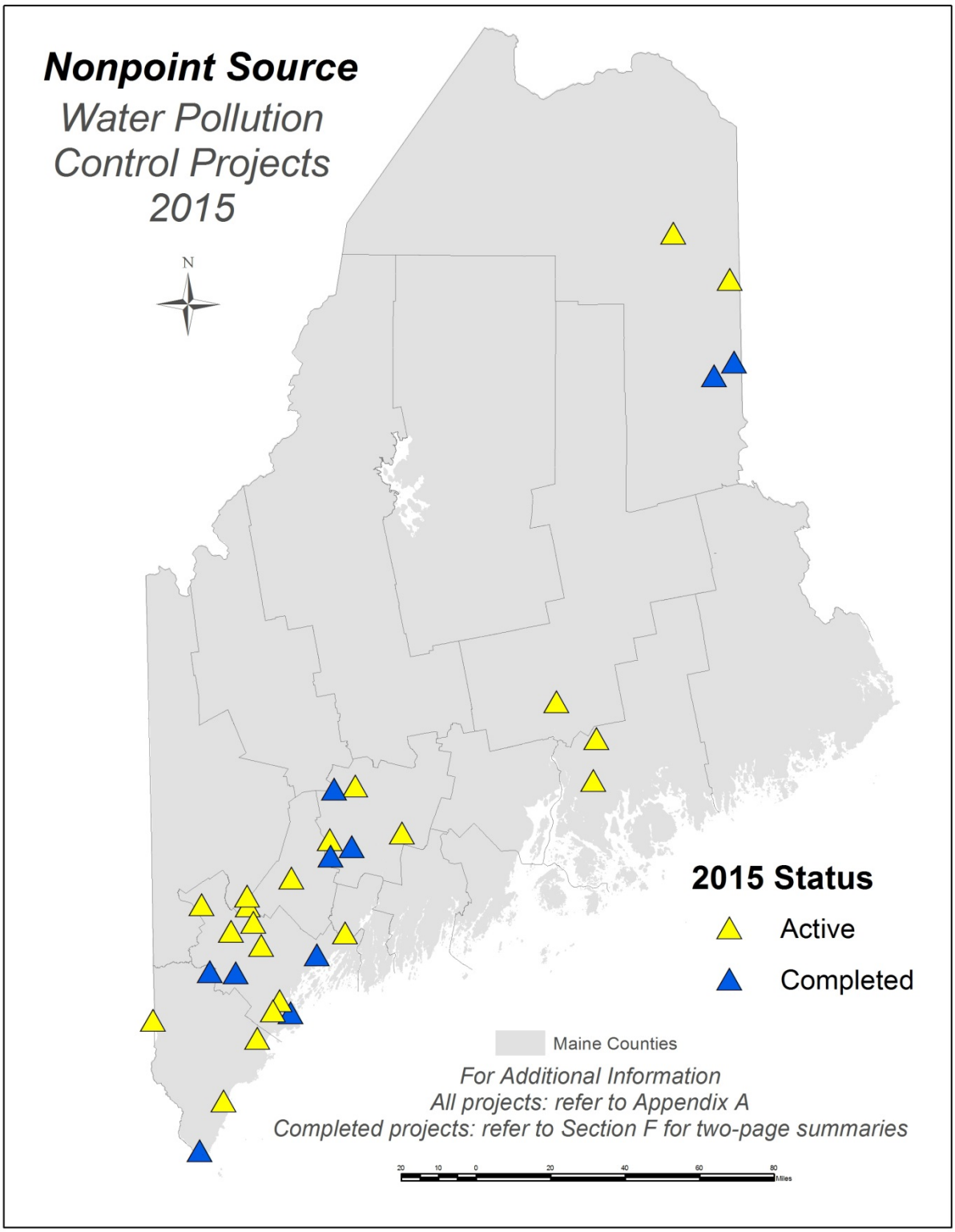
Document available for download at:
http://www.maine.gov/dep/water/grants/319-documents/reports/

NPS Water Pollution Control Projects Active in 2015



A. Introduction - NPS Management Program

Nonpoint source pollution adversely affects many of Maine's lakes, rivers, streams, and coastal waters. When it rains or the snow melts, water running off our driveways, parking lots, yards, farm fields, forestry operations, and industrial sites carries hitchhiking pollutants. Pollutants include sediment from erosion; nutrients from fertilizers or animal waste; bacteria from animal waste and failing septic systems; and toxics such as dripped or spilled petroleum products. Polluted runoff washes off the land and flows into our waters.

Buffer at Nickerson Lake three years after installation

The Maine Department of Environmental Protection (DEP) coordinates the State of Maine Nonpoint Source Pollution Program (38 MSRA 410) to achieve widespread use of state-agency "best management practice guidelines" (BMPs) to prevent NPS pollution. Since 1990, EPA awards funds under Section 319 of the Clean Water Act to help states and tribes address their most pressing NPS pollution problems. Section 319 monies help fund a significant portion of Maine's NPS program. NPS program services are guided by The Maine Nonpoint Source Management Program Plan 2015-2019.

DEP helps communities and watershed groups assess water quality problems and take action to reduce or stop NPS pollution. Section 319 funds are used to provide grants for watershed projects to help local communities identify water pollution sources in watersheds and take action to restore or protect lakes, streams, or coastal waters.

This report summarizes the Nonpoint Source (NPS) Program activity and accomplishments in 2015. The report fulfills annual reporting requirements of Section 319(h) of the Federal Clean Water Act. Each year, DEP prepares this report to inform the public and the U.S. Environmental Protection Agency (EPA) about Maine's progress controlling NPS water pollution.

B. 2015 Highlights - NPS Management Program

1. Eleven NPS watershed projects funded through the NPS grants program in previous years were successfully completed. DEP provided technical assistance and granted $512,550 of Federal Clean Water Act funds for these projects. Grantees, partners, and landowners contributed matching funds or services valued at $395,751.

    a. BMPs were installed to reduce polluted runoff in six watersheds: Crooked River (Naples); Horne Pond (Limington); Nickerson Lake (New Limerick); Parker Pond (Fayette); Spruce Creek (Kittery) and Trout Brook (S. Portland). NPS projects reduced pollutant loading to these waters by 284 pounds of phosphorus and 311 tons of sediment per year - equivalent to about 27 dump truck loads.

    b. NPS watershed survey project was completed for one watershed, Cobbosee Lake (Manchester). An NPS survey finds, describes, and prioritizes NPS pollution sources in a watershed and recommends BMPs to reduce polluted runoff.

c. Watershed-based plans were completed for Cochnewagon Lake (Monmouth), Concord Gully Brook (Freeport), Meduxnekeag River, and Sebago Lake. A plan provides assessment and management information and describes actions needed to restore NPS-impaired water bodies, or to protect water bodies threatened by NPS pollution.

2. EPA awarded $1,748,003 FFY 2015 Section 319 Clean Water Act funds to the DEP. Funds were used to fuel programs designed to evaluate, prevent, or reduce NPS pollution problems. Forty-four percent of these funds ($763,810) were used to issue eight new NPS grants to municipalities, soil and water conservation districts, and watershed groups for watershed implementation projects.

3. DEP provides technical assistance to Maine's nine Youth Conservation Corps (YCC) programs. The YCC programs hire high school students to install buffers, erosion control measures, and other conservation practices in lake and river watersheds. Most YCCs originally started as part of 319 grant projects and have continued with local funding support. The 2015-2016 YCC Roundtable event included a brainstorming session about possible funding opportunities, which led to one of the YCC Directors pursuing a funding bill through the Maine Legislature. The bill was successful and resulted in the appropriation of $40,000 in State funding to help support YCCs in 2016-2017.

4. Maine DEP hosted the New England Interstate Water Pollution Control Commission's 26th Annual Nonpoint Source Pollution Conference at the Harraseeket Inn in Freeport. The conference included a keynote address from Lynda Hall, Chief of EPA's NPS Control Branch, 22 technical presentations and a field trip to the Long Creek Restoration Project.

Trout Brook in South Portland & Cape Elizabeth

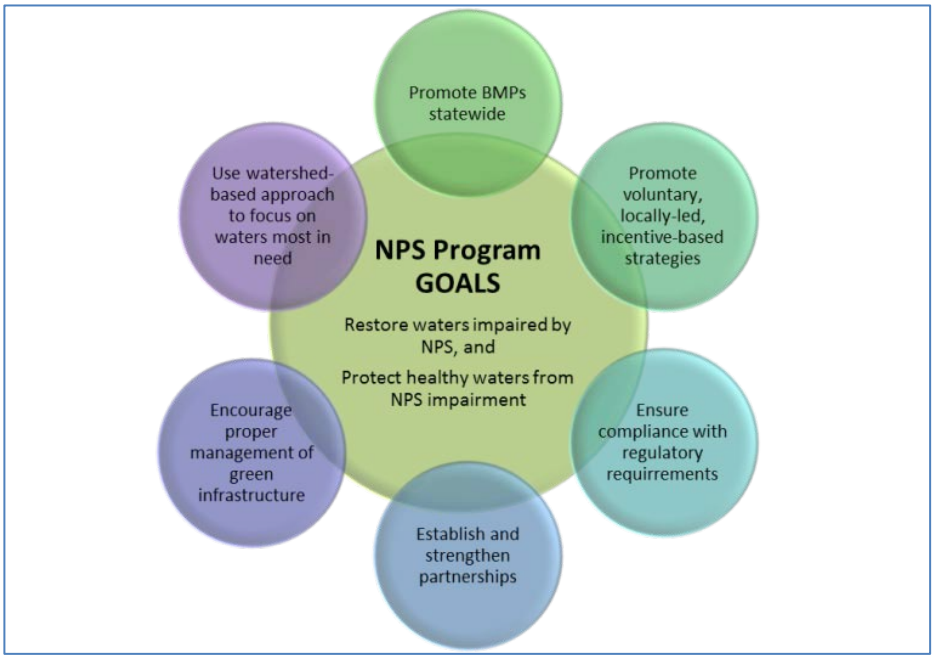
Brook Trout

C. Maine NPS Management Program

1. Overview

The Maine Nonpoint Source Management Program Plan 2015-2019 establishes program goals and strategies that Maine uses to make progress controlling NPS pollution. The NPS program uses both statewide programs and targeted watershed-based approaches to promote the use of state-agency defined "best management practice guidelines" (BMPs) to prevent water pollution.

DEP administers the NPS Program in coordination with EPA and other federal, state, and local governmental agencies, and non-governmental organizations. Six Maine agencies share responsibility for implementing NPS programs: the Departments of Environmental Protection; Agriculture, Conservation, and Forestry; Transportation; Health and Human Services, Division of Environmental Health; and Marine Resources. State agencies conduct programs that promote voluntary use of BMPs and implement State laws or rules which require meeting performance standards to protect water quality.

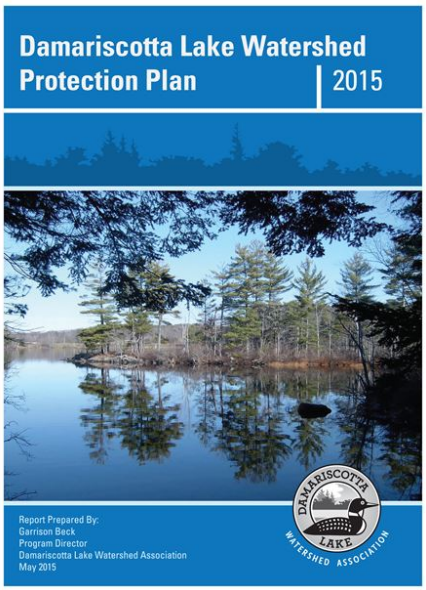


The NPS plan describes actions State Agencies will take over five years to make progress controlling NPS pollution, including 37 five-year objectives with actions and milestones. Outputs or accomplishments in 2015 are summarized Appendix B.

The NPS plan is available at: http://www.maine.gov/dep/land/watershed/nps-program-plan.html

2. Protecting Clean Waters

Maine has significant water quality protection and restoration challenges and limited resources for NPS programs. DEP prioritizes and balances the use of available NPS funds to make progress both protecting and restoring lakes, streams, and coastal waters. Preventing pollution of Maine's abundant clean waters is important. While working to restore impaired waters, DEP also invests considerable NPS control efforts to protect clean waters that are considered threatened by NPS pollution. Preventing NPS water pollution of waters is far more cost effective than restoring a polluted waterbody.



Protecting Maine's clean waters can be accomplished by local communities with technical and financial assistance from DEP and other partners. Local stewardship is needed for any project, plan, or outreach effort to effectively take hold because residents can increase local involvement in watershed management activities. Maine has many capable and determined watershed stewardship groups and Soil and Water Conservation Districts working to protect watersheds and clean waters.

Developing Plans to Protect Lakes

DEP worked with local entities and helped develop seven new lake watershed protection plans under DEP's Guidance for Maine Lake Protection Plans. Through 2015, DEP and EPA accepted 14 plans.

Lake Watershed Protection Plans Accepted by DEP

Watershed	Town	Date	Organization
Adams & Knickerbocker Lake	Boothbay	May 2015	Boothbay Region Water District
Alamoosook Lake	Orland	May 2015	Alamoosook Lake Association
Cobbossee Lake	Manchester	April 2015	Cobbossee Watershed District
Crescent Lake	Raymond	June 2013	Crescent Lake Watershed Association
Damariscotta Lake	Jefferson	May 2015	Damariscotta Lake Watershed Association
Ellis Pond	Roxbury	Jan 2015	Ellis Pond Watershed Committee
Lake Auburn	Auburn	July 2013	Lake Auburn Watershed Protection Commission
Little Sebago Lake	Windham	June 2013	Little Sebago Lake Association
Panther Pond	Raymond	May 2015	Panther Pond Association
Phillips Lake	Dedham	April 2014	Phillips Lake Association
Sebago Lake & Crooked River	Naples	July 2015	Portland Water District
Thompson Lake	Oxford	June 2013	Thompson Lake Environmental Association
Toddy Pond	Orland	June 2013	Toddy Pond Association
Woods Pond	Bridgton	May 2013	Town of Bridgton

Implementation Projects to Protect Lakes

DEP invests Section 319 funds for NPS watershed projects to implement BMPs that reduce polluted runoff to help protect clean waters considered threatened by NPS pollution. Section 319 funds helped sustain or start NPS watershed implementation projects in 12 lake watersheds.

Crescent Lake (Raymond)	Lake Auburn (Auburn)	Phillips Lake (Dedham)
Crooked River (Naples)	Little Sebago Lake (Gray)	Thompson Lake (Oxford)
Great East & Wilson (Acton)	Nickerson Lake (New Limerick)	Toddy Pond (Orland)
Horne Pond (Limington)	Parker Pond (Mt. Vernon)	Woods Pond (Bridgton)

3. Restoring Impaired Waters

Spruce Creek, Kittery

State and federal water quality laws require that waters attain their assigned water quality classification. DEP monitors water quality conditions of Maine's rivers, lakes, and coastal waters to determine if the public can use the waters for designated uses such as recreation, swimming, fishing, shellfish harvesting, drinking water supply, and if the waters support healthy habitats for fish and wildlife. DEP places waters found to be degraded (i.e. not attaining water quality standards needed to support designated uses) on the impaired waters list in the *Integrated Water Quality Monitoring and Assessment Report* or "Integrated Report" (IR). Restoring impaired waters involves three steps:

- **Water Quality Assessment, TMDL & Alternative Approaches.** DEP establishes a pollution allocation, a total maximum daily load (TMDL), for impaired waterbodies to comply with Section 303(d) of the Clean Water Act. A TMDL assessment estimates the necessary reduction in pollution from point and nonpoint sources in order for the waterbody to meet the state water quality classification.

- In 2015:
  - DEP developed a plan to address the elements outlined in EPA's new approach for TMDL assessments entitled, "A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program".
  - In December 2015, DEP posted for public comment a Total Maximum Daily Load (TMDL) report for 30 waters in the State of Maine with dissolved oxygen and/or aquatic life impairments associated with NPS pollution. The TMDL report establishes the target nutrient and sediment loads for the watersheds of the impaired surface waters, provides documentation of impairment, and outlines the reductions needed to meet water quality standards.

- **Watershed-based Planning.** A watershed-based plan describes overall actions needed in a watershed to help restore water quality. EPA requires a watershed-based plan addressing nine minimum elements prior to use of 319 funds to help restore an impaired waterbody. For EPA guidance on watershed planning refer to: https://www.epa.gov/sites/production/files/2015-12/documents/watershed_mgmnt_quick_guide.pdf

- **Implementing Pollution Reduction Measures**. Communities, agencies, and individuals take action to apply conservation practices or best management practices (BMPs) to eliminate or control sources of NPS pollution. Usually work needs to be focused within a watershed for 10 years or more to restore an impaired waterbody. DEP provides technical and financial assistance to help communities improve watersheds and restore waters.

NPS Watershed Implementation Projects

DEP allocates Section 319 funds to help communities implement their watershed-based plans to restore NPS-impaired waters. In 2015, Section 319 funds helped continue or start projects in 11 NPS impaired watersheds:

Capehart Brook (Bangor)	Spruce Creek (Kittery)
Capisic Brook (Portland)	Trout Brook (Cape Elizabeth)
Dudley Brook (Chapman)	Topsham Fair Mall Stream
Long Pond & Great Pond (Belgrade)	Upper Prestile Stream (Easton)
Ogunquit River (Ogunquit)	Wilson Pond (Winthrop)
Red Brook (Scarborough)	

Volunteers removed tires and other debris from Bear Brook in Saco.

Developing Plans to Restore NPS Impaired Waters

DEP provided services to help communities develop watershed-based plans (WBPs) to plan for actions needed to restore NPS impaired waters. EPA requires a watershed-based plan addressing nine minimum elements to be eligible to receive Section 319 funds to help restore an NPS impaired waterbody. The WBP helps Section 319-funded projects make progress restoring NPS impaired waters.

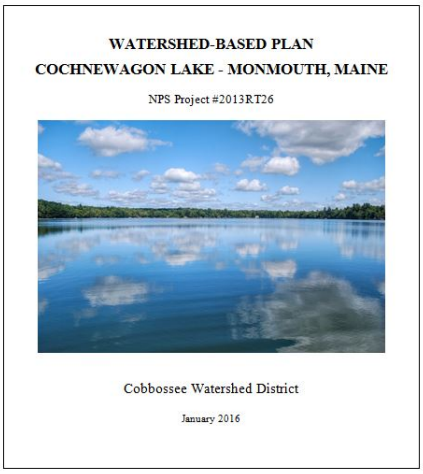
- DEP accepted nine-element WBPs for three impaired waters: Cochnewagon Lake (Monmouth); Concord Gulley Brook (Freeport); and the Meduxnekeag River (Houlton).

- A nine-element WBP is being developed for: Goosefare Brook (Saco), Phillips Stream (Scarborough), and East Pond (Smithfield).

- Thru 2015, DEP has accepted 33 nine-element WBPs describing actions needed to restore NPS impaired waters:

Watersheds with a Nine-Element Watershed Plan Accepted by Maine DEP

Annabessacook Lake (Monmouth)	Pearce Brook (Houlton)
Birch Stream (Bangor)	Penjajawoc Stream (Bangor)
Bond Brook (Augusta)	Pleasant Pond (Gardiner)
Capisic Brook (Portland)	Pleasant River (Windham)
Cape Neddick River (York)	Red Brook (Scarborough)
Capehart Brook (Bangor)	Sabattus Pond (Sabattus)
China Lake (China)	Spruce Creek (Kittery)
Cochnewagon Lake (Monmouth)	Thatcher Brook (Biddeford)
Concord Gulley Brook (Freeport)	Threemile Pond & Webber Pond (China)
Dudley Brook (Castle Hill)	Topsham Fair Mall Brook (Topsham)
East Pond (Smithfield)	Trout Brook (Cape Elizabeth)
Goodall Brook (Sanford)	Togus Pond (Augusta)
Hart Brook (Lewiston)	Unity Pond (Unity)
Long Creek (South Portland)	Upper Prestile Stream (Fort Fairfield)
Long Pond & Great Pond (Belgrade)	Whitten Brook (Skowhegan)
Meduxnekeag River (Houlton)	Wilson Pond (Monmouth)
Ogunquit River (Ogunquit)	


WATERSHED-BASED PLAN
COCHNEWAGON LAKE - MONMOUTH, MAINE
NPS Project #2013RT26
Cobbossee Watershed District
January 2016

4. Section 319 Grant Administration

EPA awarded $1,748,003 of FFY 2015 Section 319 funds to DEP. Forty-four percent (44%) of FFY 2015 Section 319 funds ($763,810) were used for NPS grants to municipalities, soil and water conservation districts, and watershed groups for watershed implementation projects. Section 319 funds supported nine DEP NPS program staff positions. DEP administered the Section 319 grant awarded to DEP under federal fiscal years 2012, 2013, 2014 and 2015, including monitoring sub-recipient performance on 37 grants for NPS watershed projects and other DEP NPS program services.

Activity	Program Funds Subtotal	Project Funds Subtotal	Section 319 Total	Nonfederal Match
NPS Grants for Watershed Projects	0	763,810	763,810	598,991
NPS Training & Resource Center	504	0	504	0
Small Community Grants Program	0	0	0	100,000
DEP Staff (9 FTE), Other & Indirect	936,689	47,000	983,689	573,356
Totals	$937,193	$810,810	$1,748,003	$1,272,347

Forty-six percent ($810,810) of FFY 2015 section 319 funds were used for implementation of nine-element watershed-based plans (WBPs) for restoration projects or alternative plans for protection projects. This percentage includes funds ($47,000) for DEP staff services to help implement WBPs. DEP passed through $763,810 for eight projects to implement WBPs. Five projects were funded ($461,569) to begin or continue implementing nine-element plans for impaired waters. Three projects were funded ($302,240) to begin or continue implementing alternative WBPs to protect NPS priority watersheds threatened by NPS pollution.

In April, DEP issued the 2014 annual report for the NPS management program.

D. NPS Program Services

1. DEP Services for Watershed Groups and Municipalities

DEP provides considerable technical assistance to help watershed groups and towns reduce NPS water pollution. Some of the activities and projects that DEP supported in 2015 include:

- **Municipal Comprehensive Plan Reviews** – DEP staff provide maps and data to municipalities starting the comprehensive planning process. After plans are submitted to the state, DEP staff review the water resources sections of municipal comprehensive plans for consistency with agency goals, programs, and policies. In 2015, assistance was provided to the following towns: Boothbay Harbor, Bridgton, Caribou, Hebron, Lewiston, and New Vineyard.

- **Watershed Surveys** – Volunteer watershed surveys assess watersheds to find, describe, and prioritize NPS pollution sources and recommend BMPs needed at specific NPS sites to reduce polluted runoff to help protect water quality. DEP provides technical assistance and project oversight to local groups that conduct volunteer watershed surveys without Section 319 grant funding. After completing surveys, many of these groups have proceeded to create lake watershed-based protection plans that

will guide local stewardship efforts and open the door to possible 319 grant funding.

In 2015, DEP assisted with the North and Cushman Ponds (Buckfield) and Abrams Pond (Eastbrook) watershed surveys. Staff provided assistance to six groups to help plan 2016 surveys for Echo Lake (Fayette), Whitney/Hogan Ponds (Oxford), North Pond (Norway), Walker Pond (Brooksville), Wilson Lake (Wilton), and Worthley Pond (Peru). DEP also partnered with the Volunteer Lake Monitoring Program to conduct a watershed survey workshop, which was attended by volunteers representing nine lakes.

Wendy Garland (DEP) assists with a stream conductivity walk of the upper portion of the Topsham Fair Mall Stream. This screening helped identify locations of chloride-contaminated groundwater seeps. This information will be used for targeting stormwater system retrofits.

- **Stream Water Quality Monitoring –** Staff conducted preliminary water quality assessments on the following streams to help with current or anticipated planning efforts or help assess progress with restoration goals: Aroostook County streams (Amsden, Hacker, Oliver, Craig, Smith Brooks), Birch Stream and Penjajawoc Stream (Bangor), Goosefare Brook (Saco), Mare Brook (Brunswick), Meduxnekeag River (Houlton), Phillips Brook (Scarborough), Pleasant River (Windham), Pottle Brook (Perry), and Topsham Fair Mall Stream (Topsham).

- **Youth Conservation Corps –** DEP provides technical assistance and training to Maine's nine YCC programs. These YCC programs hire high school students to install buffers, erosion control measures, and other conservation practices in lake and river watersheds. Most of these programs originally started as part of 319 grant projects and continued with local funding support. DEP staff hosted a YCC Roundtable in December 2015 to promote information sharing and collaboration between the YCCs. The roundtable included a brainstorming session about possible funding opportunities, which led to one of the YCC Directors pursuing a funding bill through the Maine Legislature. The bill was ultimately successful and resulted in the appropriation of $40,000 in State funding for YCCs in 2016-2017.

- **Urban Watershed Mapping –** DEP staff and a summer intern helped complete mapping projects in urban stream watersheds where municipalities are developing watershed-based plans. In 2015, watershed boundaries and stormwater outfall catchments were mapped in the field and entered into GIS for Phillips Brook in Scarborough. The watershed boundary was also mapped for Barberry Creek in South Portland.

- **NPS Site Tracker Support –** The NPS Site Tracker tool assists watershed groups with managing information on erosion sites in their watersheds. The tool allows prioritization of erosion sites, tracking of sites as they are fixed, and listing new sites as they are discovered. The Tracker is an Excel spreadsheet and can also incorporate electronic photos and online site maps. The DEP helped develop site trackers for Trout Brook (South Portland) and Horne Pond (Limington).

- **Watershed Group Support –** DEP supports the work of watershed associations and communities through presentations at annual association meetings and providing technical assistance outside of 319 grant-funded projects. In 2015, DEP provided assistance to the following groups: Adams Pond and Knickerbocker Lake (Boothbay), Cold Stream Pond (Enfield), Ellis Pond (Roxbury), Goodall Brook (Sanford), Long Creek Watershed Management District (South Portland), Panther Pond (Raymond), Sheepscot Lake Association (Palermo), Thatcher Brook (Biddeford), Cobbossee Watershed District, Belgrade Regional Conservation Alliance, and others. The DEP also provides watershed maps to lake and watershed groups upon request.

DEP AmeriCorps member Ling Rao, assists with stormwater sampling on the Pleasant River in Windham. The sampling was conducted to help track nutrient sources and prioritize BMP installations in the watershed.

- **Watershed Roundtable-** Over 55 watershed managers from state agencies, municipalities, watershed organizations, and SWCDs attended the DEP's 13th annual Watershed Managers Roundtable held at the Viles Arboretum in Augusta. This informal day-long event provides an opportunity for networking, sharing lessons learned, and to discuss opportunities to control NPS pollution in rural and urban watersheds across the state.

- **Stormwater Compensation Fee (SCF) Projects** – Under the Maine Stormwater Law, developers in certain lake watersheds have the option to pay a compensation fee in lieu of constructing additional BMPs to comply with a portion of a parcel's phosphorus budget. DEP staff works annually with seven partner organizations to identify and implement phosphorus mitigation projects in these watersheds. Three projects were completed in 2015. Cumberland County SWCD stabilized an eroding camp road on Thomas Pond in Casco and directed runoff into a level lip spreader and buffer. Lakes Environmental completed a rain garden installation at the Bridgton Public Library in the Long Lake watershed and a project on an eroding right-of-way to Brandy Pond in Naples.

Kick net sampling for Trout Brook, South Portland

2. Statewide NPS Programs

Maine Nonpoint Source Training and Resource Center

The Maine Nonpoint Source Training and Resource Center's primary focus is to provide training to various groups throughout the state to help them prevent nonpoint source pollution. In addition, the Center maintains an inventory of NPS publications and acts as a clearinghouse for information on nonpoint source pollution and best management practices.

Learning about erosion control at NPSTRC workshop

Accomplishments in 2015:

- Provided training to 549 participants in erosion and sediment control practices for contractors, and certified 137 additional individuals and two new companies in the Voluntary Contractor Certification program. A total of 2879 individuals and 42 companies are now certified.
- Provided workshops in Septic System Installation and Gravel Road Maintenance, and sponsored a conference on Coastal Erosion Control, with a total 169 individuals attending.
- Developed an on-line course on Environmental Permitting to provide an additional opportunity for continuing education for individuals certified in erosion control practices.
- Provided continuing education training on Shoreline Stabilization to 175 individuals previously certified in erosion and sediment control practices.

For More Information:

Bill Laflamme, DEP, (207) 215-9237, william.n.laflamme@maine.gov
NPS Training Center Website, http://www.maine.gov/dep/land/training/index.html

Maine Volunteer River Monitoring Program (VRMP)

The purpose of the Volunteer River Monitoring Program is to provide a standardized approach to river and stream monitoring. Volunteer groups participating in the Program collect data under the VRMP Quality Assurance Program Plan and develop Sampling and Analysis Plans (SAPs) specific to their needs. The volunteer organizations are also responsible for recruiting and organizing the volunteers, attending an annual training/certification, and entering the data electronically.

The VRMP provides technical support and resources to the volunteer groups. This support includes assistance with SAP development/updates, annual training, and equipment maintenance and loan. VRMP staff review the data entered by the volunteer groups, upload acceptable data to DEP's database, and produce an annual report.

Accomplishments in 2015:

- Completed the "Volunteer River Monitoring Report – 2014 Data Report", April 2015.
- On a number of small and major river and stream systems statewide, VRMP staff trained and certified/re-certified volunteers from eight volunteer organizations.
- Water quality data from 10 rivers were collected by 49 volunteers at 87 sites during 537 sampling events.
- Data collected included temperature, dissolved oxygen, conductivity, bacteria, chlorophyll, and nutrients.
- Completed the manual, "Volunteer River Monitoring Sampling Protocols" (September 2015). This manual will be used by volunteers as a reference guide and to review sampling protocols.

Friends of Weskeag volunteers, 2015

For More Information:

Mary Ellen Dennis, VRMP Coordinator – (207) 215-7946, mary-ellen.c.dennis@maine.gov
VRMP Website – http://www.maine.gov/dep/water/monitoring/rivers_and_streams/vrmp/index.htm

Maine Volunteer Lake Monitoring Program (VLMP)

Funding received under Section 319 for 2015 partially supported educational aspects of the VLMP including training of volunteer monitors to collect quality data; production of one newsletter and numerous electronic notices; and support for the VLMP annual meeting where information about lake water quality and monitoring topics is presented. Volunteers monitor their assigned lakes twice a month for five to six months each year, enter data into electronic format, and assist in the local coordination of VLMP activities.

VLMP
Maine Volunteer Lake Monitoring Program
Keeping a watchful eye on the health of Maine lakes since 1971

Accomplishments in 2015:

- Volunteers obtained 3,875 Secchi transparency readings; 17,758 dissolved oxygen readings; 992 total phosphorus samples; and 662 Chlorophyll-a samples. These data were collected from 420 lake stations on 354 lakes representing approximately 36% of Maine's lake surface area.
- VLMP produced one newsletter, numerous electronic notices, and convened the 2015 Annual Meeting, which was the 44th Anniversary Celebration attended by 146 people.
- Encouraged collection of transparency readings on days that the Landsat satellite passed over Maine.
- Trained more than 72 new volunteers for transparency and 21 volunteers for dissolved oxygen adding 13 new lakes to the program.
- Recertified 146 volunteers for transparency and/or dissolved oxygen, and recertified 106 volunteers online using the Virtual Secchi Recertification tool.

Secchi Simulator

For More Information:

Scott Williams, VLMP – (207) 783-7733, Scott.Williams@MaineVLMP.org
Linda Bacon, DEP Project Manager – (207) 441-0462, Linda.C.Bacon@Maine.gov
VLMP Website – www.mainevlmp.org/

3. Other Program News

Goosefare and Bear Brook Stream Corridor Assessment

The brooks are listed as impaired due to high bacteria levels. During the stream corridor assessment, DEP staff identified a broken sewer pipe discharging directly to Bear Brook. Saco Public Works was notified and responded completing temporary repairs to the pipe and removing toilet paper and feces from the area. Public works crews returned and made permanent repairs in the following month as part of a larger project replacing or lining all of the old sewer lines along Bear Brook. The stream corridor assessment was part of a DEP-funded grant project to help Saco and Old Orchard Beach develop a watershed management plan to restore Goosefare Brook.

Maine Hosts New England NPS Conference in Portland

Maine DEP hosted the New England Interstate Water Pollution Control Commission's 26th Annual Nonpoint Source Pollution Conference at the Harraseeket Inn in Freeport. Since 1990, the Annual Nonpoint Source (NPS) Pollution Conference has been the premier forum in New England for sharing information and improving communication on NPS pollution issues and projects. The two-day conference brought together people from New England and New York State involved in NPS pollution management, including participants from state, federal, and municipal governments, private sector, academia, and watershed organizations. The conference included a keynote address from Lynda Hall, Chief of EPA's NPS Control Branch, 22 technical presentations and a field trip to the Long Creek Restoration Project. Conference presentations are archived at http://www.neiwpcc.org/npsconference.

National Water Quality Initiative (NWQI)

DEP conducted water quality monitoring on one tributary in the Nickerson Lake HUC (Oliver Brook) and two tributaries in the new Smith HUC (Craig & Smith). Under NWQI, the USDA - Natural Resources Conservation Service (NRCS) uses Farm Bill, Environmental Quality Improvement Program (EQIP) funds to help farmers install conservation practices in the watershed to improve water quality and aquatic habitat.

E. NPS Grants Program

1. Overview

DEP uses a watershed-based approach as the coordinating framework to organize public and private sector efforts to identify, prioritize, and then implement activities to restore or protect waters. A pass-thru grants program is administered that awards and monitors sub-grants of federal CWA Section 319 and 604b funds for watershed projects to help restore or protect lakes, streams, rivers or coastal waters from NPS pollution. These grants help communities identify nonpoint water pollution sources, prepare watershed-based management plans, and adopt needed best management practices. DEP issues grants to local project sponsors to help fund two types of watershed-based projects:

- **Watershed-based Plan Development.** DEP offers grants to help communities develop a watershed-based management plan. A plan provides assessment and management information and describes actions needed over a 5-10 year period to restore an NPS-impaired water or to protect unimpaired waters considered threatened by NPS pollution. A thorough assessment of NPS problems (an NPS watershed survey) is needed to prepare an informed watershed plan.
- **Watershed-based Plan Implementation**. DEP offers grants to help communities implement their watershed-based plans and carry out actions called for in the plan to make progress restoring or protecting a waterbody.

2. Request for Proposals: 2015 Grants for NPS Pollution Control Projects

In July, DEP issued an RFP for projects to help communities implement their watershed-based plans by carrying out actions to make progress restoring or protecting a waterbody. Thirteen proposals were received requesting $1,193,969. DEP issued conditional grant awards for seven projects summing to $621,260. In December, a second RFP was issued for implementation projects.

Conditional Grant Awards for NPS Projects

Project Title	Grantee	Project #	Grant Section 319	Match
Alamoosook Lake Watershed Protection Project	Hancock County Soil & Water Conservation District	2016RR01	132,217	88,145
Cobbossee Lake Watershed Protection Project	Cobbossee Watershed District	2016RR02	93,430	68,096
Ellis Pond Watershed Protection Project, Phase I	Oxford County Soil & Water Conservation District	2016RR03	96,826	67,345
Hart Brook Restoration Project, 2016	Lewiston, City of	2016RT04	94,000	66,647
Long Pond Watershed Restoration, Phase IV	Belgrade Regional Watershed Alliance	2016RT05	76,120	81,660
Ogunquit River Watershed Restoration Project, Phase II	Ogunquit, Town of	2016RT06	69,340	46,658
Sebago Lake Watershed Protection Project, Phase III	Portland Water District	2016RR07	59,327	48,884
		Totals	$621,260	$467,435

Also in May, DEP issued an RFP offering Section 604(b) funds for projects to develop a watershed-based management plan. DEP received four proposals requesting $133,788. DEP issued grants to Scarborough, $23,044 for Phillips Brook; and Kennebec County Soil and Water Conservation District, $20,556 for East Pond in Smithfield.

3. NPS Water Pollution Control Projects Funded in 2015

DEP issued eight grants ($763,809 Section 319h) to help communities implement actions called for in their watershed management plan to restore impaired waters or protect waters threatened by NPS pollution. DEP issued one grant ($42,000 Section 604b) to develop watershed-based plan for Arctic Brook in Bangor. Clean Water Act Section 319 and 604(b) funding for these grants was provided to DEP by EPA.

Project Title	Grantee	Project #	Grant	Match
Arctic Brook Watershed Plan Development Project	Bangor, City of	2014PT14	$42,000	28,500
Capehart Brook Restoration, Phase II	Bangor, City of	2015RT01	150,000	125,000
Great East Lake & Wilson Lake Watershed Implementation Phase 2	Acton-Wakefield Watersheds Alliance	2015RR02	55,355	54,809
Lake Auburn Watershed Improvement Project, Phase 1	Lake Auburn Watershed Protection Commission	2015RR03	148,438	116,472
Phillips Lake Watershed Protection Project- Phase II	Hancock County Soil & Water Conservation District	2015RR04	98,447	65,665
Red Brook Restoration Project, Phase I	Scarborough, Town of	2015RT05	119,358	82,989
Spruce Creek Watershed Restoration Project, Phase IV	Kittery, Town of	2015RT06	59,050	62,875
Topsham Fair Mall Watershed Restoration Project Phase I	Topsham, Town of	2015RT07	95,997	66,405
Upper Prestile Stream Main Stem I Subwatershed Phase 1	Central Aroostook Soil & Water Conservation District	2015RT08	37,164	24,776
		Totals	$805,809	$627,491

4. NPS Pollutant Load Reductions

NPS load reductions for Section 319-funded implementation projects are reported in the EPA Grants Reporting and Tracking System database.

2015 NPS Pollutant Load Reductions 21 Implementation Projects		
Sediment	Phosphorus	Nitrogen
434 tons/year	435 lbs/year	1,086 lbs/year

Six implementation projects funded in previous years were completed. BMPs installed reduced polluted runoff in three lake and three stream watersheds: Crooked River (Naples); Horne Pond (Limington); Nickerson Lake (New Limerick); Parker Pond (Fayette); Spruce Creek (Kittery) and Trout Brook (S. Portland). The projects reduced pollutant loading to these waters by 284 pounds of phosphorus and 311 tons of sediment per year - equivalent to about 27 dump truck loads.

EPA Section 319 program guidelines require load reduction estimates for projects that will result in load reductions of sediment or nutrients (nitrogen and phosphorous). EPA recognizes that due to runoff variability, load reductions associated with BMP projects cannot be directly measured. Load reduction estimates for Maine Section 319 projects are developed using simple models. DEP and grantees use methods described in the EPA "Region 5 Model" and/or the USDA Forest Service Water Erosion Prediction Project - Road computer model to estimate NPS load reductions. These models are described at: http://it.tetratech-ffx.com/steplweb/ and http://forest.moscowfsl.wsu.edu/fswepp/.

F. Summaries of NPS Water Pollution Control Projects Completed in 2015

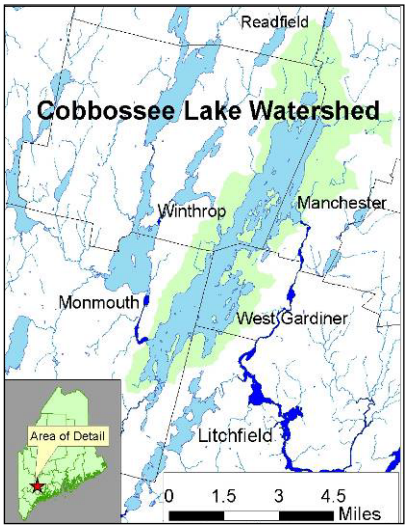
Eleven NPS watershed projects funded through the NPS grants program in previous years were successfully completed. DEP provided technical assistance and granted $512,550 of Federal Clean Water Act funds for these projects. Grantees, partners, and landowners contributed matching funds or services valued at $395,751.

- BMPs were installed to reduce polluted runoff in six watersheds: Crooked River (Naples); Horne Pond (Limington); Nickerson Lake (New Limerick); Parker Pond (Fayette); Spruce Creek (Kittery), and Trout Brook (S. Portland). NPS projects reduced pollutant loading to these waters by 284 pounds of phosphorus and 311 tons of sediment per year- equivalent to about 27 dump truck loads.
- NPS watershed survey project was completed for Cobbossee Lake (Manchester). An NPS survey finds, describes, and prioritizes NPS pollution sources in a watershed and recommends BMPs to reduce polluted runoff.
- Watershed-based plans were completed for Cochnewagon Lake (Monmouth), Concord Gully Brook (Freeport), Meduxnekeag River, and Sebago Lake. A plan provides assessment and management information and describes actions needed to restore NPS-impaired water bodies, or to protect water bodies threatened by NPS pollution.

Concise two-page summaries of each project are included in the following pages. These summaries will be uploaded to the Knowledgebase database located at: http://www.gulfofmaine.org/kb/2.0/search.html.

Project Title	Page Number
Cobbossee Lake Watershed Survey	19
Cochnewagon Lake: Developing a Watershed-based Plan	21
Concord Gully Brook Watershed Management Plan	23
Crooked River Protection Project, Phase I	25
Horne Pond Watershed Protection Project	27
Meduxnekeag River Watershed Based Plan	29
Nickerson Lake Protection Project, Phase II	31
Parker Pond Watershed Protection Project	33
Sebago Lake Watershed Assessment and Prioritization	35
Spruce Creek Watershed Protection Project, Phase III	37
Trout Brook Restoration Project, Phase I	39

Cobbossee Lake Watershed Survey
#2013RR17



Waterbody Name:	Cobbossee Lake
Location:	Winthrop, Manchester, West Gardiner, Readfield, Litchfield, Monmouth- Kennebec County
Waterbody Status:	NPS Priority Watershed, Most at Risk
Project Grantee:	Cobbossee Watershed District
Project Duration:	March 2013 – April 2015
319 Grant Amount:	$22,117
Local Match:	$15,422

PROBLEM:

Cobbossee (Cobbosseecontee) Lake is a large lake with a surface area of approximately 5,238 acres and a direct watershed of 27 square miles. The lake supports a large recreational fishery and recreational boating, and is a backup drinking water supply for the City of Augusta. The lake has been continuously monitored by the Cobbossee Watershed District (CWD) for over 40 years and the CWD has implemented a number of water quality improvement projects over the years. From 1996 to 2002 Cobbossee Lake experienced a gradual increase in water clarity and the minimum secchi disk reading did not fall below two meters. Due to this sustained improvement, Cobbossee Lake was removed from the impaired list in 2006. While the lake has been delisted, its water quality is still sensitive and continued NPS abatement work is needed to protect it. The most recent grant work in the watershed was the 2007–2008 Cobbossee Lake Water Quality Protection, Phase I project (#2007RR06). Through this project BMPs were installed at several high priority NPS sites, including a large buffer planting at a public beach, stabilization of a major causeway in collaboration with the Maine Department of Transportation, and installation of frequent check dams in a 2,500 foot long road ditch.

Watershed survey area

PROJECT DESCRIPTION:

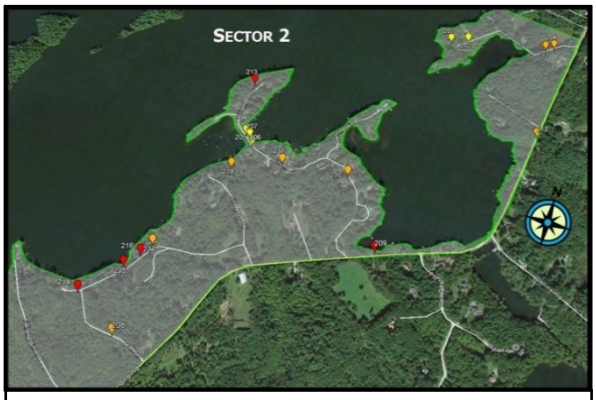
After years of work, the watershed needed to be resurveyed to ensure future BMP work was directed at the highest priority sites. Because of the extent of the watershed, and the fact that gravel camp roads can be a major contributor of sediment and phosphorus to Maine lakes, it was decided survey the immediate watershed area including the nearly 100 camp roads (estimated combined length of 50 miles) in closest proximity to the lake shore. The project identified and documented specific NPS problem sites where BMPs should be implemented to reduce sediment and/or phosphorus loading to the lake and identified roads or road segments, where responsible road maintenance is lacking. The survey was primarily performed by CWD staff with assistance from the Friends of the Cobbossee Watershed. This survey was a step towards the overall goal to decrease phosphorus loading to the lake in order to reduce recurring algae blooms.

PROJECT OUTCOMES:

- Identification, prioritization, and mapping of 80 NPS sites, the majority of which were related to roads. These sites were documented in an NPS Site Tracker Excel Spreadsheet for future monitoring of activities related to these sites. Watershed survey findings are summarized in a report, Cobbossee Lake Watershed Survey (November 2014, 26 pages).

- Enhanced public awareness of NPS as a water quality threat, particularly through dissemination of project material on the lake via the OTTER II pontoon boat and personal communications with property owners encountered during the survey.

- Developed a Watershed-based Protection Plan (April 2015) describing a strategy and schedule for NPS mitigation and water quality protection efforts for the Cobbossee Lake watershed over ten years, 2015 to 2025.



Sample sector map with NPS sites identified

Documented NPS road site

PROJECT PARTNERS:

Friends of the Cobbossee Watershed

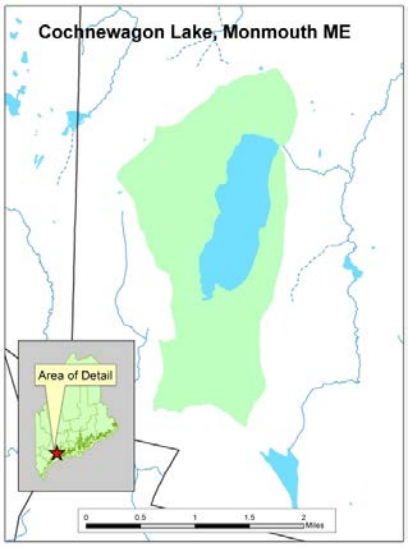
Cobbosseecontee Yacht Club

CONTACT INFORMATION:

William Monagle, Cobbossee Watershed District, (207) 377-2234, wmonagle@roadrunner.com

Kristin Feindel, DEP, (207) 215-3461, kristin.b.feindel@maine.gov

Cochnewagon Lake: Developing a Watershed-based Plan
#2013RT26

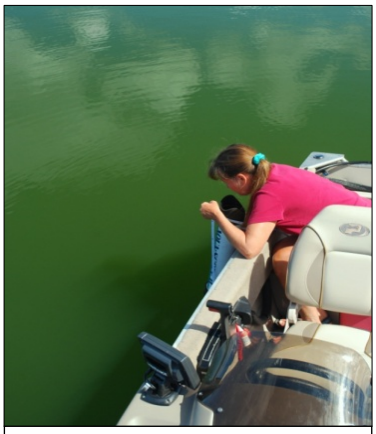


Waterbody Name:	Cochnewagon Lake
Location:	Monmouth - Kennebec County
Waterbody Status:	NPS Priority Watershed, Impaired
Project Grantee:	Cobbossee Watershed District
Project Duration:	February 2014 – February 2016
319 Grant Amount:	$10,800
Local Match:	$11,762

PROBLEM:

Cochnewagon Lake is a 386 acre lake within a 3.4 square mile watershed, located entirely in Monmouth, Maine. There are no upstream lakes. The primary land cover in the watershed is forest, followed by agriculture, and development. Cochnewagon is a multi-use lake and a prominent feature in Monmouth. Approximately 100 residences dot the shoreline. Public use areas are located near downtown Monmouth including a public beach and town-maintained boat launch. In 1986, Cobbossee Watershed District (CWD) did an in-lake nutrient inactivation treatment, which restored good water quality to Cochnewagon Lake for about 19 years. The treatment is no longer effective. CWD's data document that Cochnewagon Lake's trophic state has increased: late summer blue-green algae blooms and elevated phosphorus and chlorophyll-a concentrations indicate declining water quality. The Maine DEP listed the lake as impaired in the "2012 Integrated Water Quality Monitoring and Assessment Report".

In 2009-10, CWD conducted an NPS watershed survey. Most agricultural activity is associated with one large dairy farm. Fifty erosion sites were identified on 25 roads surveyed. Recommendations for reducing runoff and phosphorus were made for 96 of 108 properties surveyed. Following the survey, CWD conducted a Cochnewagon Lake NPS Watershed Project, Phase 1, from 2011–13. This resulted in Best Management Practices (BMPs) being implemented at 20 road sites and 11 shorefront sites.



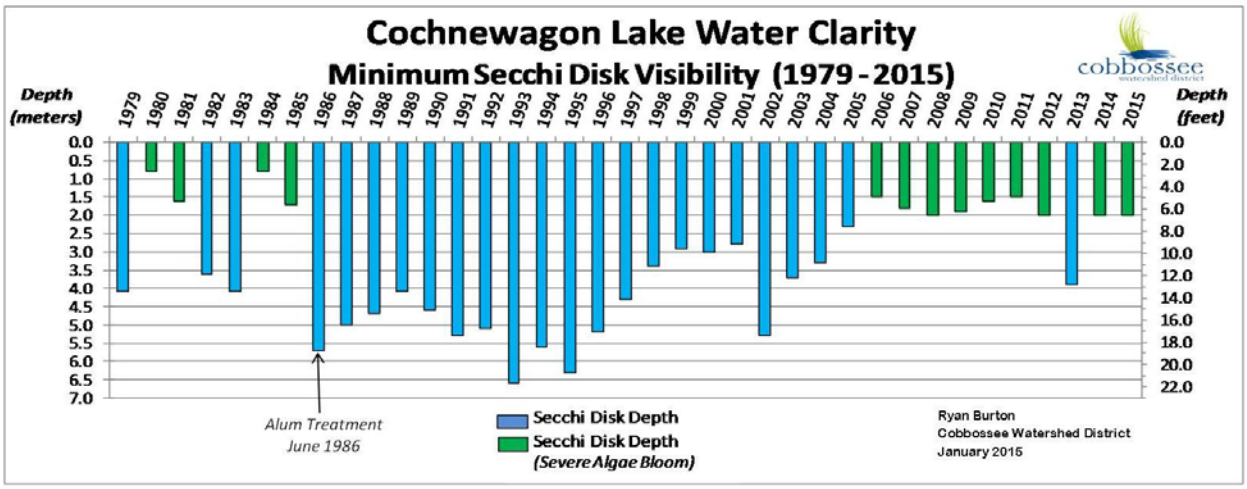
Cochnewagon Lake algal bloom

PROJECT DESCRIPTION:

The purpose of this project was to develop a watershed-based plan so that the CWD, Town of Monmouth, Friends of the Cobbossee Watershed (FOCW), and the watershed residents can continue to reduce NPS phosphorus from the watershed through BMP implementation and education. An additional goal is to develop an action plan for reducing in-lake phosphorus recycling. The ultimate goal is to restore Cochnewagon Lake to a mesotrophic lake that meets its State of Maine water quality classification.

PROJECT OUTCOMES:

- Completed the "Watershed-based Plan for Cochnewagon Lake - Monmouth, Maine", which documents the causes of impairment to water quality, the goals and methods to reduce phosphorus in order to restore the lake, and the costs and education actions needed to implement the plan.
- Completed an evaluation of phosphorus dynamics in the lake, and a comparison of watershed inputs to internal sources. As a result, an alum treatment was confirmed as the action most likely to substantially reduce phosphorus and eliminate algal blooms.
- The steering committee that contributed to the development of the plan consisted of 17 members including, FOCW, Town of Monmouth staff, a Select Board member, and lakefront and watershed property owners. The Committee's support was an encouraging indication of the potential for successful implementation.
- A Cochnewagon Lake Committee was formed as a result of Steering Committee interest in initiating successful implementation of the plan. The Committee will initially work on education and building support for plan implementation.
- The Town of Monmouth Select Board began considering municipal budget actions to help implement the lake alum treatment component of the plan.



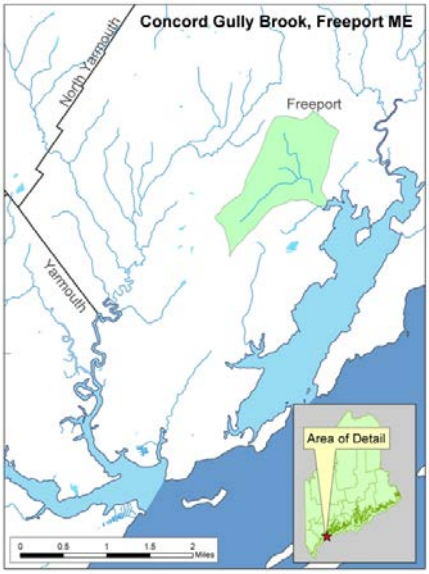
PROJECT PARTNERS:

Cochnewagon Lake Watershed Residents
Friends of the Cobbossee Watershed
Town of Monmouth

CONTACT INFORMATION:

Wendy Dennis, Cobbossee Watershed District, (207) 377-2234, cwd@fairpoint.net
Mary-Ellen Dennis, DEP, (207) 215-7946, mary-ellen.c.dennis@maine.gov

Concord Gully Brook Watershed Management Plan
#2012RT18



Waterbody Name:	Concord Gully Brook
Location:	Freeport - Cumberland County
Waterbody Status:	Urban Impaired Stream
Project Grantee:	Cumberland County SWCD
Project Duration:	July 2012 – April 2015
319 Grant Amount:	$36,420
Local Match:	$32,960

PROBLEM:

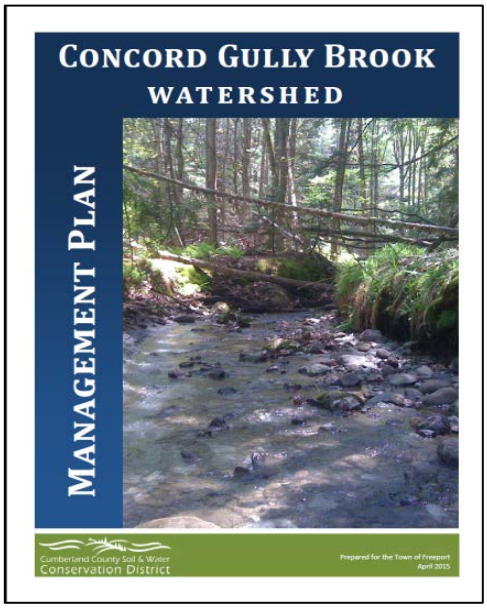
Concord Gully Brook is an urban impaired stream located in Freeport. The main stem is approximately 1.5 miles long. There is one major tributary, Porter's Landing Brook, and several other minor tributaries. The watershed encompasses 561.8 acres (0.88 square miles) and has a mix of land uses that includes residential, commercial, public, and forested land. DEP calculated the total impervious area to be 22%.

This Class B stream has been on Maine's 303(d) list since 2004 because it does not meet standards for aquatic life, habitat, or bacteria. The threats to water quality identified during the plan development include: stream bank erosion, stream channel changes, degraded stream habitat, elevated chloride, and elevated nutrients and bacteria during stormflow conditions.

PROJECT DESCRIPTION:

The project developed a locally-supported watershed-based plan that outlines actions needed to restore water quality and aquatic habitat of Concord Gully Brook in order to attain Class B water quality standards. The Cumberland County SWCD, the town of Freeport, and a steering committee that included major landowners and citizen volunteers developed the plan. Six meetings were held to develop the plan; two steering committee meetings, two technical sub-committee meetings, and two business outreach meetings.

A water quality summary and watershed characterization were completed based on review of existing documents and data, and new evaluations / assessments including: water quality monitoring; impervious cover/watershed mapping; an inventory of potential structural retrofits; a rapid geomorphic assessment; and geomorphic restoration design study.



PROJECT OUTCOMES:

- In collaboration with the Town of Freeport, completed a locally supported plan, "Concord Gully Brook Watershed Management Plan-April 2015".
- Previous studies were synthesized and compiled into a single document. Extensive additional water quality monitoring and geomorphology studies were conducted to enhance understanding of impairment sources.
- Identified ten high and medium impact in-stream restoration projects that should improve habitat and floodplain connectivity. Identified nine structural retrofit projects that will improve stormwater management.
- Engaged businesses through a business outreach meeting and Concord Gully Watershed business breakfast. Thirteen representatives from businesses located within the watershed attended the breakfast.

Concord Gully Brook

Porter's Landing Brook

PROJECT PARTNERS:

Bowdoin College
Field Geology Services
Freeport Sewer District
Greater Freeport Chamber of Commerce
L.L. Bean
Maine Department of Transportation

CONTACT INFORMATION

Cumberland County SWCD, (207) 892-4700 www.cumberlandswcd.org
Albert Presgraves, Town of Freeport, (207) 865-4743 apresgrav@freeportmaine.com
Mary-Ellen Dennis, DEP, (207) 215-7946 mary-ellen.c.dennis@maine.gov

Crooked River Protection Project – Phase I
#2013RR15

Waterbody Name: Crooked River

Location: Bethel, Albany, Waterford, Norway, Otisfield, Harrison, Casco, and Naples – Oxford and Cumberland Counties

Waterbody Status: NPS Priority Watershed

Project Grantee: Cumberland County SWCD

Project Duration: March 2013 – December 2015

319 Grant Amount: $84,373

Local Match: $66,240

PROBLEM:

The Crooked River is approximately 50 miles long and has a watershed area of nearly 120 square miles. It supplies over 40% of the surface inflow to Sebago Lake, a water supply for 200,000 customers in the Greater Portland area. The Crooked River supports one of only four known indigenous populations of landlocked Atlantic salmon (*Salmo salar*) in Maine. Eighty-five percent of the watershed is undeveloped, 10.5% is developed (primarily in the southern portion), and 4.5% of the watershed is agricultural land, primarily hayfields and fallow land.

Portland Water District (PWD) monitors the river at seven sites from Naples to Albany. The PWD 2008–09 Water Quality Report documented high levels of phosphorus in the southernmost station and high levels of fecal coliform bacteria at all seven stations. The signs of stress exhibited in the Crooked River are likely due to polluted runoff from development, particularly in the southern portion of the watershed. In 2011, a 319-funded watershed survey (#2010PT19) identified 200 NPS sites that impact or have the potential to impact the Crooked River's water quality. A riparian corridor survey was also completed in 2011 and identified 20 problem sites including bank failures or slumps, clearings, and large blow downs.

This road crossing of a Crooked River tributary had washed out due to an undersized culvert. The 24" culvert was replaced with both a 48" culvert and a 36" overflow culvert.

PROJECT DESCRIPTION:

The purpose of this project was to reduce erosion and the export of sediment and phosphorus into the Crooked River by installing conservation practices, raising awareness about watershed issues, and working to foster long-term watershed stewardship within the community. The project focused on the towns of Otisfield and Norway and included strong collaboration with the Towns and other area partners. The Town of Norway proactively addressed five priority sites just prior to the project beginning, resulting in more pollutant reduction than was included in this project.

PROJECT OUTCOMES:

- Addressed 16 NPS priority sites, including several gravel road crossings of tributaries, significant town roadwork, and stabilization of a river bank erosion site using log jams designed by a geomorphologist.
- Promotion of BMPs for ATV riding and trail maintenance, including holding two field workshops and creation of an ATV BMP brochure.
- Technical assistance provided to landowners at 14 sites in the watershed.
- 15 conservation practice installations planned for the near future as a result of the outreach and technical assistance provided through this project.
- Annual pollutant loading to the river was reduced by an estimated 66.4 tons of sediment and 56.4 pounds of phosphorus per year (estimated using WEPP & Region 5 methods).

Two brochures created through the project:

1) ATV best practices, to be distributed with ATV registrations.

2) Shoreland zone regulations, to be distributed by the Towns via the CEO.

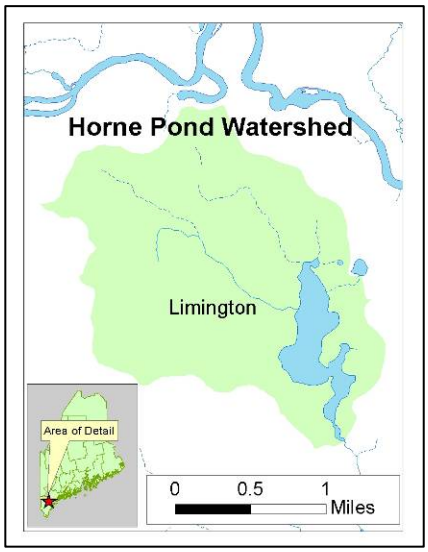
PROJECT PARTNERS:

Oxford County Soil & Water Conservation District
Portland Water District
Town of Norway
Town of Otisfield
Western Foothills Land Trust

CONTACT INFORMATION:

Heather True, CCSWCD, (207)-892-4700, htrue@cumberlandswcd.org
Kristin Feindel, DEP, (207)-215-3461, kristin.b.feindel@maine.gov

Horne Pond Watershed Protection Project
#2013RR03



Waterbody Name:	Horne Pond
Location:	Limington - York County
Waterbody Status:	NPS Priority Watershed, Most at Risk
Project Grantee:	York County SWCD
Project Duration:	January 2013 – December 2015
319 Grant Amount:	$41,536
Local Match:	$25,583

PROBLEM:

Horne Pond (locally known as Pequawket Lake) covers 139 acres and has a direct watershed of 2.8 square miles. The lake flows into the Little Ossipee River and is part of the larger Saco River watershed. The Horne Pond shoreline is developed, with 177 seasonal and year-round residences and the Town's Moy-Mo-Da-Yo Beach area which covers 36 acres and includes a boat launch, parking, swimming, and summer camp facilities. The Town formed the Moy-Mo-Day-O Beach Recreation Oversight Committee in 2007 to oversee further development of the park's day uses, overnight camping, and boat access.

Water quality monitoring has been conducted on the lake since 1980. The lake's water quality is considered above average with a water clarity of 6.2 meters. However, recent dissolved oxygen profiles show low to moderate depletion in deep areas of the lake. In 1996, the Pequawket Lake Preservation Association (PLPA) formed to monitor, protect, and preserve the lake's water quality. The Horne Pond Watershed Survey (#2011RR06) was conducted in 2011. Volunteers and project staff identified 48 NPS sites in the watershed, including 36 residential and driveway sites, nine town and private road sites, two town beach sites, and one logging site.

PROJECT DESCRIPTION:

The purpose of this project was to reduce erosion and polluted runoff to Horne Pond by installing conservation practices at five road/beach sites and 15 residential sites. Technical assistance was planned for 20 sites. Outreach plans included four 'septic socials', two hands-on workshops, and four newsletters.

Unfortunately, the project had mixed results due to lack of local interest and a transition in PLPA leadership. Despite these challenges, the project succeeded in providing technical assistance to 16 landowners and installing conservation practices at three residential sites and four road/beach sites. One septic social and one workshop were conducted. Project presentations were delivered at two PLPA annual meetings, and project updates and inserts were included in the PLPA newsletter.

Over 20 volunteers helped with the Moy-Mo-Da-Yo Beach project.

PROJECT OUTCOMES:

- Although several aspects of the project were ultimately scaled back, the project succeeded in providing technical assistance to 16 landowners and installing conservation practices to address four priority road and beach area sites and three residential properties. The Town and a Road Association independently fixed another three high priority sites during the grant period.
- The project's highest priority site was located at Moy-Mo-Day-O Beach, a popular town beach, boat launch area, and summer youth day camp with severe, chronic erosion problems. A local contractor installed infiltration steps to stabilize the main walkway to the pond. On October 24, 2015 over 20 volunteers planted 110 native shrubs and groundcovers to help establish a vegetated buffer; spread 60 cubic yards of Erosion Control Mix to cover bare soils; and installed several waterbars to divert runoff into existing buffers.
- The Horne Pond NPS Site Tracker was created to help the lake association prioritize future watershed efforts. Of the 52 identified erosion sites, 12 sites have been fixed (nine through 319 grant and three independently). This includes 62% of the high impact sites and 28% of the medium impact sites. Most of the remaining 36 sites are low impact, and nine of these landowners have already received technical assistance.
- Annual pollutant loading to Horne Pond was reduced by an estimated 14.2 tons of sediment and 12.1 pounds of phosphorus (WEPP Model and Region 5 Method).

PROJECT PARTNERS:

Moy-Mo-Day-O Beach Recreation Oversight Committee
Pequawket Lake Preservation Association
Town of Limington

CONTACT INFORMATION:

Theresa Galvin, York County SWCD, (207) 432-4543, tgalvin@yorkswcd.org
Wendy Garland, DEP, (207) 615-2451, wendy.garland@maine.gov

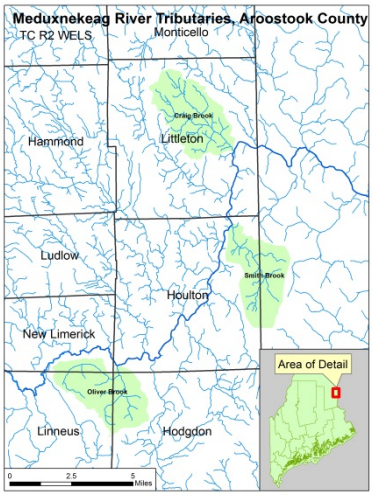
Before – The Town's popular Moy-Mo-Da-Yo Beach experienced chronic, severe erosion problems on the beach and picnic areas.

After - Volunteers spread erosion control mulch, planted native vegetation, and installed water bars to help manage runoff and stabilize eroding areas.

Meduxnekeag River Watershed-based Plan Development Project

2012RT19

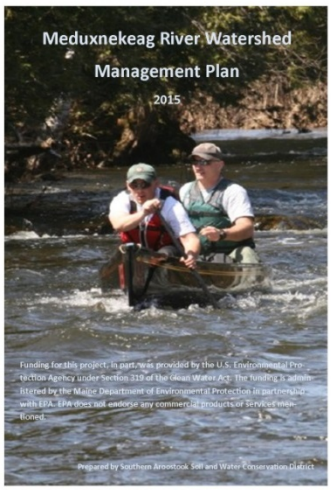
Waterbody Name:	Meduxnekeag River
Location:	New Limerick, Linneus, Hodgdon, Houlton, Ludlow, Littleton, and Hammond, Aroostook County
Waterbody Status:	Impaired, NPS Priority Watershed
Project Grantee:	Southern Aroostook Soil & Water Conservation District
Project Duration:	December 2012 – March 2015
319 Grant Amount:	$8,880
Local Match:	$5,964



PROBLEM:

The 2012 Integrated Water Quality Monitoring & Assessment Report and the 2000 TMDL identified the cause of nonattainment in the Meduxnekeg River watershed as excess nutrients (phosphorus). The 1993 USDA Watershed Protection Plan points to significant soil erosion from agricultural croplands and livestock pasture. Runoff from snowmelt and the spring and fall rains occur when croplands are bare, delivering a heavy sediment load to the streams. Heavy summer rains, even with ground cover, add soil particles and attached nutrients to tributary streams. These streams carry soil and nutrients to the river.

For over 20 years many individuals, organizations, and communities have studied the forces driving the water quality impairment. Numerous studies have chipped away at data needs and have slowly increased the understanding of the river. Prior studies provided important information, but failed to provide a cohesive understanding of the impairment or develop a unified approach for addressing problems. A holistic watershed plan was needed to take a comprehensive approach, compile and evaluate data, and develop a detailed strategy to make progress restoring the river.



PROJECT DESCRIPTION:

A steering committee was formed to oversee the process, review data, provide information, and develop the plan. The committee reviewed historical and current water quality data, nutrient analysis reports, surveys, a fluvial geomorphology study; and used soil loss equations, GIS mapping, watershed assessments, and other tools. The committee selected three sub-watersheds for intensive watershed surveys. This effort included pre-implementation water quality monitoring by the Houlton Band of Maliseet Indians (HBMI) and the Maine DEP.

PROJECT OUTCOMES:

- The "Meduxnekeag River Watershed Management Plan, March 2015" was completed it identifies problems, priorities, and actions needed to improve water quality.
- Three sub-watersheds were surveyed more extensively: Smith, Oliver, and Craig Brooks. The "Sub-watershed Survey Summary Report, January 2015" summarizes the results.
- An evaluation was completed using a survey and three focus groups to assess what BMPs farmers were currently using and what BMPs they would be willing to adopt. The survey examined barriers and benefits to adopting BMPs and tested "messages" and "calls to action" to see what resonated well with farmers. The results are being used to promote use of BMPs needed to restore the river. The report, "Research Report BMP Focus Groups", documents findings of the evaluation.
- The USDA Natural Resource Conservation Service designated two sub-watersheds- Nickerson Lake and Smith Brook under the National Water Quality Initiative. This prioritizes USDA services and farmer access to funds to help install BMPs.

Confluence of Smith Brook with the Meduxnekeag River after a rain event.

Unstable waterway in a potato field

PROJECT PARTNERS:

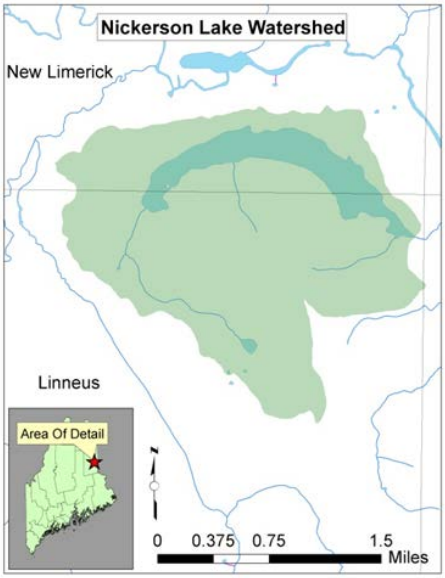
Houlton Band of Maliseet Indians
USDA Natural Resource Conservation Service
Maine Department of Agriculture, Conservation and Forestry

CONTACT INFORMATION:

Angela Wotton, Southern Aroostook SWCD, 207-532-2087, angela.wotton@me.nacdnet.net
Kathy Hoppe, DEP 207-540-3134, kathy.m.hoppe@Maine.gov

Nickerson Lake Protection Project– Phase II

2013RR04



Waterbody Name: Nickerson Lake

Location: New Limerick, Aroostook County

Waterbody Status: NPS Priority Watershed

Project Grantee: Southern Aroostook SWCD

Project Duration: April 1, 2013 – July 15, 2015

319 Grant Amount: $58,363

Local Match: $39,021

PROBLEM:

Nickerson Lake has a watershed area of 4,585 acres, a surface area of 234 acres, and a flushing rate of 0.37 times/year. In the last decade construction in the watershed has increased as seasonal camps are updated and expanded into year-round homes. With the increase of year-round residences, more driveways and camp roads are plowed and therefore open to erosion. There are 95 residences located along the northern and southeastern sides of the lake. There is also a 145 acre public golf course in the watershed. Approximately 70% of the watershed has highly erodible or potentially highly erodible soils with moderate to severe slopes (5% to 25%).

A 2009 NPS watershed survey of Nickerson Lake identified over 48 NPS sites. Seventeen percent of the surveyed sites ranked high priority, 58% of the sites were medium, and 25% ranked low priority. Forty two percent of the surveyed sites listed driveways needing erosion control, followed by camp roads (35%) and residential sites (13%).

PROJECT DESCRIPTION:

The project focused on reducing sediment loads from NPS sites identified in the spring 2009 watershed survey. Project staff provided technical assistance and education to 28 landowners and provided a 60% cash match to landowners to implement NPS erosion control measures. Outreach and education were essential components of Phase II with a targeted mailing, lake-friendly plant sales in 2014 and 2015, along with one-on-one buffer planning consultation and design, and a nature walk as part of Nickerson Lake Day in August 2013. Additionally a Gravel Roads and Water Quality workshop was held in May 2015. District staff presented talks on water quality and NPS topics including “Lake Jeopardy” at the summer meetings from 2013-2015. Prizes for Lake Jeopardy were wildflower seed packets along with the encouragement to plant shorefront buffers.

Nickerson Lake Wilderness Preservation, Corp (NLWP) and Nickerson Lake Conservation Fund offered a 40% match to help shorefront property owners and the golf course to implement BMPs. The District also supplied articles to the NLWP that were published in their newsletter.

PROJECT OUTCOMES:

- Driveway BMPS: four reshaping and grading, two waterbars/broad-based dips, two reshape and rock-line camp road ditching
- Road BMPs: two armoring the inlets/outlets of existing culverts, one plunge pool, five rock sandwiches/cannolis
- Golf course: one sediment basin, one rock-lined waterway, one rocked pipe into buffer
- Shorefront: one riprap, nine vegetated buffer plantings, four mulching/seeding
- Annual pollutant loading to the lake was reduced by an estimated 155 tons of sediment, 155 pounds of phosphorous and 310 pounds of nitrogen.
- Developed a partnership with Nickerson Lake Wilderness Preservation Corp and Nickerson Lake Conservation Fund to provide financial assistance for BMP installation

PROJECT PARTNERS:

Nickerson Lake Wilderness Preservation Corp
Nickerson Lake Conservation Fund
Sea & C Consulting
USDA - Natural Resources Conservation Service

CONTACT INFORMATION:

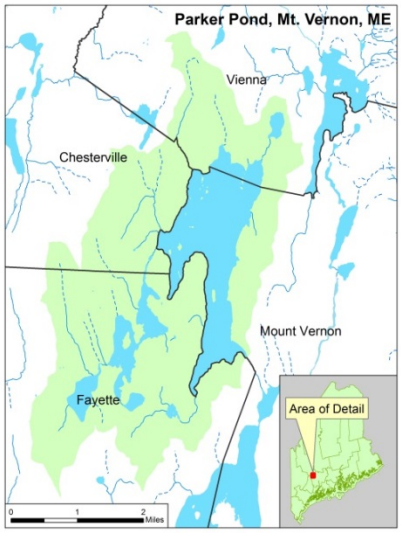
Angela Wotton, Southern Aroostook Soil & Water Conservation District, 207-532-2087, angela.wotton@me.nacdnet.net, http://www.saswcd.org/

Kathy Hoppe, DEP 207-540-3134, kathy.m.hoppe@maine.gov

Stabilized cross-culvert outlet and ditch to a buffer.

Rock cannolis used to pass water from a wooded wetland to the lake and stabilize the camp road.

Parker Pond NPS Watershed Protection Project
#2012RR23



Waterbody Name:	Parker Pond
Location:	Chesterville, Fayette, Mt. Vernon, Vienna - Franklin and Kennebec Counties
Waterbody Status:	NPS Priority Watershed
Project Grantee:	30 Mile River Watershed Association
Project Duration:	November 2012 – December 2015
319 Grant Amount:	$62,372
Match:	$57,235

PROBLEM:

Parker Pond is in the northern branch of the "30 Mile River," a connected chain of lakes in Central Maine. Parker Pond has a surface area of 1,524 acres, a direct watershed of 6.3 square miles, and an average depth of 31 feet. The pond is a valuable resource for the public, with an excellent bass fishery, salmon and brook trout fisheries, state-owned islands, and public boat and hiking access. Shoreland development and the resulting NPS pollution are among the biggest threats to the pond. Most of the development on the pond occurred before current shoreland zoning laws were in place. There are many private camp roads throughout the watershed, most located near the pond. Development in neighboring lake watersheds has led to increased phosphorus loads and severe algae blooms in those lakes. Parker faces the same prospect unless concerted action is taken to prevent it.

In 2011, 30MRWA and its partners conducted a watershed survey of Parker, David, and Tilton Ponds, identifying 46 erosion sites in Parker's watershed. Of these sites, 27 were designated as high or medium impact due to site size, slope, amount of soil eroded, and proximity to the water. Half of those sites were in residential areas (14 residential, nine driveway). Seventeen sites were on roads (13 private, four town). All but one of these road sites had extensive erosion problems, rated at high or medium impact. The Parker Lake Shores development had 32 of the 46 identified sites.

A gravel road ditch eroding sediment and phosphorus into Parker Pond.

PROJECT DESCRIPTION:

The project reduced erosion and polluted runoff sources in the Parker Pond watershed to protect and improve water quality. The goal was achieved through working with local stakeholders to improve eroding private gravel roads by designing and implementing BMPs at high priority sites, and providing road management plans and technical assistance. The Youth Conservation Corps installed conservation practices at residential sites. Use of BMPs for road maintenance was encouraged on town roads through one-on-one outreach and workshops.

PROJECT OUTCOMES:

- Provided road management plans and technical assistance to improve three gravel roads.
- Designed and implemented BMPs at six high priority sites, including major work on and formation of a road association for a severely eroding gravel road.
- Installation of conservation practices at 12 sites with the Youth Conservation Corps.
- Encouraged good road maintenance of town roads in the watershed by reaching out to town representatives and partnering to conduct three well-attended road maintenance workshops.
- Annual pollutant loading to the lake was reduced by an estimated 70 tons of sediment and 59 pounds of phosphorus loading per year (WEPP Road Model & Region 5 Method).

Project partners and work completed (left to right): local road association volunteers install BMPs at boat launch; volunteer retired road expert checks a newly installed culvert and plunge pool; boat launch newly stabilized with runoff diverters, culverts, plunge pools and rock-lined ditches; and YCC members at a work site.

PROJECT PARTNERS:

Kennebec County SWCD
Parker Pond Association
Towns of Chesterville, Fayette, Mount Vernon, & Vienna
Parker Lake Shores Recreation Association

CONTACT INFORMATION:

Lidie Robbins, 30MRWA, (207) 860-4043, lidie@30mileriver.org
Kristin Feindel, Maine DEP, (207) 215-3461, kristin.b.feindel@maine.gov

Sebago Lake Watershed Assessment & Prioritization Project
#2013PP05

Waterbody Name:	Sebago Lake
Location:	Standish, Sebago, Naples, Casco, Raymond, Windham, Frye Island - Cumberland County
Waterbody Status:	NPS Priority Watershed, Most At Risk
Project Grantee:	Cumberland County SWCD
Project Duration:	March 2014 – September 2015
604(b) Grant Amount:	$41,577
Local Match:	$34,617

PROBLEM:

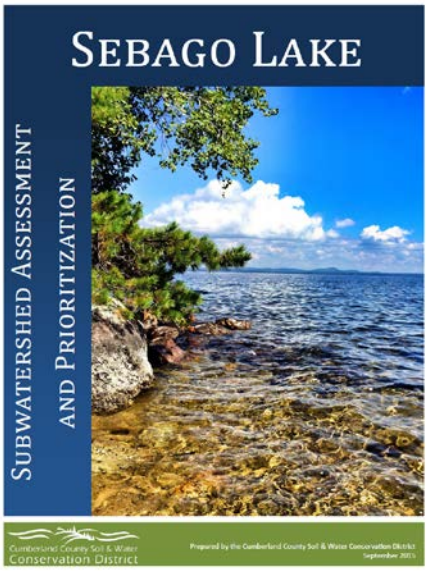
Sebago Lake, Maine's second largest, has a surface area of 30,513 acres. Its 100 miles of shoreline is developed with 2,300 seasonal and year-round homes, 12 public boat launches, eight marinas, seven summer youth camps, and Sebago Lake State Park. Sebago is the primary drinking water supply for 200,000 people in 11 communities. The direct watershed covers 171 square miles and the entire watershed is 361 square miles. Portland Water District (PWD) has monitored water quality since 1970. Sebago Lake has excellent water quality, Secchi transparency averages over 31 feet deep. However, there are concerns about declining trends in recent years.

Implementation work in the direct watershed has been conducted in phases due to the large size of the lake and watershed. Through two recent phases of work, CCSWCD and PWD installed conservation practices at 25 high and medium impact sites and provided technical assistance to 31 landowners. PWD staff inspected 373 properties in the lake shoreland zone. Since 1999, $1,759,500 has been spent on 319-funded NPS projects completed on 14 lakes, rivers, and ponds in the watershed.

PROJECT DESCRIPTION:

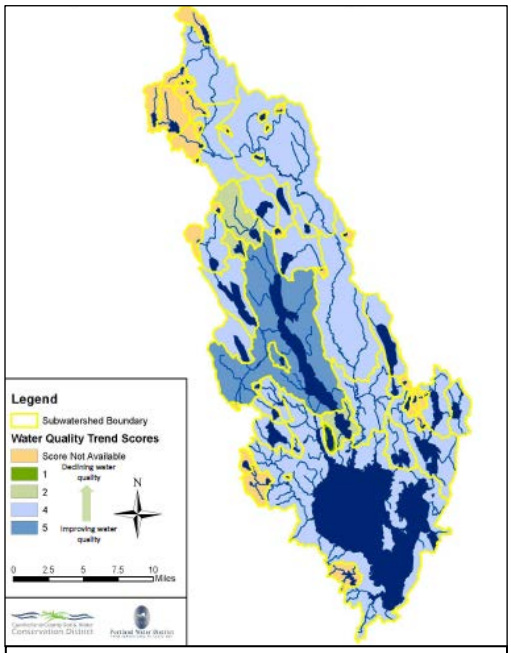
To ensure protection and implementation efforts will be directed at locations with the highest potential to impact Sebago Lake water quality, a thorough analysis was needed. The primary purpose of this project was to conduct a watershed assessment and prioritization for the entire Sebago Lake watershed.

This project synthesized data into a water quality index, prioritizing each subwatershed according to its impact on Sebago Lake. This work included synthesizing over ten years of data and trend analysis; calculating each subwatershed's phosphorus contribution; and extensive collaboration among partners. A watershed-based plan was developed for the direct watershed, including surveying for high-impact NPS sites and hotspots. Data gathered for major subwatershed lakes were compiled into individual lake health-scorecard factsheets.

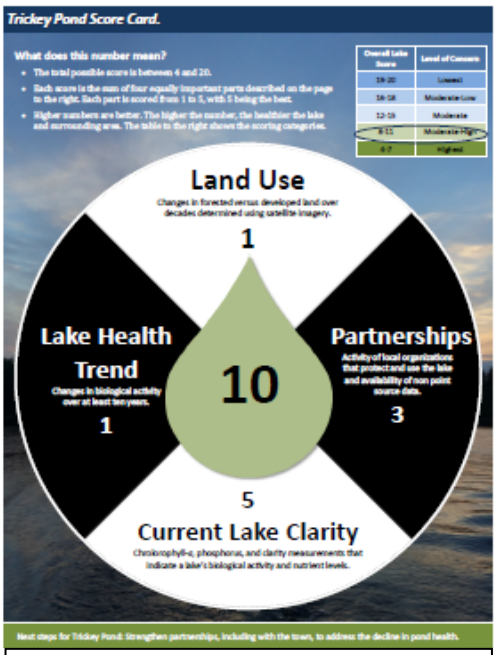


PROJECT OUTCOMES:

- The first significant watershed-wide data gathering and analysis completed for Sebago Lake, a priority watershed serving 15% of the State of Maine's drinking water supply.
- Development of the DEP-approved watershed-based plan the "Sebago Lake and Crooked River Protection Plan (July 2015)", which included completion and compilation of several surveys to assess NPS sources in the Sebago Lake direct watershed.
- Creation of individual lake health-scorecard factsheets for 24 subwatershed lakes.
- Completion of the "Sebago Lake Subwatershed Assessment and Prioritization Report (September 2015)", which succinctly describes the process used and outcome of the prioritization of the 29 subwatersheds.



Watershed map
Water Quality Trend Scores



Lake Health Scorecard

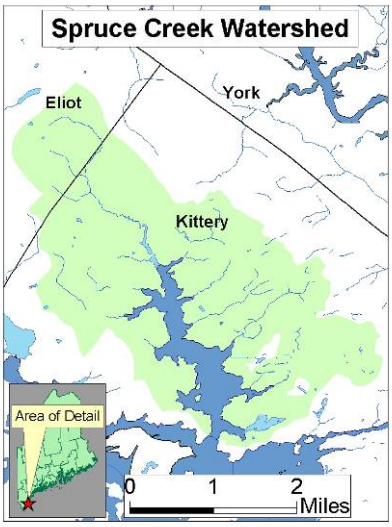
PROJECT PARTNERS:

Portland Water District
Lakes Environmental Association
Maine Forest Service
Maine DEP
University of Southern Maine
Town of Standish

CONTACT INFORMATION:

Heather True, CCSWCD, (207) 892-4700, htrue@cumberlandswcd.org
Paul Hunt, PWD, (207) 774-5961, phunt@pwd.org, www.pwd.org
Kristin Feindel, DEP, (207) 215-3461, kristin.b.feindel@maine.gov

Spruce Creek Watershed Improvement Project - Phase III
#2013RT06

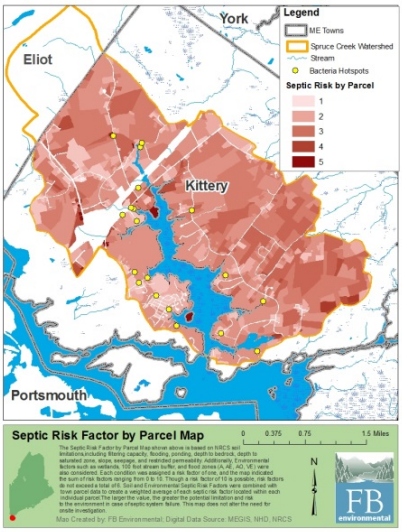


Waterbody Name:	Spruce Creek
Location:	Kittery and Eliot - York County
Waterbody Status:	NPS Priority Watershed, Impaired
Project Grantee:	Town of Kittery
Project Duration:	January 2013 – September 2015
319 Grant Amount:	$75,750
Local Match:	$58,770

PROBLEM:

The Spruce Creek watershed covers 9.6 square miles in Kittery and Eliot in southernmost Maine. The creek flows into the Piscataqua River about 1.5 miles from the ocean. The creek includes six freshwater streams and three square miles of tidal area (including high salt marsh, ledge, and mud flats). Watershed land use includes sparse residential development and some active farmland and woodlots in the upper reaches in Eliot. Along the Route 1 and Route 95 corridor, there are extensive impervious areas in commercial strip malls, roads, and interchanges. The tidal portion is residential with large homes along the shoreline.

Spruce Creek is impaired due to bacterial contamination, low dissolved oxygen, toxic contamination, and a compromised ability to support aquatic life. Although a portion of Spruce Creek was previously open to shellfish harvesting, the flats have been closed since 2005 due to high fecal coliform concentrations. The Spruce Creek Association (SCA) formed in 2002 to promote watershed stewardship and now has over 180 members. A survey completed in 2007 (#2005R-01) identified and provided preliminary recommendations for 197 NPS sites. Two phases of projects (#2008RR01 and #2010RT07) installed conservation practices at 15 sites, hosted nine septic and residential socials, completed an intercept survey, gathered over 50 residential pledges to install watershed-friendly practices, developed a septic system ordinance, and removed an overboard discharge.



PROJECT DESCRIPTION:

The goal is to reduce bacterial loading and export of sediment and nutrients to improve water quality and help re-open shellfish harvest areas. Best Management Practices (BMPs) were installed at residential and commercial properties. Bacteria sources were pursued through smoke testing, by completing the septic system database and property ranking by pollution risk. Project outreach was accomplished through holding two Septic Socials, continuation of the residential pledge program, presentations at 10 events, development of the Kittery Clean Water Initiative flyer, and articles in local newspapers and on the Save Kittery Waters website.

PROJECT OUTCOMES:

- Stormwater BMPs including a biofiltration modular system, infiltration steps, buffers, erosion control mulch, and riprap were installed at two roadside locations (Dion Ave and Adams Drive) and at the Kittery Community Center. Ten additional BMPs including rain gardens, infiltration trenches, and buffers were installed at two residential properties.
- One hotspot bacteria source was removed from directly entering the creek via the storm drain system by installing catchbasin covers at one residential property.
- Completion of the Town of Kittery Septic System Database and property ranking by pollution risk.
- Annual pollutant loading to Spruce Creek was reduced by an estimated 37.6 pounds of nitrogen and 3.5 tons of sediment per year (Region 5 Method).
- 31 people pledged to complete a total of 332 watershed-friendly practices on their properties through the Save Kittery Waters Pledge Program.

Biofiltration system installed along a roadway.

Infiltration steps, buffer, and erosion control mulch installed behind the Kittery Community Center.

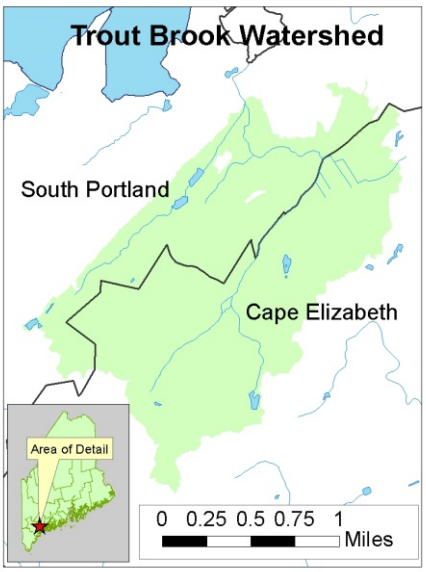
PROJECT PARTNERS:

Spruce Creek Association
University of New Hampshire Stormwater Center

CONTACT INFORMATION:

Jessa Kellogg, Town of Kittery, (207) 475-1321, jkellogg@kitteryme.org
Laura Diemer, FB Environmental, (207) 221-6699, laurad@fbenvironmental.com
Kristin Feindel, Maine DEP, (207) 215-3461, kristin.b.feindel@maine.gov

Trout Brook Restoration Project – Phase I
#2013RT08



Waterbody Name:	Trout Brook
Location:	South Portland and Cape Elizabeth - Cumberland County
Waterbody Status:	Kimball and Trout Brooks- Urban Impaired Stream
Project Grantee:	City of South Portland
Project Duration:	March 2013 – December 2015
319 Grant Amount:	$70,363
Local Match:	$48,177

PROBLEM:

Trout Brook is approximately 2.5 miles long, originates in Cape Elizabeth and includes Kimball Brook and several unnamed tributaries. Its 2.35 square mile watershed transitions from woodland headwaters through agricultural lands, wetlands, the Trout Brook Nature Preserve, and dense residential developments before flowing into Mill Cove and Portland Harbor. The stream supports a brook trout fishery, likely due to its abundant cold water springs. However, neither Trout Brook nor Kimball Brook meets Class C standards for habitat or aquatic life. In 2002, the South Portland Land Trust and Maine DEP conducted a watershed survey and stream habitat walk (#2002P10) and identified 86 NPS sites in the watershed. The Trout Brook TMDL study was completed in 2007, and the "Trout Brook Watershed-based Plan" was completed in December 2012.

Trout Brook Youth Conservation Corps

PROJECT DESCRIPTION:

The purpose of the Trout Brook Phase I project was to significantly improve streamside buffers and reduce NPS inputs to the stream. The goal was to install 800 feet of vegetated buffers on eight properties and address three high-priority NPS sites identified in the "Trout Brook Plan". This was accomplished through cost sharing assistance and labor from a summer Youth Conservation Corps (YCC). The YCC employed four local high school students and one college student from June to August 2014. Project outreach included the installation of 11 stream crossing signs, numerous press releases to local newspapers, and a walking tour. The YCC also canvassed priority neighborhoods and watershed parks to distribute Yardscaping information and project staff conducted outreach to farms and a golf course in the watershed.

PROJECT OUTCOMES:

- The project completed 12 residential buffer projects (the workplan goal was eight sites).These projects restored natural vegetation and removed invasive plants along 565 feet of stream. The high level of participation in South Portland was due in large part to the Conservation Commission's decision to provide additional funding up to $500 to purchase plant materials for each property.
- The City of South Portland contributed over $10,000 of in-kind match to install three of the project's four NPS projects. The City paved under its sand-salt pile to prevent further chloride contamination to the stream; constructed the Simmons Road rain garden; and coordinated with the Trout Brook YCC to install infiltration steps to address impacts from street runoff on an eroding trail next to the stream.
- The Trout Brook YCC served as ambassadors for Trout Brook and helped raise awareness about stream protection practices through their hands-on work with landowners and canvassing efforts at local parks. The YCC was the subject of a SPTV segment, a *Casco Bay Story*, and a newspaper article in *The Current*.
- The Trout Brook NPS Site Tracker was developed to track NPS problems and implementation progress. To date, 42 of the 85 high-priority sites identified in the "Trout Brook Plan" have been addressed.
- Annually, an estimated 1.9 tons of sediment, 1.6 pounds of phosphorus, and 1.1 pounds of nitrogen are being kept out of Trout Brook from the activities completed under this grant (Region 5 Method).

Infiltration steps installed to treat runoff and stabilize an eroding trail leading to Trout Brook.

A rain garden was installed on Simmons Road in partnership between the City of South Portland and the adjacent homeowner.

PROJECT PARTNERS:

Casco Bay Estuary Partnership
Cumberland County SWCD
South Portland Conservation Commission
South Portland Land Trust
Town of Cape Elizabeth

CONTACT INFORMATION:

Fred Dillon, City of South Portland, (207) 347-4138, fdillon@southportland.org
Wendy Garland, Maine DEP, (207) 615-2451, wendy.garland@maine.gov

Appendix A. NPS 319 Watershed Projects Active in 2015

Project Title	Project ID#	Grantee	Grant Amount	Non-federal Match	Date Completed **(bold)** or To Be Completed
Capehart Brook Restoration Phase II	2015RT01	City of Bangor	150,000	125,500	12/31/17
Capisic Brook Watershed Restoration Project, Phase I	2014RT04	Cumberland County SWCD	86,635	73,630	12/31/16
Cobbossee Lake Watershed Survey	2013RR17	Cobbossee Watershed District	23,089	16,062	**03/01/15**
Cochnewagon Lake Watershed-based Plan Development	2013RT26	Cobbossee Watershed District	10,800	7,600	**12/31/15**
Concord Gully Brook Watershed Management Plan	2012RT18	Cumberland County SWCD	36,720	29,018	**04/30/15**
Crescent Lake NPS Watershed Protection Project, Phase II	2014RR03	Raymond, Town of	82,049	76,518	03/31/16
Crooked River Protection Project, Phase I	2013RR15	Cumberland County SWCD	98,542	67,418	**02/08/16**
Dudley Brook Restoration Project, Phase I	2012RT24	Central Aroostook SWCD	14,689	9,793	11/30/16
Goosefare Brook Watershed-based Plan Mgt Development	2013RT25	Saco, City of	45,952	31,790	12/31/16
Great East Lake and Wilson Lake Watershed Implementation - Phase 2	2015RR02	Acton Wakefield Watersheds Alliance	55,356	54,409	12/31/17
Horne Pond NPS Watershed Protection Project	2013RR03	York County SWCD	56,715	57,666	**12/31/15**
Lake Auburn Watershed Improvement Project-Phase 1	2015RT03	Lake Auburn Watershed Protection Commission	148,438	116,472	12/31/17
Little Sebago Lake Protection Project, Phase IV	2013RR27	Cumberland County SWCD	96,670	69,786	12/31/16
Long Pond NPS Watershed Restoration Project, Phase III	2014RT06	Belgrade Regional Conservation Alliance	74,460	72,500	12/31/16
Meduxnekeag River Watershed Based Plan	2012RT19	Southern Aroostook County SWCD	13,748	12,580	**04/16/15**
Nickerson Lake Protection Project, Phase II	2013RR04	Southern Aroostook County SWCD	58,362	38,928	**08/20/15**
Ogunquit River Watershed Restoration Project, Phase I	2014BB09	Ogunquit, Town of	92,050	72,730	12/31/16
Parker Pond Watershed Protection Project	2012RR23	30 Mile River Watershed Association	62,372	47,124	**02/03/16**
Phillips Lake Watershed Protection Project- Phase II	2015RR04	Hancock County SWCD	98,447	65,665	12/31/17

Project Title	Project ID#	Grantee	Grant Amount	Non-federal Match	Date Completed **(bold)** or To Be Completed
Red Brook Restoration Project, Phase I	2015RT05	Town of Scarborough	119,358	82,090	12/31/17
Sebago Lake Watershed Assessment and Prioritization	2013PP05	Cumberland County SWCD	41,577	33,640	**09/30/15**
Spruce Creek Watershed Protection Project, Phase III	2013RT06	Kittery, Town of	75,750	74,055	**10/05/15**
Spruce Creek Watershed Restoration Project, Phase IV	2015RT06	Town of Kittery	59,050	62,875	12/31/17
Thompson Lake NPS Watershed Protection Project, Phase IV	2014RR07	Cumberland County SWCD	87,938	64,005	12/31/16
Toddy Pond Watershed Protection Project	2014RR01	Hancock County SWCD	82,257	54,940	12/31/16
Togus Pond Watershed Restoration Project, Phase 3	2013RT07	Kennebec County SWCD	40,800	27,650	02/15/16
Topsham Fair Mall Watershed Restoration Project Phase I	2015RT07	Town of Topsham	95,997	66,405	12/31/17
Trout Brook Restoration Project, Phase I	2013RT08	Cape Elizabeth, Town of	70,363	48,072	**12/31/15**
Trout Brook Restoration Project, Phase II	2014RT08	Cape Elizabeth, Town of	109,588	72,979	01/31/16
Upper Prestile Stream Main Stem I Subwatershed Restoration Phase 1	2015RT08	Central Aroostook County SWCD	37,164	24,776	12/31/17
Wilson Pond NPS Watershed Restoration Project, Phase II	2014RT05	Cobbossee Watershed District	65,200	45,590	12/31/16
Woods Pond Watershed Protection Project, Phase I	2014RR02	Lakes Environmental Association	60,000	42,810	12/31/16

Project ID# Codes:
20XX Funds Federal Appropriation Year
RR Threatened Waterbody
RT Impaired Waterbody

Appendix B.

NPS Program Five-year Objectives, Actions, and Annual Milestones

This section provides the five-year objectives, actions, and milestones for Maine's NPS program for the years 2015 through 2019. Table 9 focuses on DEP's watershed approach to improve and protect water quality. Tables 10 to 15 list objectives for Maine's statewide approach to address six major NPS pollution categories: developed areas, agriculture, transportation, forestry, subsurface wastewater disposal, and hydrologic modification. Table 16 lists objectives for partnerships, funding and NPS program administration.

Table 9. Watershed Approach Lead Agency: Maine DEP			**Schedule**						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
1. Prioritization: Complete revisions to the evaluation criteria and the methodology used for prioritizing lakes, streams and marine waters (NPS Priority Watersheds list) Partners: DACF, DMR	• For lakes, evaluate use of aluminum sediment core data in the lake vulnerability index when data is available. Update priority watersheds list incorporating results, if appropriate. • For streams, evaluate use of Recovery Potential Screening tool (EPA) to assist with prioritization of impaired and threatened streams. Update priority watersheds list incorporating model results, if appropriate. • For marine waters, work with DMR, Healthy Beaches Program and other partners to investigate ways to improve the prioritization as new data or methods becomes available. • Improve methodology to assign priority among NPS priority watersheds to progressively address protecting or restoring NPS priority watersheds.	1. Revised NPS priority watersheds list evaluation criteria and methodology			X			Jeff Dennis	Field work conducted to assess 43 threatened streams listed on the NPS Priority Watersheds List.
2. Prioritization: Evaluate NPS priority lists annually as new information becomes available.	• Annually evaluate NPS priority watersheds lists. Announce public opportunity to submit requests and support for waterbodies to be added to the priority lists. • Update priority lists as needed - add or remove individual waterbodies as new information becomes	2. Updated NPS priority watershed list	X	X	X	X	X	Kristin Feindel	Provided opportunity to request waters be evaluated for inclusion on priority lists. Updated list will be completed in January 2016.

Table 9. Watershed Approach Lead Agency: Maine DEP			Schedule						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
	available.								
3. Planning: Approve 5 nine element watershed based plans (WBP) for restoration of impaired waters.	• Provide to decision makers the information needed to develop sound WBPs including data necessary to determine the dominant stressors contributing to the impairment and sufficient watershed and stream corridor information to identify and prioritize specific implementation activities needed to restore the waterbody. • Provide technical support, guidance and when available funding for development of effective WBPs.	3. Nine element WBPs	2	1	1		1	Norm Marcotte	Approved 3: Cochnewagon Lake, Concord Gully Brook & Meduxnekeag River
4. Planning: Approve 10 alternative WBPs for protection of unimpaired waters.	Working with partners, provide technical assistance and funding for watershed surveys to support the development of lake watershed-based protection plans. Coordinate to secure EPA approval of alternative WBPs.	4. Alternative WBPs	2	2	2	2	2	Norm Marcotte	EPA & DEP approved WBPs for 7 lakes: Adams, Alamoosook, Cobbossee, Damariscotta, Ellis, Panther & Sebago
5. Planning: Approve updates of 3 existing nine element WBPs.	Working with partners, provide technical assistance to support updates of nine-element WBPs.	5. Updated nine-element WBPs			1	1	1	Norm Marcotte	Bangor updated 9-element WBP for Capehart & Penjajawoc Streams.
6. Planning: Develop guidance document to identify stream stressors.	Develop a guidance document to help partners identify stream stressors and develop WBPs for urban impaired streams.	6. Stream stressors guidance document		X				Jeff Dennis	Not started yet, due 2016
7. Planning: Develop guidance document to update WBPs.	Develop guidance for updating WBPs that will be more than ten years old between 2015 and 2019 and share with groups associated with these plans.	7. Guidance document for updating WBPs		X				Norm Marcotte	Not started yet, due 2016

Table 9. Watershed Approach Lead Agency: Maine DEP			**Schedule**						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
8. Restoration: Fully or partially restore 2 NPS impaired waterbodies; Prepare NPS Success Stories that document the restorations.	• Provide technical support and funding through NPS Section 319 grant program to support implementation of WBPs for waters with high potential to be restored. • Work with local municipalities and interest groups to resolve pathogen contamination problems on bacteria-impaired waterbodies (includes marine and freshwaters). • Collect targeted water quality and biological health information to determine the effectiveness of implementation efforts and guide modifications to the WBP. • Evaluate available data to determine if water classification standards have been met or if there has been substantial incremental improvement in water quality and/or ecological condition.	8. NPS success stories about partially or fully restored waterbodies (WQ-10)					2	Norm Marcotte	Ongoing, due 2019
9. Restoration: Collaborate with EPA and NRCS in the NWQI program to make progress restoring impaired waters.	• Coordinate with EPA and NRCS to select watersheds for the National Water Quality Initiative program (NWQI). • Conduct ambient water quality monitoring of Oliver Brook, within the Nickerson Lake - Meduxnekeag River subwatershed selected under the NRCS NWQI	9. Water quality monitoring results for Oliver Brook.		X	X	X	X	Norm Marcotte	Ongoing, due 2016
10. Target efforts to maintain open shellfish harvesting areas or restore closed shellfish harvesting areas.	• MCP, DMR, and DEP will identify priority target watersheds. MCP, DMR, and DEP will help municipal and watershed groups adopt regulatory or non-regulatory measures, complete targeted projects, or implement recognized BMPs to reduce impacts to coastal water quality in target watersheds of priority shellfish growing areas. • This work will be conducted to make progress opening closed shellfish growing areas.	10. Number of municipalities that adopt: new plans and policies; regulatory or non-regulatory measures; complete targeted projects or implement BMPs	X	X	X	X	X	Norm Marcotte	Conducted bacterial source detection surveys in Waldoboro adjacent to Medomak River Estuary, an important shellfish harvesting area, closed for shellfish harvest following >1 inch rain events.

Table 9. Watershed Approach Lead Agency: Maine DEP			**Schedule**						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
11. Substantial Improvement: Demonstrate substantial Improvement in water quality and/or ecological condition in 3 NPS impaired waterbodies.	• Provide technical support and funding through NPS Section 319 grant program to support implementation of WBPs for waters with high potential to be restored. • Work with local municipalities and interest groups to resolve pathogen contamination problems on bacteria-impaired waterbodies (includes marine and freshwaters). • Collect targeted water quality and biological health information to determine the effectiveness of implementation efforts and guide modifications to the WBP. • Evaluate data to determine if water classification standards have been met or if there has been substantial incremental improvement in water quality and/or ecological condition.	11. NPS success stories that show progress toward achieving water quality goals or about ecological restoration		1		1	1	Norm Marcotte	Ongoing, due 2016 Prospects evaluated: Penjajawoc Stream and Pottle Brook
12. Protection: Develop 2 guidance documents to estimate effectiveness of watershed protection efforts.	Develop metrics and methods to evaluate effectiveness of efforts to protect unimpaired threatened waters. • 2015 For lake watersheds • 2016 for stream and marine watersheds	12. Demonstrating protection guidance documents	X	X				Jeff Dennis	Lakes: started work on project Streams & Marine: not started yet
13. Protection: Demonstrate effective protection of 8 unimpaired threatened waters.	• Provide technical support and funding through NPS Section 319 grant program to support implementation of WBPs. • Evaluate the effectiveness of the protection projects.	13. Watershed protection success stories		2	2	2	2	Jeff Dennis	Not started yet, due 2016

Table 9. Watershed Approach Lead Agency: Maine DEP			Schedule						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
14. Provide technical support to help watershed groups conduct NPS watershed surveys.	Provide training and technical assistance for NPS watershed surveys to help protect or restore NPS priority watersheds.	14. Completed NPS watershed surveys	3	3	3	3	3	Kristin Feindel	Watershed surveys completed on 2 lakes (North/Cushman, Abrams) and 1 stream corridor survey (Goosefare Brook)

Table 10. Statewide Approach - Developed Areas Lead Agency: Maine DEP			Schedule						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
1. Incorporate additional low impact development (LID) design practices into Maine's stormwater statutes and rules.	• Review Chapter 500 Stormwater Management Rules and proposed changes to Chapter 500 for opportunities to encourage or incentivize use of LID strategies and design practices.	1. By 2015, issue proposed revised Chapter 500 rules	X	X				Mark Bergeron	Revisions to Chapter 500 Rules become effective 8/12/15. Revisions include incentives to use LID techniques and other innovative practices. Training on the new Stormwater Management rules, Chapters 500 and 501 was developed and is anticipated to take place in spring 2016.
2. Regularly update the Maine Stormwater Best Management Practices (BMP) manual to reflect the current best	• Solicit input annually from consulting community and other interested parties. • Evaluate proposals for new or modified BMPs (including proprietary systems) for approval for use under Chapter 500 Stormwater Rules. • When reviewing the effectiveness of current BMP practice standards and specifications, consider the	2. Update manual as new or modified BMPs are approved	X	X	X	X	X	Marianne Hubert	Reviewed & approved 5 proprietary BMPs: Filterra, StormFilter, Jelly Fish, Retain-it, and StormTank as Ch. 500 General Standard alternatives. StormFilter and Filterra were approved

Table 10. Statewide Approach - Developed Areas Lead Agency: Maine DEP			Schedule						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
management practices.	impacts of more frequent extreme wet weather events. • Propose updates to manual as warranted, solicit input through public comment.								with updated sizing & design configurations.
3. Maintain the number of Contractors Certified In Erosion & Sediment Control BMPs.	DEP NPS Training and Resource Center will continue to administer the Erosion and Sediment Control Contractor Certification Program and track the number of certified contractors (increased from 1,630 in 2012 to 2,700 in 2014).	3. Number of Contractors Certified In Erosion & Sediment Control BMPs	X	X	X	X	X	Bill Laflamme	Number of certified Individuals increased to 2862.
4. Provide municipalities with NPS training and resources to prompt and improve local water resource protection.	DEP NPS Training and Resource Center will use Adobe Connect to produce 20-minute educational programs and on-line resources for NPS training for municipal officials on topics such as NPS pollution prevention and low impact development.	4. Adobe Connect educational programs completed		2		2		Bill Laflamme	A continuing education program was produced on Permitting Requirements that can be used by municipal officials.
5. Document chloride salt impacts on streams.	Prepare a report summarizing DEP findings about how excessive chloride salt use in developed areas has adversely impacted aquatic life of some streams in Maine. Chloride salts degrade water quality, soil quality, and ecosystems. Specific effects vary by location.	5. Chloride salt impact on streams (document)			X			Melissa Evers	Not started yet, due 2017
6. Provide municipalities with technical assistance on protection and restoration of local waterbodies.	Provide information to municipalities working on Comprehensive Plans and review plans for consistency and completeness.	6. Comprehensive Plan reviews completed	4	4	4	4	4	Jeff Dennis	Evaluated and provided comments on 6 plans: Lewiston, New Vineyard, Boothbay Harbor; Bridgton, Caribou, Hebron

Table 10. Statewide Approach - Developed Areas Lead Agency: Maine DEP			Schedule						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
7. Prevent and mitigate NPS impacts from unpaved camp roads.	The NPSTRC will provide training workshops and/or online resources.	7. Number of participants receiving training	X	X	X	X	X	Bill Laflamme	A class on maintenance and repair of unpaved roads was held in Houlton 5/12/15, with 13 participants. A class scheduled in Hancock County was canceled, not enough registrants.

Table 11. Statewide Approach - Agriculture Lead Agency: Maine DACF			Schedule						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
1. Monitor agricultural operations to ensure compliance with the requirement to implement approved nutrient management plans (NMP).	• Evaluate agricultural operations (AOs) to determine if they need to develop and implement an approved NMP. • Track existing AOs with an approved NMP to ensure that their NMP is up-to-date. • Provide guidance for initial development of a NMP or for facilitating updates as needed. • Continue to identify AOs that need an NMP and help AOs comply with the obligation to operate according to a NMP.	1. Each year report: a. The number of AOs that maintain and implement an approved NMP; b. An estimate of the number of AOs that need a NMP.	X	X	X	X	X	Mark Hedrich	a. 343 NMPs b. estimate 50 NMPs needed 78 reminder letters sent for NMP renewals. 21 letters sent to holders of expired NMPs. Approximately 65 site visits conducted related to NMP initiation or renewal.
2. Monitor agricultural operations to ensure compliance with requirement to operate according to a Livestock Operations Permit (LOP).	• Evaluate new or expanded agricultural operations (AOs) to determine their requirement for obtaining a LOP. • Continue to identify AOs that need a LOP and help AOs comply with the obligation to operate according to a LOP. • Evaluate farms to determine if they are considered a CAFO as defined by state or federal regulations. • Initiate steps for appropriate permitting of these entities as needed. • Conduct annual inspections of CAFOs to determine compliance with terms of the LOP.	2. Each year report: a. The number of AOs that operate according to a LOP; and b. An estimate of the number of AOs that need an LOP.	X	X	X	X	X	Mark Hedrich	a. 15 LOPs b. 8 LOPs needed One new and 3 LOP renewals issued. One provisional LOP issued. Sent letters to 11 farms identified as potentially required to obtain LOP; determined 3 not required. Two LOP applications almost completed. Five MEPDES evaluations completed.
3. Update the Nutrient Management Program Rules	• Evaluate soil test time frame validity, evaluate NMP variance operational timeline; • Incorporate Maine Phosphorous Index criteria if feasible; • Address carcass disposal issues; Incorporate	3. By 2015, complete draft of rules; by 2016 hold public hearing; and by 2017 adopt the revised rules.	X	X	X			Mark Hedrich	Recommendations of the Sub-committee of Nutrient Mgt. Board were incorporated into draft Rule. Section on

Table 11. Statewide Approach - Agriculture Lead Agency: Maine DACF			Schedule						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
	Compost Management Plan criteria; • Update certification requirements for planners; • Address livestock access to waterbodies								Compost Management Plans being developed, along with many miscellaneous changes.
4. Continue to implement the Agricultural Compliance Program to resolve water quality related complaints.	• Investigate complaints concerning farm operations that involve threats to human or animal health and safety, and to the environment. • Prescribe new or modified site-specific best management practices where needed to resolve the issue, particularly water-quality-related matters. • Develop and maintain a database or spreadsheet to track and categorize agriculture complaints received and resolutions • Prepare a concise annual summary of water quality related complaints received, investigated and resolved.	4. Annual summary of water quality related complaints received, investigated and resolved	X	X	X	X	X	Mark Hedrich	Fourteen various water quality related complaints were investigated and resolved.
5. Develop a brochure for farmers outlining NPS pollution BMPs for farming operations.	• Consider Maine agricultural BMP guidelines, select ten or more of the most significant BMPs and develop an informative quick-read brochure for farmers. • Promote adoption of the BMPs by distributing the brochure at trade shows, meetings, educational events and direct contact with farmers.	6. NPS BMPs brochure for farmers			X			Mark Hedrich	Not started yet, due in 2017

Table 12. Statewide Approach - Transportation Lead Agency: MaineDOT			**Schedule**						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
1. Continue using Erosion and Sedimentation Control BMPs on applicable MaineDOT projects.	• Continue to implement and enforce MaineDOT Standard Specification 656. • Continue ongoing ESC training for MaineDOT staff and contractors. • Report on summary of MaineDOT activities as required by the Stormwater MOA between DEP and MaineDOT	1. Annual Stormwater MOA report to MDEP	X	X	X	X	X	Rhonda Poirier	Annual Stormwater MOA report sent to Maine DEP on 3/3/2015.
2. Regularly update the MaineDOT Erosion and Sedimentation Control BMPs manual to reflect the current BMPs.	• Receive input annually from vendors, contractors, and professionals as appropriate. • Evaluate proposals for new or modified BMPs (including proprietary systems) for approval for use. • When reviewing the effectiveness of current BMP practice standards and specifications, consider the impacts of more frequent extreme wet weather events. • Propose updates to manual as warranted.	2. Update BMPs manual as new or modified BMPs are approved by MaineDOT	X	X	X	X	X	Rhonda Poirier	No updates are planned or needed for 2015.
3. Promote chloride salt reduction BMPs to protect water quality while maintaining safe roads for travelling public.	• Continue Maine Local Roads Center (MLRC) training and BMP Task Force to promote snow and ice control BMPs to municipal PWs. • MaineDOT will continue to investigate new products, technologies, or efficiencies to reduce the use of chlorides.	3. MLRC will track number of towns that received training. MaineDOT will document its research or use of new products or technologies for winter maintenance on its Winter Maintenance Research Reports webpage.	X	X	X	X	X	Rhonda Poirier	Public works and other personnel from 105 Towns attended 2014/2015 Snow and Ice Control training from the Local Roads Center. The Winter Maintenance Research Reports web page was updated including: Rolled Erosion Control Products list, updated 7/23/2015; Geotextiles updated 6/24/2015; and Miscellaneous ENV Item

Table 12. Statewide Approach - Transportation Lead Agency: MaineDOT			**Schedule**						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
									updated 3/24/2015.
4. Promote reduction in the number of outdoor sand/salt piles.	• MaineDOT will reduce the number of outdoor sand/salt piles. • MLRC will continue technical assistance to towns regarding town salt storage facilities, and will continue its funding for improvement of salt storage facilities until 2016.	4. MaineDOT will reduce the number of outdoor sand/salt piles from 30 to 22 (25%).					X	Rhonda Poirier	Eliminated 8 covered outdoor sand/salt piles in the following towns: Dallas Plantation, Orland, Jay, Jackman, Bethel, Canaan, Belgrade, and Linneus.

Table 13. Statewide Approach - Forestry Lead Agency: Maine Forest Service			Schedule						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
1. Increase overall effective BMP application on harvests from 83% to 90% or greater. Effective BMPs include all appropriately applied BMP practices, effective planning and avoiding waterbody crossings.	• Offer BMP training programs, with partners including the Maine Sustainable Forestry Initiative, Certified Logging Professional, Qualified Logging professional program and Northeast Master logger. • Deliver existing or develop new and topic-specific trainings as needed to address problem areas when identified by monitoring, compliance inspections and industry consultation. • Work with DEP and Maine Municipal Bond Bank and EPA to maintain CWSRF funding and promote the Maine Forestry Direct Link Loan Program financing to reduce NPS risk at timber harvest sites. • Apply northeast regional forestry BMP monitoring protocol on a biennial basis to assess use & effectiveness of forestry BMPs.	1. Maine Forestry BMPs Use and Effectiveness report that documents the achievement of the objective by 2018 (and interim progress by 2016)		X		X		Tom Gilbert	Direct Link Loan financing: 23 participants totaling $5,909,181 in assets purchased. 64 sites inspected and assessed using BMP monitoring protocol. Riparian surveys completed at 15 sites. Completed numerous educational events re: BMPs and state-wide standards for consulting foresters, loggers, municipalities, and private woodlot owners.
2. Maintain the Forest Ranger-approved water quality inspections of timber harvest sites at over 90%.	• Forest rangers will continue routine inspections of timber harvests for environmental compliance. • MFS field foresters will continue to provide technical assistance to prevent problems from occurring and quickly fix problems encountered during inspections.	2. Percentage of approved water quality inspections & number of inspections referred for enforcement action	X	X	X	X	X	Tom Gilbert	Rangers and foresters have provided direct technical assistance, educational workshops and enforcement services related to water quality, BMPs and forestry rules.
3. By 2018, improve consistency for the regulated community by increasing the number of critical mass municipalities	• Work with DEP to make significant progress toward adoption of statewide standards for timber harvesting in shoreland areas. Focus on the list of municipalities with the highest average timber harvest acreage. When critical mass is met, statewide standards will take effect in the unorganized areas.	3. By January 2016, 35 new municipalities adopt statewide timber harvesting standards, or DEP adopts ordinances for them.		X	X			Tom Gilbert	Foresters and planning staff have provided technical assistance and educational workshops related to state wide standards for municipalities. Planning

Table 13. Statewide Approach - Forestry Lead Agency: Maine Forest Service			Schedule						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
that have adopted statewide standards for timber harvesting in shoreland areas from 182 to 252.	• Provide outreach to municipalities that have not yet adopted statewide standards for timber harvesting in shoreland areas. • Encourage DEP to adopt ordinances for towns that do not act by 2017.	By January 2017, an additional 35 new municipalities adopt statewide timber harvesting standards or DEP adopts ordinances for them.							staff has worked closely with DEP in implementation.

Table 14. Statewide Approach - Subsurface Wastewater Disposal Lead Agency: Maine DHHS, Environmental Health			Schedule						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
1. Ensure municipalities properly implement Subsurface Wastewater Disposal (SSWD) rules.	• Conduct at least one municipal review of subsurface wastewater disposal activities for each municipality over the 5-year period ending 2019. There are 490 municipalities in Maine. About 100 reviews per year will be completed. • Respond to requests for assistance from municipalities. • Assist in the training and licensing of Local Plumbing Inspectors.	1. Number of municipal reviews completed in the year and number of municipal reviews found satisfactory	X	X	X	X	X	Glen Angell	166 municipal reviews completed. While many had minor issues, none were unsatisfactory.
2. Improve the State's Voluntary Onsite Sewage Disposal System (OSDS) Inspection Program.	• Evaluate the current voluntary OSDS inspection program and certification process. Propose ways to strengthen the voluntary OSDS inspection program. These could take the form of statutory changes to make certification mandatory or through rule changes to clarify what must be included as part of an inspection. • Update Inspection Form to reflect changes implemented. • Modify training program to incorporate results of review and changes	2a. Feasibility report completed by 12/31/2016 2b. Proposed Statutory/Regulatory changes by 12/31/2017 2c. Revise Inspection Criteria by 6/30/2019		X

Table 15. Statewide Approach - Hydrologic Modification Lead Agency: Maine DEP			**Schedule**						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
1. Adopt new standards for stream crossings (new, repair, replacement) designed to improve fish passage, hydraulic capacity and resiliency to larger storm events.	• DEP will continue to participate, along with DOT, other state natural resource agencies, and private sector groups, in the development of an Aquatic Resource Management Strategy (ARMS) to reestablish the connectivity of stream systems. DEP will propose new standards for stream crossings under the Natural Resources Protection Act. • Identify funding mechanisms, develop training programs and to assess/prioritize watersheds where removing passage impediments will result in the greatest connectivity of fisheries habitats.	1a. By 2016, draft standards for public comment. 1b. By 2017, complete aquatic resource management strategy. 1c. By 2017, adopt new standards for stream crossings.		X	X X			Mike Mullen	The ARMS process concluded with the publication of the stream crossing pocket guide. Stream connectivity issues are being discussed in other forums. New standards for stream crossings have drafted and are being finalized for rulemaking begin in 2016. USGS StreamStats is now up and running.

Table 16. DEP Programs, Partnerships and Funding Lead Agency: Maine DEP			Schedule						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
1. Partnerships: Build and strengthen partnerships of the lead state agencies to coordinate efforts and effectively implement the Maine NPS Management Plan implementation.	Establish an NPS Lead Agency workgroup that will meet twice a year to report on progress with implementation of the Maine NPS Management Plan and seize opportunities for further collaboration.	1. NPS lead agency workgroup established	X					Norm Marcotte	Not convened. Concluded more efficient to maintain regular contact and meet with each NPS Lead Agency as needed.
2. Partnerships: Build and strengthen partnerships at the program and project level to maximize effectiveness and efficiency of NPS mitigation efforts.	• Conduct the annual Watershed Roundtable to bring together watershed professionals to share information, network and collaboration. • Coordinate and improve the watershed managers' listserve to efficiently distribute and promote sharing of information and resources between partners.	2. Annual NPS Watershed Roundtable	X	X	X	X	X	Marianne Senechal	55 watershed managers from state agencies, municipalities, watershed organizations, and SWCDs attended DEP's 13th annual Watershed Managers Roundtable. 179 people subscribe on DEP's watershed managers listserve.
3. Funding: Facilitate CWSRF funding for NPS projects by exploring new funding avenues and publicizing funding	• Look for opportunities to expand the eligibility of NPS controls that can be funded through the Clean Water State Revolving Fund (CWSRF) and mechanisms that can deliver that funding. • Determine if there are barriers to prioritization of NPS projects, and if so, develop recommendations and coordinate with the CWSRF program to encourage	3. Provide a summary of CWSRF funding on NPS projects in the annual NPS Program Report.	X	X	X	X	X	Norm Marcotte	A briefing slideshow about Maine CWSRF funding opportunities was provided at the 2015 Watershed Roundtable.

opportunities.	approval of NPS projects. • Track CWSRF projects and funding awarded to NPS projects and produce an annual summary report. • Publicize funding opportunities on the watershed managers' listserve.								
Table 16. DEP Programs, Partnerships and Funding Lead Agency: Maine DEP			**Schedule**						
Five-Year Objectives	**Actions**	**Milestones**	2015	2016	2017	2018	2019	**Lead Contact**	**Accomplishments or Outputs in Year 2015**
4. NPS Management Program Administration Continue to manage and implement the NPS program to meet program goals and work towards addressing the state's water quality problems as effectively and expeditiously as possible.	• DEP employs appropriate programmatic and financial systems that ensure section 319 dollars are used efficiently and consistent with fiscal and legal obligations (Section 319 grant program guidelines, EPA-DEP Performance Partnership Agreement). • In keeping with Clean Water Act Section 319 (h)(8) and (11), provide EPA with sufficient information, reports and data about Maine's 319 program to determine whether the state's progress for the previous fiscal year was satisfactory.	4. Maine's NPS Program continues to achieve satisfactory progress	X	X	X	X	X	Norm Marcotte	Completed satisfactory progress interview / review w EPA for FY 2014. EPA issued a favorable determination (8/31/15)
5. NPS Program Administration: Update the Maine NPS management program plan by 2019.	Consult lead agencies and gather public input to update the Maine NPS management program for the next cycle (including milestones for 2020-2024).	5. EPA approved Maine NPS Management Program Plan by 10/1/19.					X	Norm Marcotte	Not started yet, due 2019

Cape Elizabeth High school students sampling invertebrates on Trout Brook in South Portland.

Clean water starts with you!

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