Nonpoint Source Management Program 2024 Annual Report

June 2025

Sebasticook Lake (Newport)

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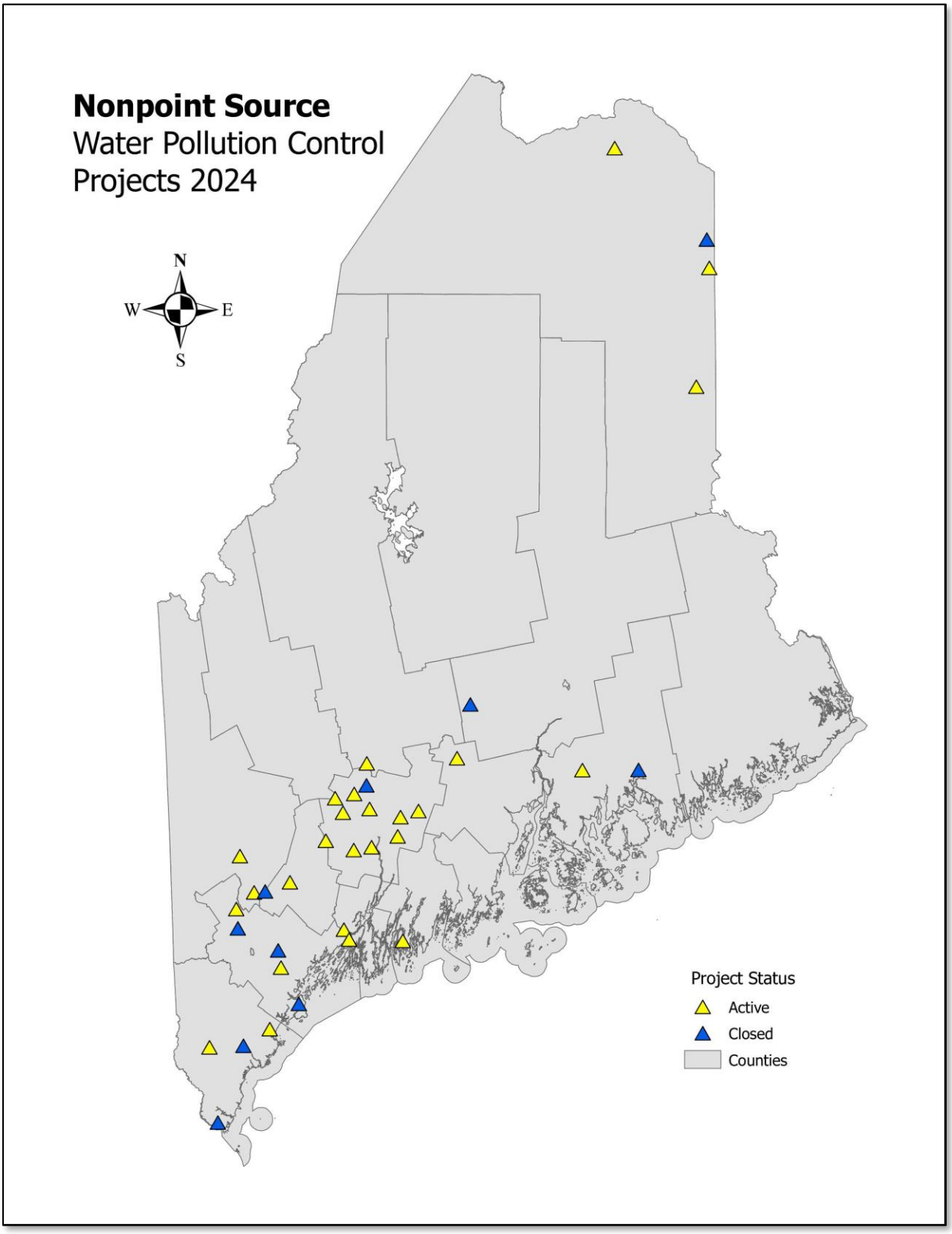
NPS Water Pollution Control Projects in 2024



I. Introduction

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

Maine DEP coordinates the State of Maine Nonpoint Source Pollution Program (38 MSRA 410) to achieve widespread use of state-agency "best management practice guidelines" to prevent NPS pollution. Since 1990, EPA has awarded funds under CWA Section 319(h) to help states and tribes address the most pressing NPS pollution problems. Section 319 funds that are provided by EPA to the State help support a significant portion of Maine's NPS Program. NPS Program services are guided by the *Maine Nonpoint* Source Management Program Plan 202*5*-202*9*.

DEP coordinates with other State agencies on statewide programs to reduce NPS pollution. CWA Sections 604(b) and 319 funds are used to provide grants for watershed projects to help local communities identify water pollution sources in watersheds and restore or protect lakes, streams, or coastal waters.

This report summarizes the Nonpoint Source Program's activities and accomplishments in 2024. Each year, DEP prepares this report to inform the public and the EPA about Maine's progress controlling NPS water pollution and fulfill annual reporting requirements of Section 319(h) of the Federal CWA.

II. 2024 Highlights – Maine NPS Management Program

A. Three Waterbodies Restored – DEP submitted three Type 1 Success Stories to EPA for approval in 2024.

- **East Pond** - Beginning in the 1970s, excess nutrients from nonpoint source (NPS) pollution in the watershed resulted in nuisance algae blooms, a reduction of dissolved oxygen in the water column, and decreased water clarity. Between 1993 and 2017, nuisance algal blooms were almost an annual event, and in 1994, East Pond was placed on Maine's Clean Water Act (CWA) section 303(d) impaired waters list. Considerable funding from local, state and federal partners, anchored by CWA section 319 grants from EPA, supported best management practices (BMPs) in the watershed and in-lake projects, including biomanipulation and an alum treatment, to reduce phosphorus. As a result of this work, East Pond now attains water quality standards, and the Maine Department of Environmental Protection (DEP) removed East Pond from its impaired waters list in 2024 (pending approval from EPA).
- **Cochnewagon Pond** - Beginning in the 1970s increased nutrient loading from nonpoint source pollution (NPS) to the lake resulted in persistent nuisance algal blooms and a record low transparency of 0.8 meters in 1980. From 1986 – 2019, local, state, and federal funding including Clean Water Act (CWA) section 314, section 604(b) and section 319 grants were utilized for watershed surveys, and in-lake and watershed best management practices (BMPs). An in-lake alum treatment conducted in 2018 along with mitigation of watershed sources of NPS resulted in the restoration of Cochnewagon Pond.
- **Lilly Pond** - The 1970's saw a rapid deterioration of water quality in Lilly Pond due to nutrient rich leachate from a municipal landfill, and agricultural activities in the watershed. By 1983, the once renowned transparency of the pond was significantly reduced. Nuisance algal blooms regularly occurred due to excess phosphorus, prompting the Maine Department of Environmental Protection (MDEP) to add the pond to the state's Clean Water Act (CWA) section 303(d) list of impaired waters in 2002. The landfill was capped in 2009 after a decades-

long process to manage solid waste, treat leachate, and redirect runoff at the site. MDEP staff supported with CWA s.319 funds worked with Maine Coast Heritage Trust, which operates the Aldermere Farm, to implement agricultural best management practices, such as livestock exclusion, pasture conversion, and setbacks on manure spreading. Lilly Pond now meets water quality standards; MDEP removed the pond from the state's list of impaired waters in 2024 (pending EPA approval).

B. NPS Management Plan 2025-2029 – Updates to the Maine Nonpoint Source Management Program Plan 2025-2029 were approved by EPA on September 18, 2024. The Maine Department of Environmental Protection (DEP) coordinates the State of Maine Nonpoint Source Pollution Program (38 M.R.S. § 410) to restore and protect waters impaired and threatened1 by nonpoint source pollution. In this NPS Program Plan, DEP establishes the overall strategy that Maine will use over the next five years (2025-2029) to control and prevent NPS pollution to the state's waters. The Plan identifies:

- Programs, strategies and resources state agencies use to address Maine's most pressing NPS water pollution control problems;
- DEP's approach to strategically focus watershed protection and restoration work in NPS Priority watersheds;
- Funding opportunities and partnerships critical to protecting and improving Maine's lakes, streams, rivers, and marine waters; and
- Five-year objectives, actions, and milestones to make progress achieving the long-term goals of Maine's NPS management program.

The U.S. Environmental Protection Agency (EPA) requires states to have an updated NPS Management Plan in place to qualify for federal Section 319 grant awards under the Clean Water Act (CWA).

C. Grant Awards - EPA awarded $1,905,000 FFY 2024 Section 319 Clean Water Act funds and $259,000 FFY 2024 Section 604b Clean Water Act funds to the DEP. The State uses section 319 monies to fund watershed programs and implementation pass-through grants; and uses 604b(b) monies to fund water quality management planning activities. Funds were used to fuel programs designed to prevent and reduce NPS pollution problems. Nine new watershed implementation grants, totaling $991,850 and three new watershed planning grants totaling $130,053 were awarded to municipalities and a Soil and Water Conservation District.

D. Projects Closed Out - Sixteen NPS watershed projects funded through the NPS grants program in previous years were successfully completed. DEP provided technical assistance and granted $1,396,113 of Federal CWA Section 319 and 604(b) funds for these projects. Grantees, partners, and landowners contributed matching funds or services valued at $1,343,141.

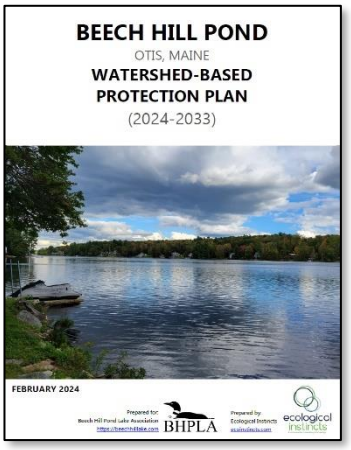
- BMPs were installed to reduce polluted runoff in the following thirteen watersheds, thereby reducing pollutant loading to these waters by an estimated 430.09 pounds of phosphorus, 355.51 pounds of nitrogen, and 458.07 tons of sediment per year[1].

  - Branch Lake
  - Cobbosee Lake
  - Cross Lake
  - Georges Pond
  - Hogan and Whitney Ponds
  - Kennebunk River
  - Long Pond (Belgrade)
  - Messalonskee Lake
  - Ogunquit River
  - Pleasant River
  - Topsham Fair Mall Stream
  - Tricky Pond
  - Trout Brook

[1] Pollutant load reduction estimates are based on approved methods and assume proper installation and maintenance of Best Management Practices. (See Section III.D.)

- Watershed-based protection plans ("9-element" plans) were completed for Sebasticook Lake, Spruce Creek, and four sub-basins in the Lower Aroostook River watershed. These plans provide assessment and management information and describe actions needed to restore NPS-impaired water bodies or to protect water bodies threatened by NPS pollution.

E. Lake Watershed-based Protection Plans - DEP and EPA reviewed and accepted three lake watershed-based protection plan in 2024: Beech Hill Pond, Taylor Pond, and Thompson Lake. Each of these plans were developed using local resources and funding.



D. Maine DEP's Clean Water State Revolving Fund (CWSRF) - The CWSRF program helped fund almost $6.5 million in NPS projects in 2024 via the linked-deposit forestry program, which makes below- market-rate financing available for forestry BMPs and environmentally friendly logging equipment.

E. CWSRF Standalone Stormwater and Nonpoint Source (SW/NPS) Plans – The Clean Water State Revolving Fund provided $200,000 of planning funds for Stormwater and Nonpoint Source projects of which $126,948 was awarded to the following four projects: East Pond Watershed Survey, Stream Crossing Resilience Survey in Falmouth, Webber Pond and Threemile Pond Tri-watershed NPS Assessment, Willard Beach Outfall NPS Management.

F. Nonpoint Source Training Center (NPSTC) - The NPSTC trained 630 individuals through online and in-person classes in 2024, bringing the number of certified contractors to 2,860.

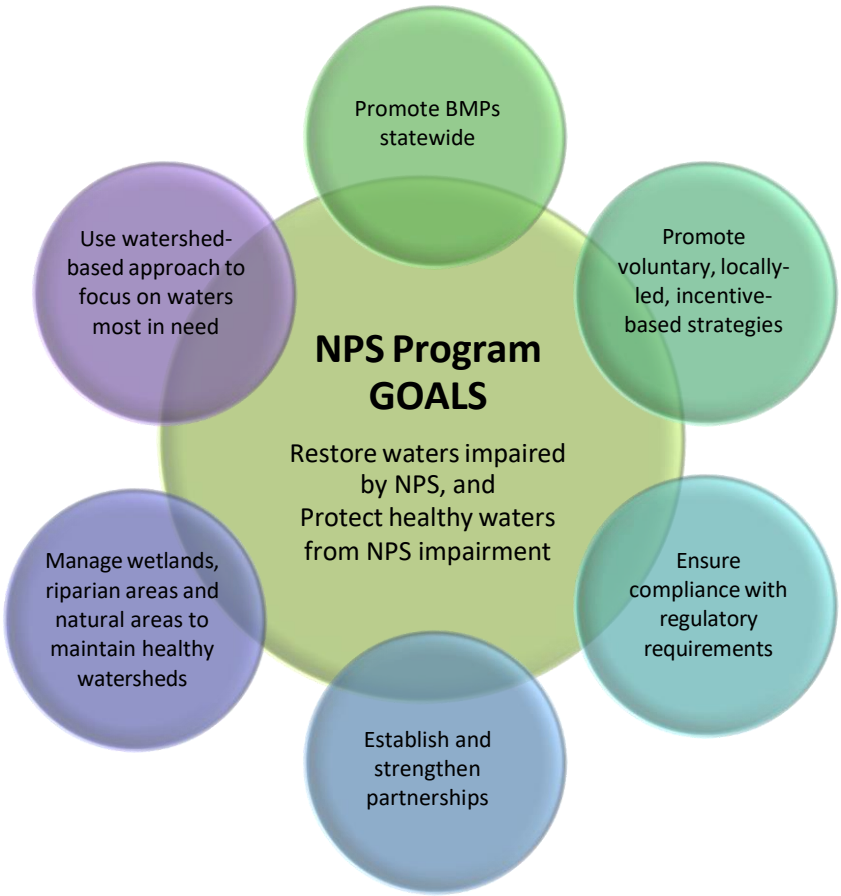
F. L.D. 164: An Act Regarding the Funding of Lake Water Quality Restoration and Protection Projects – In 2023, the Maine Legislature passed L.D. 164, which provided $200,000 to fund the Lake Water Quality Restoration and Protection Fund (38 MRS Section 480-N, Natural Resources Protection Act). The Department released an RFA in 2024, and awarded the entire amount to the Worromontogus Lake Association (WLA) in support of the second phase of their alum treatment.

III. Maine NPS Management Program

A. Overview

The *Maine Nonpoint Source Management Program Plan 2020-2024* 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 practices (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. Five Maine agencies share responsibility for implementing NPS programs: 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 that 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 63 five-year objectives with actions and milestones. Outputs or accomplishments in 2024 are summarized in Appendix C. The NPS plan is available at: http://www.maine.gov/dep/land/watershed/nps-program-plan.html

B. 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 in both protecting and restoring lakes, streams, and coastal waters. Although considerable resources are focused on restoring impaired waters, DEP also invests in 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 unimpaired 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. Fortunately, Maine has many capable and determined municipalities, watershed stewardship groups, and Soil and Water Conservation Districts working to protect watersheds and clean waters.

Developing Plans to Protect Lakes

In 2024, three new lake protection plans (indicated with an * below) were developed by local entities using guidance developed by DEP and EPA, bringing the total number of active lake watershed-based protection plans to 38 through 2024[2]

Lake Watershed-based Protection Plans Accepted by DEP

Abrams Pond (Eastbrook)	McGrath Pond & Salmon Lake (Oakland)
Adams & Knickerbocker Lake (Boothbay)	Mousam Lake (Acton)
Alamoosook Lake (Orland)	North Pond (Buckfield)
Androscoggin Lake (Wayne)	North Pond (Norway)
Bauneg Beg Lake (Sanford)	North Pond (Smithfield)
Beech Hill Pond (Otis)*	Panther Pond (Raymond)
Branch Lake (Ellsworth)	Parker Pond (Chesterville)
Cobbossee Lake (Manchester)	Pennesseewassee Lake (Norway)
Cold Stream Pond (Enfield)	Phillips Lake (Dedham)
Damariscotta Lake (Jefferson)	Sebago Lake & Crooked River (Naples)
Ellis Pond (Roxbury)	Square Pond (Acton)
Forest Lake (Windham)	Taylor Pond (Auburn)*
Georges Pond (Franklin)	Thompson Lake (Otisfield)*
Great East Lake (Acton)	Torsey Pond (Readfield)
Great Pond (Franklin)	Trickey Pond (Naples)
Hogan & Whitney Ponds (Oxford)	Varnum Pond (Wilton)
Lake Anasagunticook (Canton)	Watchic Lake (Standish)
Messalonskee Lake (Oakland)	Whetstone Pond (Abbott)

[2] As of 6/1/25, DEP and EPA have accepted 49 plans since 2013. (This number includes expired plans, which are more than ten years old and need to be updated.

Long Pond (Parsonsfield)	Wilson Lake (Wilton)

Implementation Projects to Protect Lakes

DEP allocates Section 319 funds provided by EPA to protect clean waters that are threatened by NPS pollution. In 2024, Section 319 funds helped sustain or start NPS watershed implementation projects in the following 12 lake watersheds:

Adams Pond and Knickerbocker Lake (Boothbay)
Androscoggin Lake (Wayne)
Cobbossee Lake (Winthrop)
Highland Lake (Windham)
Lake Pennesseewassee (Norway, 2 active projects)
Messalonskee Lake (Sidney)
North Pond
Parker Pond
Sebago Lake
Taylor Pond
Thompson Lake
Torsey Pond

C. Restoring Impaired Waters

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, and 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 lists in the Integrated Water Quality Monitoring and Assessment Report or "Integrated Report" (IR) reported to EPA. Restoring impaired waters involves three steps:

- **Water Quality Assessment, including TMDLs & Alternative Approaches**. In addition to DEP's water quality monitoring and assessment programs, DEP establishes a pollution allocation, also called 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 for the waterbody to meet the state water quality classification.
- **Watershed-based Planning**. A watershed-based plan (WBP) 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 install conservation practices or BMPs to eliminate or control sources of NPS pollution. Typically, 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.

Developing Plans to Restore NPS Impaired Waters

DEP provided services and Sections 604(b) and 319 grant funds to help communities develop WBPs, which will then be used to guide restoration of NPS impaired waters.

- In 2024, DEP accepted three 9-element Watershed-based Plans for Sebasticook Lake, Spruce Creek, and four sub-basins in the Lower Aroostook River watershed.
- Work continues to develop nine-element WBPs for Tributaries to the Upper Narraguagus River (T34MD), Whitten Brook (Skowhegan), Abrams Pond (Eastbrook), Vaughn Brook (Hallowell), Monson Pond (Ft. Fairfield), and Webber, Threemile, and Threecornered Ponds (Vassalboro).
- At the end of 2024, there were 30 active nine-element WBPs for NPS-impaired waters. Four plans expired in 2024: Topsham Fair Mall Stream, Cape Neddick River, Spurce Creek, and Goodall Brook. In total, 26 plans are more than ten years old and need to be updated.

Watersheds with Nine-Element Watershed Plans Accepted by DEP

Annabessacook Lake (Winthrop)	Kennedy Brook (Presque Isle)
Arctic Brook (Bangor)	Long Pond (Belgrade)
Black Brook (Windham)	Long Pond (Parsonsfield)
Capehart Brook (Bangor)	Mare Brook (Brunswick)
China Lake (China)	Medomak River (Waldoboro)
Cochnewagon Pond (Monmouth)	Meduxnekeag River (Houlton)
Concord Gulley Brook (Freeport)	North Pond (Smithfield)
Cross Lake (Cross Lake TWP)	Phillips Brook (Scarborough)

East Pond (Smithfield)	Sebasticook Lake (Newport)
Georges Pond (Franklin)	Spruce Creek (Kittery)
Goosefare Brook (Saco)	Thatcher Brook (Biddeford)
Great Pond (Belgrade)	Togus Pond (Augusta)
Hart Brook (Lewiston)	Topsham Fair Mall Stream (Topsham)
Highland Lake (Windham)	Unity Pond (Unity)
Kennebunk River (Kennebunk)	Wilson Pond (Monmouth)

NPS Watershed Implementation Projects

DEP allocates Section 319 funds to help communities implement their watershed-based plans to restore NPS-impaired waters. In 2024, Section 319 funds helped continue or start projects in the following 10 NPS-impaired watersheds:

China Lake (China)
Cross Lake (Cross Lake TWP)
Goodall Brook (Sanford)
Goosefare Brook (Saco)
Great Pond (Belgrade)
Long Pond (Belgrade)
Mare Brook (Brunswick)
Meduxnekeag River (Houlton)
Togus Pond (Augusta)
Unity Pond (Unity)

D. NPS Pollutant Load Reductions

EPA's Section 319 program guidelines require load reduction estimates for projects that will result in load reductions of sediment or nutrients (nitrogen and phosphorus). 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, the Pollution Load Estimation Tool (PLET) and/or the USDA Forest Service Water Erosion Prediction Project-Road computer model to estimate NPS load reductions.

NPS load reductions for Section 319-funded implementation projects are reported in the EPA Grants Reporting and Tracking System (GRTS) database. The following table shows load reductions reported for 36 active implementation projects in 2024.

2024 NPS Pollutant Load Reductions		
Sediment 458 tons/year	**Phosphorus** 430 pounds/year	**Nitrogen** 355. pounds/year

E. Section 319 Grant Administration

EPA awarded $1,905,000 of FFY 2024 Section 319 funds to DEP. Of FFY 2024 Section 319 funds, 55% ($1,057,813) was allocated for implementation of nine-element WBPs for restoration projects or alternative plans for protection projects. This includes funds ($65,963) for DEP staff services to help implement WBPs for and grant funds ($991,850) for 9 projects to implement WBPs. Five of the funded projects ($491,596) will implement nine-element plans for impaired waters, and four projects ($500,254) will implement alternative WBPs to protect NPS priority watersheds threatened by NPS pollution.

Section 319 funds also supported eight DEP NPS program staff positions. DEP administered the Section 319 grants awarded to DEP under federal fiscal years 2022-2024, including monitoring sub-recipient performance on 39 NPS grant projects and providing other DEP NPS program services.

Summary of FFY24 319 Grant and Match Allocations

Activity	Program Funds Subtotal	Project Funds Subtotal	Section 319 Total	Nonfederal Match
NPS Grants for Watershed Implementation		$991,850	$991,850	$922,400
Small Community Grants Program				$561,219
CWSRF Programs (Forestry Direct Link)				$6,434,209
DEP Staff, Fringe, Travel, Other & Indirect (State Fiscal Year 2024 23%)[3]	$847,187	$65,963	$913,150	
Totals	$847,187	$1,057,813	1,905,000	$7,917,828

[3] Section 319 funded 8 FTEs and 1 Maine Conservation Corp/AmeriCorps volunteer

IV. NPS Program Activities in 2024

A. 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 2024 included:

Municipal Comprehensive Plan Reviews - DEP staff provided maps and data to 50 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 2024, assistance was provided to the following 16 towns:

Bar Harbor
Bowdoinham
Bristol
Casco
Castine
Enfield
Fayette
Hermon
Lowell
Lubec
Monson
South Berwick
Surry
Turner
Winthrop
Yarmouth

Lake Watershed Surveys - Volunteer watershed surveys find, describe, and prioritize NPS pollution sources and recommend BMPs needed at specific NPS sites to reduce polluted runoff to lakes. DEP grant funds are typically not available to help support watershed surveys. However, DEP provides technical assistance and project oversight to local groups that conduct locally funded volunteer watershed surveys. After completing surveys, many of these groups use the survey findings to develop lake watershed-based protection plans that will guide local stewardship efforts and open the door to possible 319 grant funding. In 2024, DEP assisted with the following five watershed surveys:

Abrams Pond[4]
Clary Lake
Crescent Lake
Hobbs Pond (Little Penneseewassee Lake)
Middle & Upper Range Ponds

Staff also provided assistance to lake associations to help plan 2025 surveys for Threecornered Pond (Vassalboro), Threemile Pond (Vassalboro), Nequasset Lake (Woolwich), and Panther Pond (Raymond), Webber Pond (Augusta).

Youth Conservation Corps (YCC) – The number of active YCCs dropped to five in 2024. The DEP provided some technical assistance to these programs. YCC programs hire high school students to install buffers, erosion control measures, and other conservation practices in lake 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 May 2024 to promote information sharing and collaboration.

In 2021, the DEP piloted a program that exempts YCCs from permitting requirements for certain low impact NPS mitigation activities. The permit fees were viewed as a barrier for property owners, and this exemption program is designed to remove that impediment. The pilot program continued in 2024 during which 31 projects were completed, bringing the total number of projects in the pilot program to 137.. The pilot program will continue into 2025.

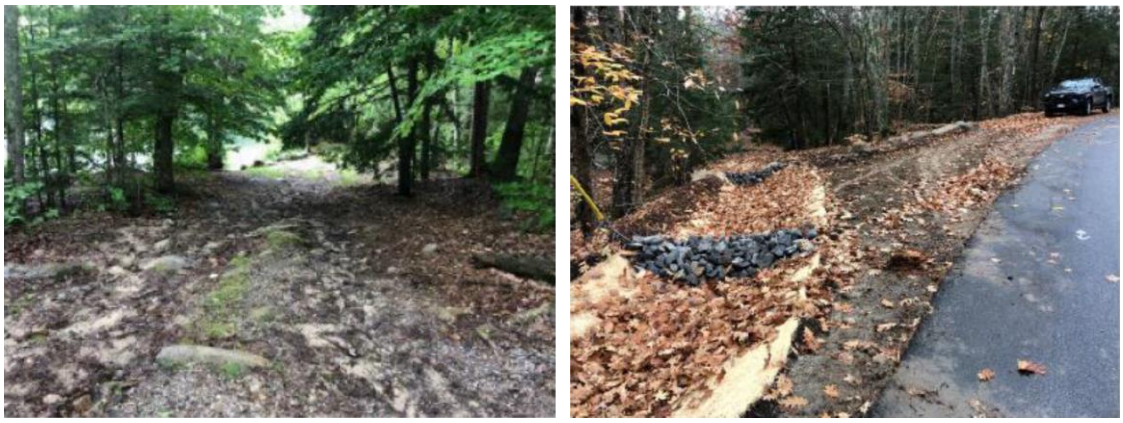
[4] Staff provided planning support for the Abrams Pond in 2024. The survey, originally scheduled for 2024, was postponed to 2025.

Watershed Group Support - DEP supports the work of watershed associations and communities through presentations at annual association meetings and technical assistance outside of 319 grant-funded projects. In 2024, DEP provided assistance to organizations focused on the following watersheds:

Annabessacook Lake	Kennedy Brook, PI	Red Brook
Beech Hill Pond	Lake Auburn	Sabattus Pond
Black Brook	Little Sebago Lake	Spruce Creek
Capisic Brook	Long Creek	Square Pond
Concord Gully Brook	Long Pond, Parsonsfield	Thatcher Brook
Damariscotta Lake	Madawaska Lake	Togus Pond
Frost Gully Brook	North Pond, Smithfield	Watchic Lake
Great Pond (Belgrade)	Panther Pond	Woods Pond
Hart Brook	Penjajawoc Stream	
Highland Lake	Phillips Brook	

Watershed Roundtable - Approximately 104 watershed professionals from state agencies, municipalities, watershed organizations, and SWCDs attended the DEP's 20th annual Watershed Managers Roundtable in November. The 2024 gathering was a hybrid meeting, with most attendees participating in person and only a handful joining via Zoom. The format remained the same as in previous years, with a mix of longer presentations, lightning round presentations and a full roundtable discussion.

Lake Phosphorus Compensation Fee 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. In 2024, Lakes Environmental Association used compensation funds to re-contour drainage and ditch a boat launch on Trickey Pond (the site was not included in CWA s.319 funded implementation project).



Left photo – "before" condition looking uphill from the boat launch to the road. Right photo – "after" condition at the top of the hill showing newly installed ditch and turnout with check dams.

B. Nonpoint Source Training Center

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

Accomplishments in 2024:

- Presented 8-hour 'Basic & Advanced Erosion Control Practices' (BAESC) courses (455 in-person and 75 online participants).
- Trained 530 individuals /contractors in Erosion Control Practices and certified 2,928 individuals/contractors. Recertification classes included:
    - Winter Erosion Control BMPs (2)
    - Gravel Road Maintenance & Water Quality (3)
    - Erosion Control BMP Refresher (1)
    - Stream Crossing Installation Practices (1)
    - Shoreline Stabilization Practices (6)
    - 8-hour Wetlands training for DEP Staff (1)

Land Use & Natural Resource Regulation (1)

- Developed reference and training materials for the OURSHORE Program (see Section F for more information.

Erosion Control Training, November 2024

For More Information:

John Maclaine, DEP - (207) 615-3279, mailto:john.maclaine@maine.gov
NPS Training Center Website - http://www.maine.gov/dep/land/training/index.html

C. Maine Volunteer River Monitoring Program

The purpose of the Volunteer River Monitoring Program (VRMP) 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 (QAPP) 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 also review the data entered by the volunteer groups, upload acceptable data to DEP's database, and produce an annual report.

Accomplishments in 2024:

- VRMP staff and partners trained and certified/re-certified volunteers from ten volunteer organizations to monitor 43 rivers and streams and one harbor statewide
- Water quality data were collected by approximately 67 volunteers at 105 sites, resulting in 3,818 discrete measurements.
- Data collected included temperature, dissolved oxygen, conductivity, bacteria, chlorophyll, and nutrients.

VRMP volunteer training on the Upper Androscoggin River

For More Information:
Kristin Feindel, DEP - (207) 215-3461, kristin.b.feindel@maine.gov
VRMP Website - www.maine.gov/dep/water/monitoring/rivers_and_streams/vrmp/index.html
Dashboard - https://maine.maps.arcgis.com/apps/dashboards/0ca4fbd9c7584fbd9c2c56ef5413a915

D. Clean Water State Revolving Fund

In Maine, the Clean Water State Revolving Fund (CWSRF) finances NPS projects through several different direct loans, pass-through loans, and linked-deposit loans. These programs funded $6,561,157 in 2024.

Accomplishments in 2024:

The CWSRF linked-deposit forestry program makes below market-rate financing available for forestry BMPs and the purchase of environmentally friendly logging equipment. Loan recipients must comply with forest industry harvesting standards and environmental inspections. In 2024, $6,434,209 in loans were made.

Cut to length harvester

Pipe arch used for stream crossing

The CWSRF Standalone Stormwater and Nonpoint Source (SW/NPS) Plans program provided $200,00 of funds dedicated to stormwater and NPS planning projects. Under this program, DEP offered up to $50,000 per applicant in Principal Forgiveness to help defray the cost of developing a Stormwater or NPS Plan. Stormwater or NPS Plans that are not associated with a CWSRF construction loan project were eligible for funding. Principal forgiveness of the funds was possible, but required a 100% match, which could be in form of in-kind services. Of the $200,000 available, $126,948 was awarded to the following projects:

- Kennebec Co. SWCD - East Pond Watershed Survey
- Town of Falmouth Stream Crossing Resilience Survey
- Kennebec Co. SWCD - Webber Pond, Threemile Pond, and Threecornered Pond Tri-watershed NPS Assessment
- City of South Portland - Willard Beach Outfall NPS Management

For More Information:

Brandy Piers, CWSRF Program Manager - (207) 287-7808, brandy.m.piers@maine.gov
Clean Water SRF Website - http://www.maine.gov/dep/water/grants/srfparag.html

E. Municipal Stream Crossing Grants Program – Maine Transportation Bond

In the Summer of 2024, MaineDOT released a round of funding through LD 2214[5], a standalone legislation to help communities recover and rebuild more resilient infrastructure following the devastating storms of December 2023 and January 2024.

Accomplishments in 2024:

- MaineDOT released a Request for Applications (RFA) in late 2023 for upgrading culverts at stream crossings in order to improve fish and wildlife habitat and community safety, with awards made in February 2024. Twenty stream crossing projects in eighteen communities were funded during this round for a total of $4 million. The maximum award for projects submitted during this round increased to $200,000.
- On December 19th and January 4th, Midcoast Council of Governments, Maine Audubon, and The Nature Conservancy held two informational sessions that assisted municipalities with their grant application.
- Four of the twenty projects awarded in February 2024 have been completed. Most projects are expected to be completed in the Summer of 2025.
- MaineDOT released a second RFA in May 2024 for upgrading culverts at stream crossing, with the goal of creating infrastructure that is resilient to future climate conditions and that provides community, economic, and environmental benefits. In August 2024, twenty-four crossing projects in twenty communities were awarded for a total of $4.7 million.
- On June 13th, MaineDOT held a workshop, with over 100 people attending that provided information on how to apply for the program and a question-and-answer session.

Emerson Road Crossing of Bird Brook, Norway. Left photo shows before condition, right photo shows after condition.

For More Information:

DOT Contact for projects funded after 2022
Sierra Millay, DOT – (207) 441-6435, sierra.f.millay@maine.gov
Municipal Stream Crossing Grant Website - https://www.maine.gov/mdot/grants/stream/

[5] LD 2214 was signed into law on 4/22/2024, and is now known as PL 643, Session Laws of the 131 Legislature

F. Other NPS Program News

NPS Work on Priority Protection Watersheds

In 2024, DEP worked to identify and target assistance to lake watersheds with the highest protection priority. This included targeted work on "Watch List" lakes and continued development of a "Most Vulnerable Lakes" list.

DEP's Lakes Unit keeps an internal 'Watch List' for non-impaired lakes at risk of being listed as impaired due to declining water quality. Of these lakes, 26 are affected by NPS and included on the NPS Priority Watersheds list. In 2024, DEP was involved with planning or implementation in nine watch- listed watersheds:

- Abrams Pond, Eastbrook (319 grant project)
- Androscoggin Lake, Leeds (319 grant project)
- Cobbossee Lake, Winthrop (319 grant project)
- Georges Pond, Franklin (319 grant project)
- Great Pond, Franklin (319 grant project)
- Messalonskee Lake, Sidney/Belgrade (watershed survey)
- Mousam Lake, Shapleigh (319 grant projects)
- North Pond, Smithfield (604b planning project, 319 grant project)
- Salmon Lake, Belgrade (319 grant project)

Additionally, DEP continued to develop a Most Vulnerable Lakes List consisting of lakes that currently have acceptable water quality but are losing deep water habitat for cold water fish over time due to decreasing levels of deep-water dissolved oxygen and a rise in the prevalence of anoxia (<2 ppm dissolved oxygen). These conditions also increase the risk of internal phosphorus recycling and declining water quality. Unexpected model results were identified and work to refine the model continued in 2024.

L.D. 164: An Act Regarding the Funding of Lake Water Quality Restoration and Protection Projects

In 2023, the Maine Legislature passed L.D. 164, which provided $200,000 to fund the Lake Water Quality Restoration and Protection Fund (38 MRS Section 480-N, Natural Resources Protection Act). The Department released an RFA in 2024, and awarded the entire amount to the Worromontogus Lake Association (WLA) in support of the second phase of their alum treatment.

Worromontogus (Togus) Lake is listed as an Impaired Lake on Maine's Integrated Report as well as Maine's NPS Priority Watersheds List due to chronic nuisance algal blooms. Three previous 319 funded projects (2004R-06, 2008RT-03, and 2013RT-07) addressed a total of 78 sites around the lake and prevented nearly 36 tons of sediment/yr and 33 lbs. of phosphorus/yr from entering the lake. A watershed survey and new watershed-based plan published in 2021 identified 8 high-impact, 23 medium-impact, and 29 low-impact (60 total) NPS sites within the watershed. That report also established that 46% of the phosphorus load was attributable to internal sources. A current 319 project (20230011) plans to address 24 of those high and medium impact sites. In a concurrent effort, the WLA raised over $400,000 for the first phase of their alum treatment. This was conducted in the Spring of 2024, and resulted in transparency two meters deeper than historic values, and a decrease in dissolved total phosphorus concentrations. The second phase is planned for the Spring of 2026.

Aerial view of treatment barge on Togus Lake. Photo courtesy of WLA.

O.U.R.S.H.O.R.E

The "O.U.R. S.H.O.R.E" Program is being developed to provide guidance and training for using nature-based design practices to protect against shoreline erosion. This program serves homeowners, contractors, resource managers, and community leaders, providing them with how-to information and showcases different project examples from throughout the state to successfully use nature-based designs. OUR SHORE is also an emerging network of engineers, earthwork contractors, designers, and municipal officials interested in learning and sharing these techniques in Maine.

Through "O.U.R. S.H.O.R.E" people can:

1. Assess sources of erosion
2. Identify design recommendations while preserving and restoring natural functions to shorelines
3. Navigate regulatory process to streamline installation of erosion control measures

The OUR SHORE Guide to Nature-Based Shoreline Stabilization Options in Maine (PDF) – DRAFT IN DEVELOPMENT includes basic guidance on shoreline function, erosion processes in different environments, and the importance of vegetation in stabilizing soils. The OUR SHORE approach relies on targeting the contributing sources of erosion and instability to select and combine erosion control practices that will address these causes using the least intervention necessary while using natural, biodegradable or living materials. The guidance provides techniques and considerations to include habitat and shoreline functions into the design of any project, even when riprap is used, so the outcome over time is a naturalized and more resilient shoreline. A short list of common materials, and how to descriptions and pictures of common design practices are included.

OUR SHORE is an acronym representing the following:

O	Observe and blend project with unaltered shorelines near the site
U	Use native, natural, living, and biodegradable materials

R	Reach conditions that function as a naturalized shoreline over time
S	Source and severity of erosion
H	Height and slope risk
O	Overland water and land use
R	Re-vegetation or reconnection shoreline buffer opportunities
E	Evaluate and Enhance erosion control practices based on site specific needs

OUR SHORE was developed because coastal and inland waterfront erosion in Maine is a growing concern due to storms, flooding, and rising sea levels. Nature-based designs may offer an effective, long-term plan for safeguarding both private and public property. These designs provide strength, improve the beauty of waterfront properties, and bring a range of benefits to the community and to the health of the environment. They are effective because they work with nature, incorporating a blend of plants that root into the environment, helping to stabilize soils and provide sediment exchange and accumulation between the upland and wetland. As plant communities mature, these designs gain strength, offering greater resilience over time.

Nationwide, nature-based designs are becoming embraced as an effective practice to address waterfront and riverfront erosion and have a proven track record in Maine, especially along rivers, streams, and lakes. The application of Living Shorelines for managing erosion is expanding to include estuaries and ocean coasts in Maine where the challenges presented by wave energy, tidal fluctuations, and winter ice can be severe.

V. NPS Grants Program

A. 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. DEP administers awards and monitors sub-grants of Federal CWA Section 319 and 604(b) funds from the EPA for watershed projects to help restore or protect lakes, streams, rivers, or coastal waters affected by NPS pollution. DEP issues grants to local project sponsors to help fund two types of projects:

- **Watershed-based Plan Development**. DEP offers grants funded through CWA Sections 604(b) and 319 to help communities develop watershed-based management plans that include EPA's nine key elements. A plan provides assessment and management information and describes actions needed over a 10-year period to restore NPS-impaired waters or to protect unimpaired waters considered threatened by NPS pollution. A thorough assessment of NPS problems (e.g., watershed survey) is needed to prepare an informed watershed plan. Most watershed surveys and protection plans are locally funded.
- **Watershed-based Plan Implementation**. DEP offers grants funded through CWA Section 319 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.

Severe erosion on a property on Lake Pennesseewassee.

B. Grant Awards Issued in 2024

DEP issued 7 new subgrants ($769,758) and added funds to an existing project (Pleasant River Watershed Restoration Project, Phase II, #20210005, $153,453) in 2024 using CWA Section 319 funds to help communities implement actions called for in their watershed management plans to restore impaired waters or protect waters threatened by NPS pollution. In addition, CWA Sections 604b funding was awarded to the Town of Hallowell to develop a watershed-based plan for Vaughan Brook ($40,887.00), the Town of Ft. Kent to develop a watershed-based plan for Monson Pond ($39,166.00), and the Kennebec County SWCD ($50,000) to conduct assessments for the Webber Pond, Threemile Pond, and Threecornered Pond tri-watersheds in support of a future watershed-based management plan.

NPS Grants Issued in 2024

Project Title	Grantee	Project ID#	CWA s. 319 Subgrant	Match
Sebago Lake Watershed Protection Project, Phase V	Portland Water District	20240001	$156,370.00	$158,804.00
Great Pond Watershed Restoration Project, Phase II	7 Lakes Alliance	20240002	$124,270.00	$165,850.00
North Pond Watershed Protection Project, Phase IV	7 Lakes Alliance	20240003	$112,410.00	$114,350.00
China Lake Watershed Restoration Project, Phase III	Kennebec County SWCD	20240004	$100,068.00	$85,924.00
Meduxnekeag River Watershed Restoration Project, Phase II	Southern Aroostook SWCD	20240005	$32,228.00	$22,890.00
Lake Pennesseewassee Watershed Protection Project, Phase II	Oxford County SWCD	20240006	$94,682.00	$67,830.00
Androscoggin Lake Watershed Protection Project, Phase I	30 Mile River Watershed Association	20240007	$149,730.00	$101,273.00
		Totals	$769,758.00	$716,921.00

C. Grants Selected under the 2024 Request for Applications (RFA)

In March 2024, DEP issued an RFA for projects to help communities implement their watershed-based plans and make progress restoring or protecting a waterbody. DEP received eight applications and issued conditional sub awards for eight projects.

Conditional Grant Awards (CWA s. 319 RFA) for FY25

Project Title	Grantee	Project #	CWA s. 319 subgrants	Match
Cross Lake Watershed Restoration Project, Phase II	County of Aroostook	20240011[6]	$120,400	$105,221
COBBOSSEE Lake Watershed Protection Project, Phase IV	COBBOSSEE Watershed District	20250007	$114,694	$88,129
Highland Lake Watershed Protection Project, Phase V	Cumberland Co SWCD	20240012[7]	$99,472.55	$99,851.42
Lake Pennesseewassee Protection Project, Phase III	Town of Norway	20250004	$150,000	$203,557
Long Pond Watershed Protection Project, Phase VI	7 Lakes Association	20250002	$110,600	$130,500
Messalonskee Lake Watershed Protection Plan, Phase III	7 Lakes Association	20250006	$112,570	$135,103
Parker Pond Watershed Protection Project, Phase III	30 MRWA	20250003	$60,633	$40,635
Taylor Pond Watershed Protection Project, Phase I	Androscoggin Valley SWCD	20250005	$82,818.32	$69,952.09
Thompson Lake Watershed Protection Project, Phase I	Androscoggin Valley SWCD	20250001	$101,347.99	$86,913.98
Unity Pond Watershed Restoration Project, Phase III	Friends of Lake Winnecook	20250008	$122,502	$111,800
		Totals	$1,075,038	$1,071,662

[6] Conditionally awarded in 2024 RFA using remaining FFY2024 funds
[7] Conditionally awarded in 2024 RFA using remaining FFY2024 funds

VI. Summaries of NPS Projects Completed in 2024

Sixteen watershed projects funded through the NPS grants program in previous years were successfully completed. DEP provided technical assistance and granted $750,748 of Federal Clean Water Act funds for these projects. Grantees, partners, and landowners contributed matching funds or services valued at $691,838.

- BMPs were installed to reduce polluted runoff in nine lake watersheds. Over the course of these projects, NPS work reduced annual pollutant loading to these waters by 430.09 tons of sediment, 355.51 pounds of phosphorus, and 458.07 pounds of nitrogen per year.

- Three 9-element watershed-based plans were completed for four sub-basins in the Lower Aroostook River, Sebasticook Lake, and Spruce Creek. Watershed-based plans provide assessment and management information and describe actions needed to restore NPS-impaired water bodies or to protect water bodies threatened by NPS pollution.

Two-page summaries of each project are included in the following pages. These summaries will be uploaded to the Gulf of Maine's Knowledgebase database located at: http://www.gulfofmaine.org/kb/2.0/search.html and Maine NPS Grants History ArcGIS Project Map.

Branch Lake Watershed Protection Project, Phase III
#20230005

Waterbody Name: Branch Lake and Harriman Pond

Location: Ellsworth, Hancock County

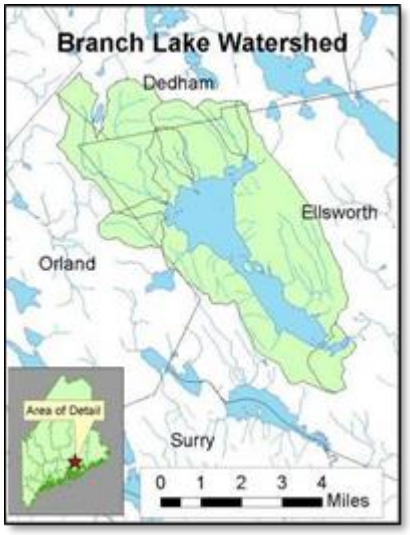
Waterbody Status: NPS Priority Watershed

Project Grantee: Hancock County Soil & Water Conservation District

Project Duration: January 2023 – December 2024

319 (or 604b) Grant Amount: $112,483

Local Match: $147,594



PROBLEM:

Branch Lake currently meets state water quality standards but is listed on the State's NPS Priority Watersheds List because it is a public water system. Most public water systems that provide drinking water from surface waters such as lakes and rivers are on the list, as they require an additional level of protection to protect public health. Upstream Harriman Pond is also listed as threatened due to its outstanding water quality and the threat of continued development in its small watershed. Protecting the watershed of Harriman Pond is necessary to maintain the excellent water quality in both Harriman Pond and downstream Branch Lake.

Water quality in Branch Lake is considered good and is classified as oligotrophic (clear, minimal plant growth) based on SDT and TP measurements.

PROJECT DESCRIPTION:

The purpose of the Branch Lake Watershed Protection Project, Phase III was to protect the water quality of Branch Lake by reducing the export of sediment and phosphorus into the lake by raising public awareness and addressing NPS pollution by addressing high and medium impact sites identified during the watershed survey. The project raised public awareness through the LakeSmart program, newsletters, press releases, social media, road association meetings, two buffer planting workshops, a buffer plant mailing, two annual BLA meetings, and distribution of a final project brochure.

Ditching on Bald Mtn Rd, Dedham

PROJECT OUTCOMES:

- A total of 18 NPS sites were addressed through this project, this included 14 road and driveway BMP installations and four residential BMP installation projects.
- Forty-one technical assistance visits were completed (27 non-residential and 14 residential).
- A total of 33 NPS site plans were developed (21 non-residential, 12 residential).
- 15 LakeSmart assessments were made resulting in 3 new LakeSmart awards.
- More than $147,500 in local match was contributed to the project, which was an overage of nearly $47,000.

PROJECT PARTNERS:

- Branch Lake Association, Inc.
- Harriman Pond Lake Association
- City of Ellsworth

CONTACT INFORMATION:

DEP – Greg Beane, (207) 299-4703, greg.e.beane@maine.gov

Sponsor – Hancock County Soil & Water Conservation District, (207) 610-0873, mark.c.whiting@gmx.com

https://www.hancockcountyswcd.org/

PHOTOS & GRAPHICS

Residential shoreline stabilization – Branch Lake

Infiltration steps - Harriman Pond

Cobbossee Lake Watershed Protection Project, Phase III
#20220005

Waterbody Name: Cobbossee Lake

Location: Winthrop, Kennebec County

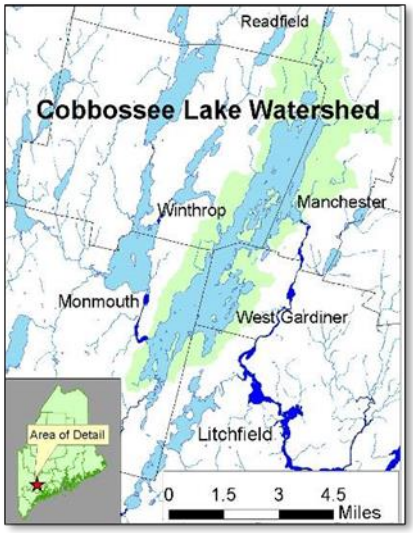
Waterbody Status: NPS Priority Watershed - Watch List

Project Grantee: Cobbossee Watershed District

Project Duration: January 2022 November 2024

319 (or 604b) Grant Amount: $93,847

Local Match: $63,800



PROBLEM:

The Cobbossee Watershed District has been monitoring Cobbossee Lake water quality for 50 years and the lake has a long history of water quality problems, primarily excessive nutrient enrichment and algae blooms. Cobbossee Lake is currently listed as threatened on Maine DEP's NPS Priority Watersheds List and water clarity has recently declined with the lake suffering a severe bloom in both 2009 and 2013 demonstrating the need for NPS mitigation. Exacerbating water quality issues are two tributary lakes of Cobbossee Lake that are on Maine DEP's list of Impaired Water Bodies under §303(d) of the Clean Water Act. Cobbossee Lake has a TMDL which was established in January 2000.

PROJECT DESCRIPTION:

The project was based on the Cobbossee Lake Watershed-Based Protection Plan (2015) aimed at maintaining or improving Class GPA water quality by reducing phosphorus import and to satisfy the goals of the TMDL. The project workplan was designed to provide a substantial reduction in soil erosion and phosphorus runoff to the lake by the installation of BMPs as described in the Watershed-Based Protection Plan on NPS sites at camp/gravel roads and public roads. The Friends of Cobbossee Watershed's (FOCW) YCC also installed BMPs at residential sites in the watershed. Project outreach included school visits by FOCW, public workshops demonstrating gravel road BMPs, FOCW's Tadpole Patrol program and articles in local newspapers and newsletters.

The Ladies Delight Lighthouse on Cobbossee Lake

PROJECT OUTCOMES:

- Five camp road upgrades involving implementation of about 24 BMPs designed to reduce erosion and provide improved treatment of stormwater runoff. All projects were successful resulting in an estimated reduction in annual phosphorus loading to the lake of 2.3 pounds per year and annual sediment loading of 2.3 tons per year.
- Approximately 1,200 linear feet of eroding shoreline was stabilized on twelve private shorefront properties and one private roadside (causeway) bank using a combination of vegetation, riprap and geotextiles.
- More than 620 students benefited from the FOCW watershed education program and their Tadpole Patrol sessions held on the lake during the summer of 2022. Other education and outreach activities included participating in three annual meetings of the Cobbosseecontee Lake Association and the LakeSmart-Start! Program through which the local watershed community gained a better understanding of lake and watershed issues.

Vegetated shoreline buffer

Infiltration trench at lake side camp

PROJECT PARTNERS:

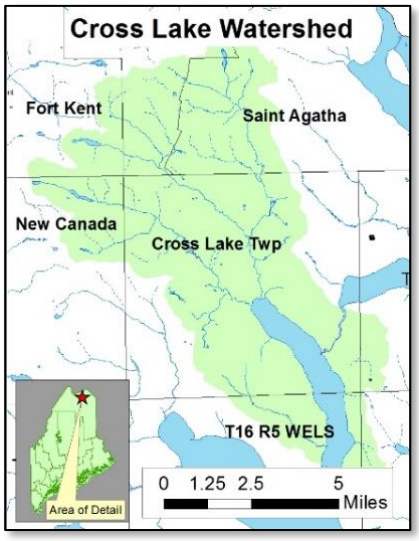
- Friends of Cobbossee Lake
- Cobbosseecontee Lake Association

CONTACT INFORMATION:

DEP – Greg Beane, 207-299-4703, greg.e.beane@maine.gov
Sponsor – Bill Monagle, CWD, 207-377-2234, wmonagle@roadrunner.com
https://www.facebook.com/CobbosseeWatershedDistrict/

Cross Lake Watershed Restoration Project–Phase I
#20210012

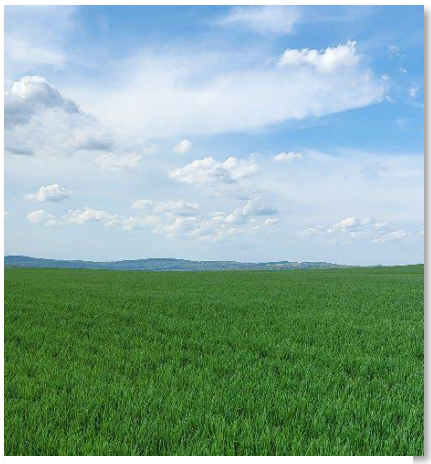
Waterbody Name:	Cross Lake
Location, County:	Cross & Square Lake Twps, Aroostook
Waterbody Status:	Impaired, NPS Priority Watershed
Project Grantee:	County of Aroostook
Project Duration:	Sept 2021- Dec 2024
319 Grant Amount:	$212, 300
Local Match:	$135,609



PROBLEM:

Cross Lake is a fairly large lake at 2,479 acres with a 58 square mile watershed. There are two impaired major tributaries that flow into the northwest end of Cross Lake - Daigle and Dickey Brooks. Forestland and wetlands comprise 45% and 29% of the watershed land use respectively, agriculture is 23% and development only 3%, though there is increasing interest in land development with new subdivisions planned. While row-crop agriculture (potatoes/small grain) is not the dominate land use, it is the most intense, leaving thousands of acres of bare soil exposed to erosion each year. Based on Secchi disk transparency (0.9-5.0 m), Total Phosphorus (historical average 16 ppb, recent average 17 ppb), Chl-a measurements (2 - 53 µg/L), and reoccurring algal blooms, the water quality of Cross Lake is listed as impaired.

A 2020 update to the 2019 watershed survey of nonagricultural lands identified 126 NPS sites, with 21% (26) rated high impact, 47% (59) rated medium, and 32% (41) low impact. In 2021, the ***Cross Lake Watershed-Based Management Plan*** was developed between FOCL and DEP. In addition, the watershed was designated as an NWQI watershed with NRCS.



Multispecies Cover Crop

PROJECT DESCRIPTION:

This Phase I project is part of an overall effort to restore Cross Lake by continuing to implement the strategies of the Cross Lake Watershed Management Plan. In this project, BMPs were installed at 10 NPS sites shoreline sites, one large road site, and hundreds of acres of cover cropped farm fields. Project activities were promoted by steering committee members through the FOCL website and social media outlet postings. Specific activity-based outreach to the public by FOCL with support from Lake Stewards of Maine to put on plant paddles and public communitee

BBQs. Education and outreach to agricultural producers was also conducted by UMPI faculty in conjunction with Northern Tilth.

PROJECT OUTCOMES:

- 10 shoreline sites located on residential camp properties were stabilized and revegetated using bioengineering techniques, including establishment of native plants in buffer zones. In addition, this restoration represents a pilot project of Maine DEPs Living Shorelines Initiatives, reducing rip rap use and improving habitat quality.
- Black lake road had extensive installation of BMPs to correct drainage and water flow issues that were significantly contributing to soil loading within the Cross Lake drainage. This included installation of three new cross culverts, re-ditching, and installation of a ~280ft drainage swale.
- Through a combined effort of conservation crop rotation, winter and multispecies cover cropping, ~850 acres remained vegetated between 2023-2024.
- Through this project, an estimated 103.5 tons of soil and 170.3 pounds of phosphorus were prevented from washing into Cross Lake during the project. In addition, 562 ft of streambank or shoreline was protected.

Rock lined ditch and regrading on Black Lake Road, Ft. Kent

Shoreline stabilization on Cross Lake

PROJECT PARTNERS

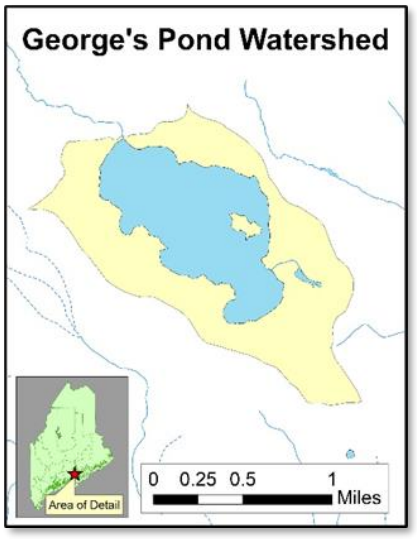
- Friends of Cross Lake
- USDA - NRCS
- The County of Aroostook
- Irving Woodlands
- University of Maine Fort Kent
- University of Maine Presque Isle
- Lake Stewards of Maine
- Maine Land Use Planning Commission

CONTACT INFORMATION:

Kirsten M. Thompson, DEP – 207-530-3960 kirsten.m.thompson@maine.gov
Cheryl St. Peter, FOCL – (207) 768-6617 countyee@fairpoint.net
Ryan Pelletier, County of Aroostook - (207) 493-3318 ryan@aroostook.me.us

Georges Pond Watershed Protection Project, Phase II
#20220004

Waterbody Name:	Georges Pond
Location:	Franklin, Hancock County
Waterbody Status: List	NPS Priority Watershed – Watch
Project Grantee:	Georges Pond Association
Project Duration:	January 2022 – December 2024
319 (or 604b) Grant Amount:	$84,265
Local Match:	$56,622



PROBLEM:

Georges Pond water quality data has been collected intermittently since 1977 with an increase in monitoring frequency since the first cyanobacteria bloom that occurred in 2012. Since 2012, blooms of varying intensities have occurred in the pond, particularly in 2015 and 2018. Average annual Secchi Disk Transparency prior to 2012 ranged from 3.7 m to 5.5 m, with an annual mean of 4.6 m. SDT data collected between 2012 and 2019 ranged from 1.4 m to 4.6 m with an annual mean of 3.1 m, 1.5 m less than the pre-2012 average.

Total phosphorus tests have shown TP concentrations in the epilimnion that are consistently over the historic average. Based on limited data from 1979 to 2012 the historic average is about 10 ppb. Yearly averages from 2012-2014 have ranged from 15 to 36 ppb in the epilimnion and significantly higher, in the 980-ppb range, in the hypolimnion in October 2019. Following an intensive monitoring program in 2019, it was clear that the Phosphorus problem in Georges Pond was caused by both external loading and significant internal recycling within the pond.

PROJECT DESCRIPTION:

The purpose of this project was to reduce NPS pollution from the watershed by addressing erosion and stormwater runoff on residential property, town-owned land, and gravel roads within the watershed. This was accomplished through targeted implementation of BMPs at high priority NPS sites within the watershed. The project also offered technical assistance to landowners with septic systems located on "sensitive" soils along the shoreline and raised awareness about the need for lake protection, restoration, and septic systems through targeted outreach.

Dirt camp road BMP - Cross drain culvert plunge pool

PROJECT OUTCOMES:

- A total of 16 NPS sites were addressed through this project including 8 residential installation projects (2 steep slope sites, 1 driveway project and 2 smaller residential sites), 7 private road BMP installations (seven sites across four projects on three private roads) and 1 project at the public beach.
- Fifteen residential site visits were completed, 14 residential NPS site plans were developed along with a Gravel Road Management Plan for Bunkers Beach Road.
- Six septic system evaluations were completed in 2022-2023 at properties located on "at-risk" soils. This included six bio-mat evaluations and five septic system inspections. Landowners were provided with an evaluation summary.
- Eighteen LakeSmart surveys were conducted including 12 new LakeSmart assessments properties resulting in 3 new LakeSmart awards.
- More than $102,000 in local match was contributed to the project, exceeding the match goal by $45,600.

Shoreline stabilization using living shoreline concepts – limiting the use of stone, and combining with coir logs and native plantings

PROJECT PARTNERS:

- Town of Franklin

CONTACT INFORMATION:

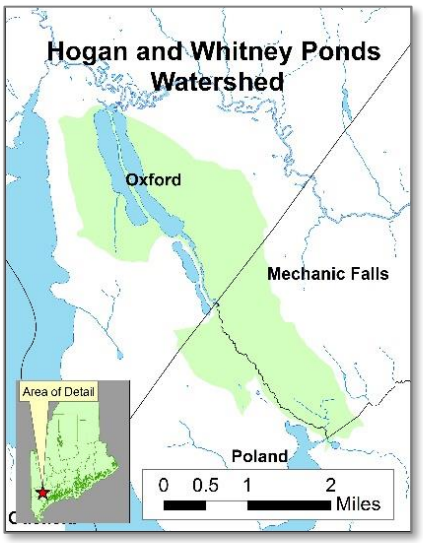
DEP – Greg Beane, 207-299-4703, greg.e.beane@maine.gov

Sponsor – Georges Pond Association, John Eliasberg, 858-775-1674, GeorgesPondAssociation@gmail.com

Hogan-Whitney Ponds Watershed Protection Project, Phase II

#20230006

Waterbody Name:	Hogan Pond and Whitney Pond
Location: Oxford County	Oxford, Mechanic Falls, and Poland -
Waterbody Status:	NPS Priority Watershed, Sensitive
Project Grantee:	Oxford County SWCD
Project Duration:	January 2023 – December 2024
319 Grant Amount:	$77,910
Local Match:	$55,500



PROBLEM:

Hogan Pond (178 acres) and Whitney Pond (167 areas) are located in Oxford, Maine and share a unique geological history shaped by the last ice age. They are separated by an esker (a narrow formation of land deposited by glaciers) and connected to each other by a navigable stream. These two lakes lie in the larger Androscoggin River Watershed and drain to the Little Androscoggin River, which then flows to the main stem of the Androscoggin. Both ponds have average water quality compared to other Maine lakes.

Like many other lakes in Maine, Hogan and Whitney Ponds' water quality are threatened by phosphorus enrichment, mainly in the form of non-point source (NPS) pollution from developed areas of land that drain to the ponds. To assess sources of NPS pollution in the watershed, the Hogan and Whitney Ponds Association (HWPA) conducted a watershed survey in 2017. In total, 95 erosion sites were identified in the survey. The largest numbers of problems were associated with residential properties (61), private roads (13), town roads (11), and beach sites (6). Aside from soil erosion, no other significant sources of phosphorus were observed during the survey.

PROJECT DESCRIPTION:

The primary purpose of the Hogan Whitney Ponds Watershed Protection Project, Phase II was to significantly reduce erosion and the export of sediment and phosphorus into Hogan and Whitney Ponds by providing landowner technical assistance and installing best management practices (BMPs) at 15 Non-Point Source pollution sites identified in the 2017 watershed survey. The project increased public awareness about watershed issues and fostered long-term watershed stewardship. During this project most of the highest impact NPS sites identified in the watershed survey were addressed.

Attendees on a site walk during the Gravel Roads Workshop

PROJECT OUTCOMES:

- The project provided technical assistance to 43 NPS sites, including 22 residential and smaller-scale sites and 21 large-scale sites, which resulted in site conditions and recommendation reports for 22 of the sites. Cost-sharing for the large-scale sites was provided to the Town of Oxford to address 5 NPS sites on a town-owned Road, to Two Lakes Campground to address 3 NPS sites, and to one private landowner to address 1 NPS site.
- Nine Residential Matching Grants (up to $750) were awarded to landowners to help install less costly residential BMPs. Most sites required simple erosion control measures, such as runoff diverters, dripline trenches, and enhanced buffers. The project protected a total of 34' of shoreline.
- Annual pollutant loading to Whitney and Hogan Ponds was reduced by an estimated 29 tons of sediment, 15 pounds of phosphorus, and 40 pounds of nitrogen. (Region 5 Method and WEPP Road Model).
- The project hosted two outdoor, interactive workshops on road maintenance (14 participants) and LakeSmart (8 participants). Two classroom presentations were conducted at Oxford Elementary School, a presentation was provided at the 2023 and 2024 annual HWPA meetings, and HWPA revamped its website to highlight these efforts which has documented 6,165 visits and counting.

Before and After photos from a residential matching grant project which included a dripline trench and erosion control mulch

PROJECT PARTNERS:

- Hogan - Whitney Ponds Association
- Town of Oxford
- Two Lakes Camping Area

CONTACT INFORMATION:

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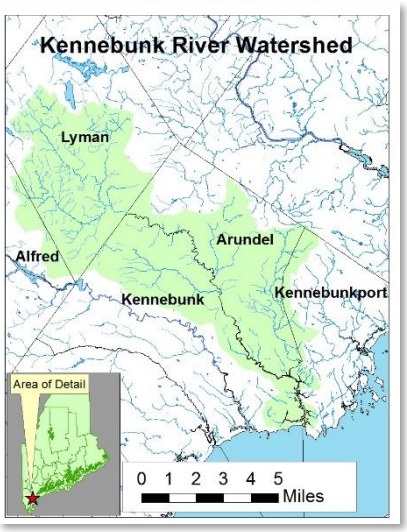
Kennebunk River Watershed Restoration Project – Phase I
#20220007

Waterbody Name:	Kennebunk River
Location:	Lyman, Arundel, Kennebunk, Kennebunkport – York County
Waterbody Status:	Impaired, NPS Priority Watershed
Project Grantee:	York County SWCD
Project Duration:	January 2022 – December 2024
319 Grant Amount:	$88,248
Local Match:	$59,192



PROBLEM:

The Kennebunk River extends 18 miles from its headwaters at the outlet of Kennebunk Pond through a mix of agricultural, forested and developed areas before reaching the tidal estuary and popular Gooch's Beach. The river's 59 square mile watershed includes seven major tributaries that support wild brook and brown trout. Striped Bass is fished below head-of-tide and brings many anglers to the river each year. The tidal portion of the river, south of the Route 9 bridge, is a popular cruising destination and home to 13 marinas providing over 300 slips. Restaurants, hotels, and event venues benefit from the river's scenic and aesthetic qualities. Charter and commercial fishing vessels depend on the quality of the water and the health of the river's fisheries. Gooch's Beach is a valuable recreational resource offering opportunities for swimming, surfing, sunbathing, kayaking, and paddle-boarding.

Since 2009, Wells National Estuarine Research Reserve (Wells Reserve) and volunteers have monitored the river with support from DEP's Volunteer River Monitoring Program. DEP's Maine Healthy Beaches (MHB) and volunteers also monitor the beach water quality. Both the river and the Duck Brook tributary are listed as impaired for E. coli bacteria, and Gooch's Beach has had 111 beach advisory days, 4 rainfall advisory days and 4 beach closures days since 2003. Maine DEP has conducted biological monitoring on the river since 1995. The river was listed as impaired in Maine's DEP's 2018/2020/2022 Integrated Water Quality Monitoring Report. The ***Kennebunk River Watershed-based Management Plan*** (#20180006), approved in 2021, provides a framework to restore the watershed.

PROJECT DESCRIPTION:

This project is Phase I of an overall effort to restore the Kennebunk River by reducing the pollutant load, particularly bacteria, to the Kennebunk River and its tributaries. This project implemented BMPs at two NPS Sites, provided matching grants for technical assistance to one farmer, and installed nutrient management BMPs at one farm to implement their Comprehensive Nutrient Management Plans. Outreach activities, including press releases (2), a buffer workshop, and cleanup of the Eastern Trail, continued to raise community awareness about the need to protect the Kennebunk River Watershed.

Volunteers at a buffer planting workshop at the Cape Arundel Golf Course

PROJECT OUTCOMES:

- Recommended Best Management Practices (BMPs) were installed at three locations, including a manure management facility and vegetated treatment area at a small farm. These BMPs prevent 0.04 tons of sediment/year, 18.13 pounds of phosphorus/year, and 98.45 pounds of nitrogen/year from polluting the Kennebunk River.
- YCSWCD and CAGC also hosted a successful BMP workshop in October of 2023, providing information and examples on buffer plantings that mitigate runoff and reduce erosion. There was strong community interest in this workshop, and a local network television affiliate station featured the workshop in a climate change series. YCSWCD also installed an educational buffer planting sign at this location.
- YCSWCD hosted a cleanup on the eastern trail and collaborated with Eastern Trail Alliance to install educational pet waste signs in areas where the trail crosses over major tributaries of the Kennebunk River.

A "rock sandwich" restores hydraulic connectivity of a wetland, and prevents repeated overtopping on Poor Farm Rd., Lyman

PROJECT PARTNERS:

- Town of Lyman
- Town of Kennebunk
- Town of Arundel
- Kennebunk, Kennebunkport, & Wells Water District
- Wells National Estuarine Reserve
- Cape Arundel Golf Course
- US Department of Agriculture-Natural Resources Conservation Service

CONTACT INFORMATION:

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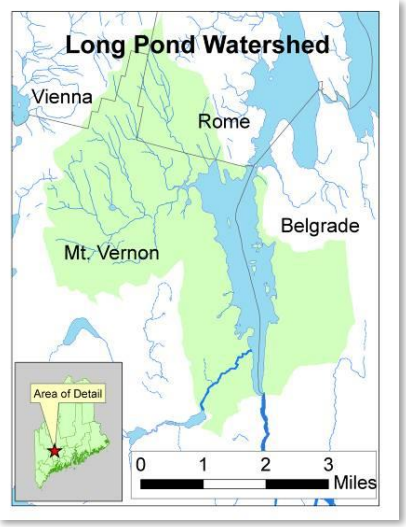
Long Pond NPS Watershed Restoration Project, Phase IV

#20230001

Waterbody Name:	Long Pond
Location:	Belgrade, Mount Vernon, Rome, Vienna – Kennebec County
Waterbody Status:	Impaired, NPS Priority Watershed
Project Grantee:	Belgrade Regional Conservation Alliance dba 7 Lakes Alliance
Project Duration:	January 2023 – December 2024
319 Grant Amount:	$112,550
Local Match:	$126,498



PROBLEM:

Long Pond is the sixth lake in the Belgrade chain of lakes. It has a direct watershed of 22 square miles and an indirect watershed of 64 square miles that includes the watersheds of Great Pond, North Pond, East Pond, Salmon Lake, and McGrath Pond. Great Pond empties into Long Pond, and Great Pond accounts for more than 70% of the total indirect watershed area, and close to 50% of the entire watershed area, and therefore has a large influence on the water quality of Long Pond. Water quality data has been collected since 1970, and over the past three decades the water clarity has declined by more than one meter. Due to declining water quality, DEP has listed Long Pond as an "impaired waterbody" on the State's 303(d) list. In 2008 a TMDL was completed that identified NPS in the direct and indirect (particularly Great Pond) watersheds as primary sources of declining water quality.

A watershed survey completed by BRCA (7 Lakes Alliance) in 2002 identified 211 NPS sites. Colby College completed a watershed survey in 2007-08 and identified over 400 sites, including sites where shoreline buffers could be enhanced. Since 2009, four Section 319 implementation grants (#2009RT07, #2011RT07, #2014RT06, and #2016RT05) have supported 51 town and camp road construction projects in the Long and Great Pond watersheds. Under these grants, over 159 BMPs have been installed including 88 sites on Long Pond. These projects have resulted in an annual reduction of 401 pounds (182 kg) of phosphorus to Long Pond.

PROJECT DESCRIPTION:

The purpose of this project was to reduce phosphorus loading to the lake by continuing to implement actions listed in the Long Pond Watershed-Based Management Plan (December 2009). BMPs were installed at NPS sites, with a focus on addressing high priority camp and town roads. The BRCA (YCC) implemented BMPs at additional sites. Outreach was provided through road maintenance workshops and a buffer planting campaign associated with LakeSmart evaluations.

Road workshop participants

PROJECT OUTCOMES:

- BMPs were installed at 12 non-residential road locations, resulting in 4,100 ft of Bluestone gravel resurfacing, 5,600 ft of new or enhanced drainage ditches, and 16 culverts were installed.
- The 7 Lakes YCC installed 57 BMPs at 30 residential properties
- LakeSmart evaluations were conducted on 19 properties, resulting in 11 awards
- Outreach consisted of 2 road workshops as well as a buffer campaign in which native plants were provided with LakeSmart evaluations.
- Sediment load to the lake was reduced by 101 tons/yr, phosphorus load was reduced by 54 lbs./yr, nitrogen load was reduced by 141 lbs./yr, and 271 linear feet of shoreline was protected.

Colonel Bogart Rd. Left photo- before condition, looking upslope. Right photo – after photo looking downslope

PROJECT PARTNERS:

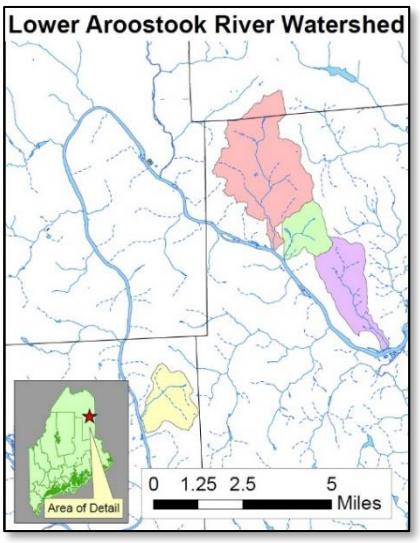
- Belgrade Lakes Association
- Town of Belgrade
- Town of Mount Vernon
- Town of Rome
- LaPosa Property Owners Association
- Wildewood Estates Road District

CONTACT INFORMATION:

Lynn Geiger, 7 Lakes Alliance - (207) 495-6039, lynn.geiger@7lakesalliance.org
Alex Wong, DEP - (207) 694-9533, alex.wong@maine.gov

Lower Aroostook Watershed-based Management Plan
#20210011

Waterbody Name:	Lower Aroostook 4 Tribs (Gray, Hacker, McHugh, Parkhurst Siding)
Location:	Presque Isle, Caribou, Fort Fairfield
Waterbody Status:	NPS Priority Watershed, Impaired
Project Grantee:	Central Aroostook Soil and Water Conservation District
Project Duration:	April 2020 – December 31, 2024
319 Grant Amount:	$23,364
Local Match:	$9,395



PROBLEM:

The Aroostook River between the confluence with Presque Isle Stream and International Boundary is listed as impaired. The listing is due to nutrient enrichment (phosphorous). The Aroostook River's tributaries have a common land use activity (row crop agriculture) with one grower often owning land in multiple tributaries. Maine DEP has included 17 of these tributaries in their biomonitoring program (Appendix 1). Many of these streams have demonstrated impairment Birch, Cowett, Amsden, Hacker and Gray Brooks, and Unnamed Brook/McHugh. The 4 tributaries selected for this WBMP were included as impaired in the 2018/2020/2022 DEP Integrated Report. The prime agricultural areas in Aroostook County are over the Carys Mills geological formation which is a sedimentary carbonate limestone. In the weathering process the groundwater becomes saturated with CaCO2. When the pH 7.0 groundwater discharges into the stream CO2 degasses raising the pH to 8.5. The higher pH releases P from the sediments. The major land use (up to 75%) in these tributary watersheds is row-crop (potato, grain, and broccoli) agriculture and the sediments are eroded soils from phosphorus enriched cropland. Therefore, to reduce the phosphorus in the streams during both storm events and baseflow, soil erosion and discharges to the streams must be reduced.

PROJECT DESCRIPTION:

The four subwatersheds included in this plan were the focus of a special EPA agricultural technical assistance contract and modeling effort in 2020-2022. Data and information from that project supplemented developing this watershed-based plan. Through the social marketing survey, growers' concerns and perceptions of the issue were collected to help improve agricultural outreach within the watershed. Stream crossings were assessed for flow and sedimentation issues and 68 NPS sites were located. A variety of BMPs were identified as potential improvements to reduce sediment loading for these streams.

Perched Culvert on McHugh Brook

PROJECT OUTCOMES:

- A stream crossing survey identified 68 NPS locations within the 4 tributaries.
- A telephone survey conducted with agricultural producers identified barriers to BMP adoption within the watershed.
- The LAR tributary project was presented at 6 local agricultural and municipal events.
- A Watershed Based-Management Plan with analysis of existing water quality data, potential pollution sources, and community attitudes for the four tributaries was submitted.

Aerial view of sediment Plume from McHugh Brook in 2021

Gullying and evidence of movement of sediment in the Hacker Brook Watershed

PROJECT PARTNERS:

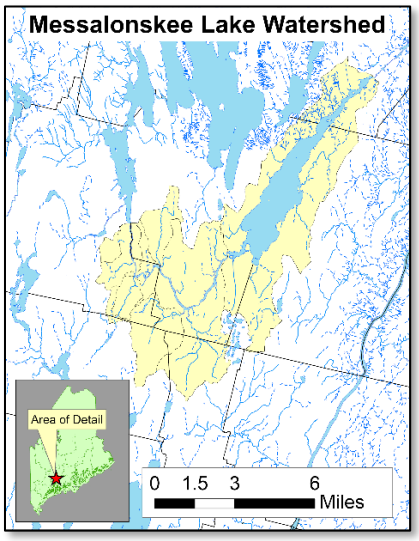
- Central Aroostook Soil and Water Conservation District
- Town of Fort Fairfield
- Town of Presque Isle
- Maine Department of Inland Fisheries and Wildlife
- US EPA
- USDA - NRCS

CONTACT INFORMATION:

Kirsten M. Thompson, DEP – 207-530-3960 kirsten.m.thompson@maine.gov
Randy Martin, CASWCD - centralaroostookswcd@gmail.com

Messalonskee Lake Watershed Protection Project, Phase II
#20230002

Waterbody Name:	Messalonskee Lake
Location:	Oakland, Belgrade, and Sidney, Kennebec County
Waterbody Status:	NPS Threatened
Project Grantee:	Belgrade Regional Conservation Alliance dba 7 Lakes Alliance
Project Duration:	January 2023 – December 2024
319 Grant Amount:	$111,884
Local Match:	$136,058



PROBLEM:

Messalonskee Lake, also known as Snow Pond, has a surface area of 3,506 acres, a watershed area of 46 square miles, and is the last lake in the Belgrade Lakes chain. Historically mostly an agricultural watershed, in the 1990's there was a significant amount of camp and home building in the watershed. Water quality data has been collected in Messalonskee Lake since 1970. Recent trend analysis conducted by Maine DEP suggests that though algal growth is increasing clarity and nutrient concentrations remain stable. Occasional anoxia in the deepest areas of the lake may release bound phosphorus due to sensitive sediment chemistry.

A Clean Water Act s.319 funded watershed survey and implementation project were completed in the early 2000's (#2001R-08 and #2004R-05) resulting in the prevention of 3.14 tons of sediment and 2.2 lbs. of phosphorus from entering the lake each year. A locally funded watershed survey conducted in 2021 identified 247 NPS sites impacting the lake. This survey informed the development of a locally funded alternative watershed-based plan, which was approved by the DEP and EPA in 2022.

PROJECT DESCRIPTION:

The purpose of the Messalonskee Lake Protection Project, Phase II was to protect the water quality of Messalonskee Lake by reducing the export of sediment and phosphorus into the lake by raising public awareness and addressing NPS pollution throughout the watershed. The project aimed to address 18 high and medium impact road and driveway sites, as well as an additional 12 residential properties identified during the watershed survey, and complete 24 LakeSmart evaluations. The project was designed to raise public awareness through the LakeSmart program, newsletters, press releases, social media, road


Messalonskee Lake

association meetings, a gravel road workshop and a buffer planting workshop, annual FOM meetings, and distribution of a final project brochure.

PROJECT OUTCOMES:

- Completed 18 road projects, including private roads, driveways, and 2 town roads.
- YCC installed 35 BMPs at 18 residential properties.
- LakeSmart evaluations were conducted on 27 properties by FOM, resulting in 7 new LakeSmart Awards.
- Two road workshops were held at the 7 Lakes Building in Belgrade Village.
- Two buffer planting workshops were held on Messalonskee Lake.
- Sediment load was reduced by 108 tons/year, phosphorus load was reduced by 64 lbs./yr, nitrogen load was reduced by 153 lbs./yr, and 410 linear feet of shoreline was protected.


Hemlock Place -before – Left photo from midpoint on the road looking downhill at erosion caused by failed culvert (right photo). Right photo looking uphill at failed culvert.


Hemlock Place – after – Left photo from midpoint on the road looking downhill, road resurfaced with Bluestone gravel. Right photo looking uphil at replaced culvert with stabilized outfall and improved ditching.

PROJECT PARTNERS:

- Friends of Messalonskee
- Town of Mount Vernon
- Town of Oakland
- Cedar Villate Place in Oakland Road Association
- Rocky Shore Lane Road Association

CONTACT INFORMATION:

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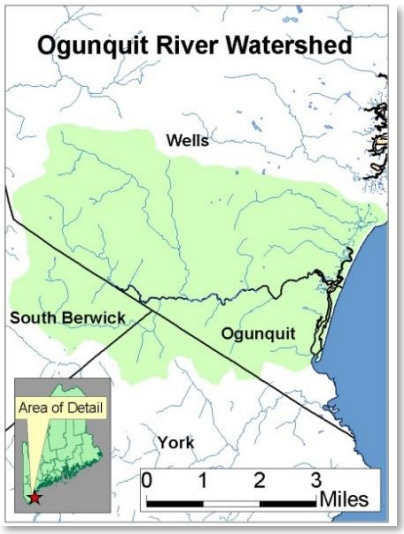
Ogunquit River Watershed Restoration Project, Phase IV
#20210014

Waterbody Name:	Ogunquit River
Location:	Ogunquit and Wells - York County
Waterbody Status:	NPS Priority Watersheds, Tidal Portion Impaired, DMR/NPS Threats, Impaired Coastal Beach
Project Grantee:	Town of Ogunquit
Project Duration:	December 2021-December 2024
319 Grant Amount:	$61,990
Local Match:	$48,998



PROBLEM:

The Ogunquit River watershed is an approximately 21 square mile coastal southern Maine watershed located in Ogunquit, South Berwick, York, and Wells, Maine. The river is tidally influenced downstream of the Route 1 crossing and flows through salt marshes before emptying into the Gulf of Maine behind Ogunquit's 3.5 mile barrier beach. The Ogunquit River is a high value area of heavy contact recreation (swimming, boating, and fishing) enjoyed by over a million residents and visitors each year.

The river is impacted by stormwater runoff and malfunctioning septic systems associated with residential, municipal, and commercial properties. The Ogunquit River estuary is impaired due to elevated bacteria (fecal pollutants) and is included in the *Maine Statewide Bacteria Total Maximum Daily Load* (August 2009). Advisories have been issued at the beach at the outlet of the Ogunquit River. Dry and wet weather sampling at multiple sites since 2012 show Enterococci ranges up to 2,481 cfu/100mL, with particularly high counts or "hotspots" (>4,884 cfu/100mL) along Leavitt Stream, a tributary to the Ogunquit River, and in runoff and seeps from the Main Beach parking lot. The *Ogunquit River Watershed Based Plan (July 2013)* focuses on ways to address sources of bacteria and nutrients in the watershed. The Ogunquit River Watershed Restoration Project, Phase I (#2014BB09), Phase II (#2016RT06) and Phase III (#20180012) implemented BMPs for stormwater mitigation, evaluated areas of illicit sewage discharge and administered a public outreach campaign.

PROJECT DESCRIPTION:

The purpose of the project was to continue restoration efforts to the river through implementation of conservation practices that reduce nutrients and bacteria to the Ogunquit River. The project aimed to address several key problems, including polluted stormwater runoff, septic system issues, and improper pet waste disposal. The project built on the public outreach program developed under Phases I-III with a targeted focus on raising

Pet waste brochure distributed at BonAire! Festival

awareness about proper septic system maintenance and proper pet waste disposal throughout the watershed.

PROJECT OUTCOMES:

- Installation of an enhanced drywell with bacteria filter insert at one catch basin (CB#1) in the Main Beach parking lot. This is the 4th and final catch basin to be retrofitted in the Main Beach Parking lot which discharges to a public beach (there are 3 additional catch basins that connect to this system but capture flow from Beach St.). A rain garden was also installed in a dense neighborhood to treat approximately 6000 square feet of paved road runoff.
- Three years of effectiveness of BMP water quality monitoring were completed by consultant FB Environmental.
- Volunteers and project consultant, Acorn Engineering, tabled at the Town's BonAire! Festival in 2023 where volunteers talked to at least 68 people about pet waste management and septic system maintenance and handed out 30 rolls of pet waste bags. This event demonstrated the effectiveness of more interactive and community-centered outreach, which allowed for engagement with a broader audience including both residents and visitors.
- Pollutant load reduction to the Ogunquit River from BMPs installed is an estimated 16.61 pounds of nitrogen, 2.77 pounds of phosphorus and 0.42 tons of sediment *(STEPL)* annually, along with reduction of fecal contamination from humans, dogs and birds to the river.

Installation of an enhanced drywell that allows stormwater to infiltrate through crushed stone.

Fabco StormBasin insert with two filter cartridges will filter bacteria in runoff. Runoff once filtered with infiltrate through the enhanced drywell

Town of Ogunquit Public Works crew installing 95 perennial and grass plantings in the rain garden

PROJECT PARTNERS:

- Town of Ogunquit
- Acorn Engineering
- Maine Healthy Beaches
- Ogunquit Conservation Commission
- FB Environmental Associates
- Healthy Rivers Ogunquit

CONTACT INFORMATION:

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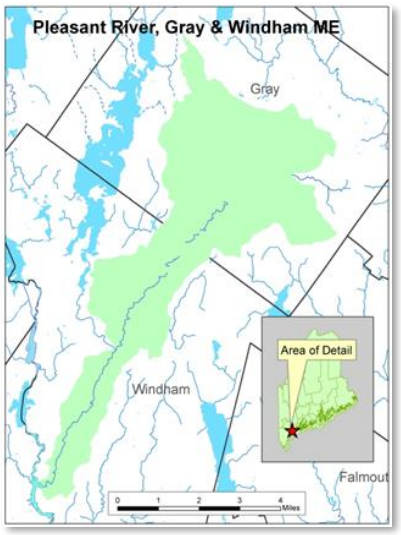
Pleasant River Watershed Restoration Project, Phase II
#20210005

Waterbody Name:	Pleasant River
Location:	Gray and Windham - Cumberland County
Waterbody Status:	NPS Priority Watershed, Impaired
Project Grantee:	Cumberland County Soil & Water Conservation District
Project Duration:	January 2021 – December 2024
319 Grant Amount:	$134,708
Local Match:	$49,441



PROBLEM:

Pleasant River has a watershed area of 29 square miles. The headwaters originate at both Gray Meadows and Thayer Brook in Gray. Many smaller tributaries and wetlands feed the river including Wiggins Brook, Allen Bog, Baker Brook, and Ditch Brook, which drains Collins Pond. The Pleasant River joins the Presumpscot River which drains to Casco Bay. Land uses in the watershed include forest land (69%), agriculture (14%), wetlands (4%), open space (4%), and development (9%). The Maine Department of Inland Fisheries and Wildlife manages the river for coldwater fisheries, stocking with Brown Trout and Brook Trout. Native Brook Trout are also present in the river and tributaries. As a result, the river is one of the most prized fly-fishing rivers in Southern Maine. Pleasant River does not attain Class B water quality standards due to high levels of bacteria and low dissolved oxygen.

Presumpscot River Watch as awarded CWA s. 604(b) funds to carry out a watershed survey of Pleasant River conducted in 2008. In 2011, CCSWCD, with funding from CBEP and partnership with local stakeholders, completed a watershed-based management plan describing actions needed to restore the river. Between 2011-2013 the first phase of implementing the WBP was completed using CWA s.319 funds.

PROJECT DESCRIPTION:

The purpose of the project was to continue restoration efforts of the Pleasant River reducing impacts to water quality from nutrients and improve stream habitat. Conservation practices that reduce erosion and polluted runoff were to be installed at 7 NPS sites on town and private roads and on at least one agricultural NPS Site. In addition, this project was to raise awareness about watershed problems and work to foster long term watershed stewardship.


Undersized culvert crossing of Baker Brook

In mid-2023 the Baker Mountain Road Association contacted CCSWCD to share that they were ready and willing to address

an undersized culvert that chronically washed out their private road, Haskell Road, during large storm events. This site was ranked as one of the highest NPS sites in the Pleasant River Watershed. The steering committee, including both Town's agreed to reallocate grant funds from the original 7 NPS sites to go towards this site. CCSWCD also sought additional grant funds through an amended contract to complete this project.

PROJECT OUTCOMES:

- CCSWCD leveraged local funds with CWA s.319 funds to install an open-bottom arch culvert on Haskell Road. The replacement reduced downstream habitat degradation of a state threatened fish species, improved safety for residents and improved water quality.
- The above project reduced annual pollutant loading to the Pleasant River by an estimated 54 tons of sediment, and 45.90 pounds of phosphorus. A presentation of the project and lessons learned was shared by CCSWCD at the Maine DEP's Watershed Managers Roundtable in 2023, an article was published to CCSWCD website and social media accounts and updates on the project were provided to the Town of Windham's Town Council and the Casco Bay Estuaries Partnership Management Committee.

Washout of crossing in May 2023 storm

Open bottom arch culvert

PROJECT PARTNERS:

- Towns of Gray and Windham
- Baker Road Association
- Windham Natural Resources Advisory Committee
- Trout Unlimited
- Presumpscot Regional Land Trust
- Casco Bay Estuary Partnership

CONTACT INFORMATION:

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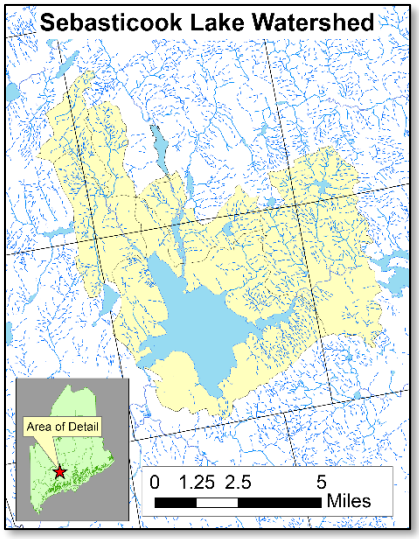
Addie Halligan, Maine DEP – (207) 441-9057, addie.halligan@maine.gov

Sebasticook Lake Watershed Based Management Plan
20220010

Waterbody Name:	Sebasticook Lake
Location:	Newport, Penobscot County
Waterbody Status:	Impaired
Project Grantee:	Town of Newport
Project Duration:	October 2022 – December 2024
604b Grant Amount:	$49,908
Local Match:	$47,196



PROBLEM:

Sebasticook Lake is listed as "Impaired" on the DEP's Nonpoint Source Priority Watershed List due to cultural eutrophication stemming from NPS pollution, historical industrial waste and municipal wastewater discharges that resulted in a drastic deterioration in water quality in the 1950s. A 1966 report described the "green paint" along the shoreline and the "pig-pen" odors caused by the decaying algal blooms. With the removal of the last point source in 2005, the addition of seasonal lake drawdowns in 1982 to release phosphorus from lake sediments, significant reductions of agricultural inputs between 1981-2014, and three phases of 319 grants between 2002-2007 to address other watershed runoff, water quality has slowly improved. The lake did not experience a year without a nuisance algal bloom from 1974 – 1997 and has since had six out of the last 22 years with minimum Secchi disk transparency greater than 2 m (depth at which DEP defines a nuisance algal bloom).

PROJECT DESCRIPTION:

The purpose of the Sebasticook Lake Watershed-based Management Plan (WBMP) project was to create a comprehensive WBMP to address NPS pollution in the watershed and internal phosphorus loading in the lake over the next 10 years. The plan meets EPA's nine minimum elements of watershed-based plans and will result in the establishment of locally-supported and scientifically-sound water quality goals and action strategies. The ultimate restoration goal for Sebasticook Lake is to meet State of Maine Class GPA water quality standards.

High impact road site identified during the watershed survey

PROJECT OUTCOMES:

- The project resulted in the development of a science based, community led WBMP for Sebasticook Lake resulting in strong local commitment and renewed interest in lake restoration over the next 10 years.
- Helped the local community better understand the role of their annual lake drawdown and management strategies for improving its efficiency.
- Inspired new volunteer water quality monitors who will continue collecting data in the lake.
- The project identified agriculture as a significant contributor to NPS pollution in the watershed and set the stage for addressing NPS pollution, continuing to manage internal P loading, increasing education and outreach efforts, and building local capacity to secure funding to address both external and internal phosphorus loading.

Volunteer Watershed Surveyors

PROJECT PARTNERS:

- Sebasticook Lake Association
- Penobscot County Soil & Water Conservation District
- Towns of Corinna & Dexter
- St. Joseph's College

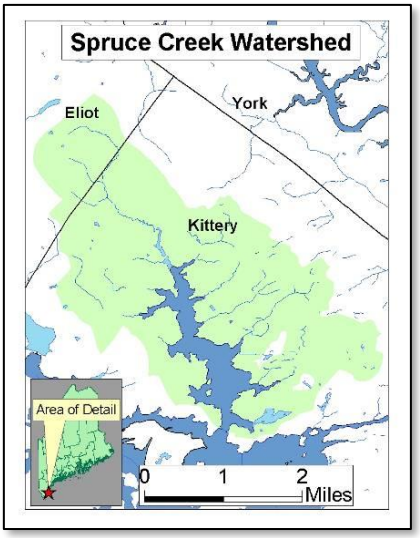
CONTACT INFORMATION:

DEP – Greg Beane, (207) 299-4703, greg.e.beane@maine.gov

Sponsor – Jim Ricker, Town of Newport, (207) 368-4410, jricker@newportmaine.org

Spruce Creek Watershed-based Management Plan Update
#20220011

Waterbody Name:	Spruce Creek
Location:	Kittery and Eliot - York County
Waterbody Status:	NPS Priority Watershed, Impaired
Project Grantee:	Town of Kittery
Project Duration:	October 1, 2022 – December 31, 2024
604b Grant Amount:	$34,324
Local Match:	$31,625



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 where the river meets the Gulf of Maine. The creek is primarily fed by six freshwater streams and includes approximately 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 larger homes along the immediate shoreline.

Maine DEP lists Spruce Creek as 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 open to shellfish harvesting in the past, the flats have been closed since 2005 due to poor water quality and high fecal coliform concentrations. A survey completed in 2007 (#2005R-01) identified 197 NPS sites and provided preliminary recommendations. Five phases of projects (#2008RR01, #2010RT07, #2013RT06, #2015RT06, and #2018005) installed conservation practices at 26 sites, hosted 11 septic and residential socials, resulted in over 80 residential pledges to install watershed-friendly practices, developed a septic system ordinance and database, held tours for the public to visit and learn about BMPs, removed an overboard discharge and a stormdrain system bacteria source installed nine educational signs in five critical areas to encourage pet waste pick up, and created an interactive Story Map posted on the Town's website.

PROJECT DESCRIPTION:

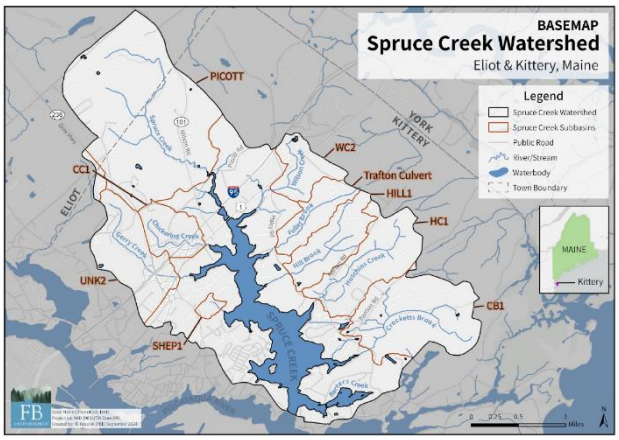
This project updated information about the Creek's water quality status, bacteria source tracking results and other assessment and implementation efforts since 2014 and was expanded to cover pollutant load estimates and sources specific to nutrients, along with the existing fecal indicator bacteria issue. Storm sampling for nitrogen was included for this update. An NPS watershed survey

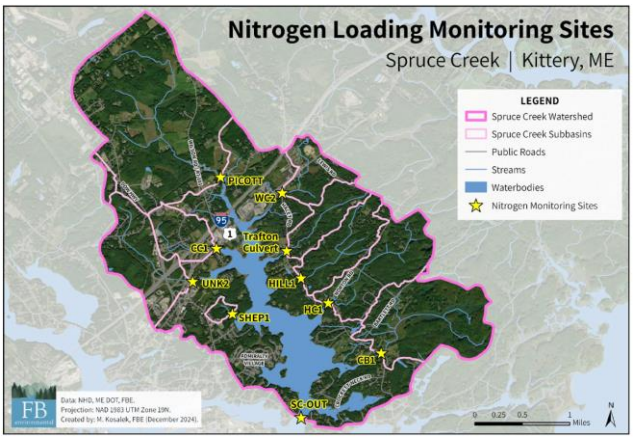
Spruce Creek downstream of PICOT monitoring site.

complementing previous assessment efforts was completed to identify critical areas of concern for remediating fecal indicator bacteria and nutrient sources.

PROJECT OUTCOMES:

- A watershed survey to identify and document sites of nonpoint source pollution (NPS) in the Spruce Creek watershed identified 46 new NPS sites. Five sites identified in the previous survey were revisited. BMP recommendations were made for each site. NPS sites were given an impact score based on field observations (proximity to surface waters, severity of the NPS problem, habitat connectivity, etc.) and pollutant loading estimates.
- Updated nutrient monitoring and modeling identified key subbasins to focus nutrient reduction efforts in. The 2024 Spruce Creek Nitrogen Loading Report, with results was published on the Kittery Spruce Creek Watershed project.
- An Watershed Based-Management Plan with detailed analysis on existing water quality data, potential pollution sources, pollutant modeling, and Action Plan to attain state water quality criteria for the Spruce Creek watershed was completed and published on the Town's website.





Spruce Creek Basemap and N-monitoring sites

PROJECT PARTNERS:

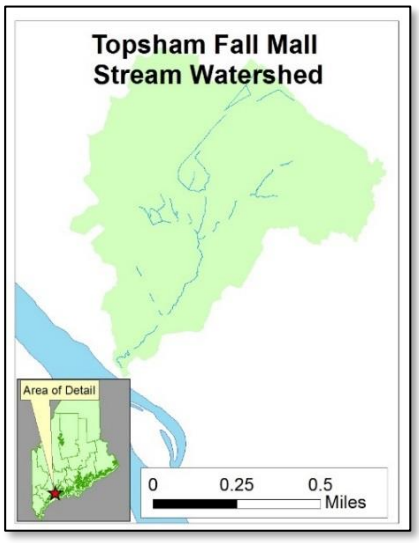
Spruce Creek Association
Kittery Trading Post
Kittery Land Trust

CONTACT INFORMATION:

Jessa Kellogg, Town of Kittery - (207) 475-1321, jkellogg@kitteryme.org
Maggie Kosalek, FB Environmental - (207) 221-6699, magdalynk@fbenvironmental.com
Alex Wong, Maine DEP - (207) 694-9533, alex.wong@maine.gov

Topsham Fair Mall Stream Restoration Project – Phase III
#20220008

Waterbody Name:	Topsham Fair Mall Stream
Location:	Topsham - Sagadahoc County
Waterbody Status:	Urban Impaired Stream
Project Grantee:	Town of Topsham
Project Duration:	May 2022 – December 2024
319 Grant Amount:	$81,125
Local Match:	$49,718



PROBLEM:

Topsham Fair Mall Stream is an impaired stream in Topsham. The 320-acre watershed has 79% of the land area developed, including 30% impervious surfaces. Undeveloped portions of the watershed are slated for growth in Topsham's Comprehensive Plan. This Class B stream was listed as impaired in 2008 due to habitat assessment and is included in the 2011 Maine Impervious Cover TMDL. Despite impairments, the stream is well oxygenated and groundwater recharge keeps temperatures low enough to make it a potentially valuable refuge for coldwater fish from the Androscoggin River.

The Topsham Fair Mall Stream Watershed Based Plan (2014) identified the need for reduction of salt entering the groundwater, modification of several stream crossings and installation of stormwater retrofits at 29 high-, moderate-high, and moderate priority sites. The Topsham Fair Mall Stream Restoration Phase I and II projects conducted salt management outreach, revised municipal ordinances to include chloride management considerations and to provide an opportunity to be minimalist with parking lot size, installed catch-basin filters in several hotspot locations and addressed the adverse effects of a high-priority culvert that was a barrier on the stream.

Example of identified improper salt storage that received improved practice recommendations.

PROJECT DESCRIPTION:

The purpose of this project was to initiate a four-to-six-year effort to lower instream and groundwater chloride levels (by reducing deicing salt application) and reduce sediment, nutrients, and other urban NPS pollutants in the watershed. The project worked with an expert salt-reduction contractor to provide technical assistance and outreach to landowners and business managers who have direct authority and oversight for salt application. This project also provided extensive outreach to commercial landowners regarding opportunities for grant funding to assist with installation of stormwater retrofits and constructed a biofiltration system to treat polluted runoff from a busy roadway.

PROJECT OUTCOMES:

- Installation of a biofiltration system along the high-traffic Topsham Fair Mall Road, treating approximately 1.5 acres of road, including runoff from a major intersection. The system included 26 native plants and Town staff gained experience in the installation of biofiltration systems.
- Production of a summary report of the existing conditions of current winter management operations methods, equipment, and technology used in the watershed. The report included recommended next steps to reduce salt use in the watershed.
- Sixteen watershed property owners, managers, and contractors received technical assistance or outreach from an expert salt-reduction contractor. As a result of this outreach, one major commercial location in the watershed has switched sidewalk management operations from rock salt to brine, one of the recommended practices.
- The town is exploring ways to further use their existing technology to better measure and track the amount of salt output from their trucks.
- Reduction of an estimated 1.34 pounds of phosphorus, 6.95 pounds of nitrogen, and 0.31 tons of sediment to the Topsham Fair Mall Stream.

Installation of bioinfiltration system to treat polluted road runoff.

Completed bioinfiltration system with native plantings.

PROJECT PARTNERS:

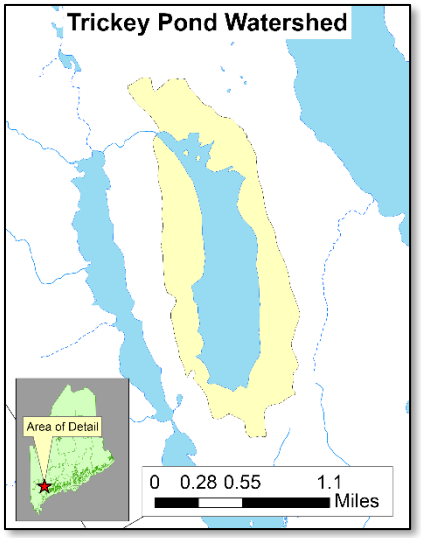
- FB Environmental
- WIT Advisers
- Ferguson Waterworks

CONTACT INFORMATION:

Skye Siladi, Town of Topsham, 207-725-5821, ssiladi@topshammaine.com
Kristin Feindel, Maine DEP, 207-215-3461, kristin.b.feindel@maine.gov

Trickey Pond Watershed Protection Project
#20220006

Waterbody Name:	Trickey Pond
Location:	Naples - Cumberland County
Waterbody Status:	NPS Priority Watershed, Sensitive
Project Sponsor:	Cumberland Co. SWCD
Project Duration:	January 2022 – December 2024
319 Grant Amount:	$73,242
Local Match:	$27,123



PROBLEM:

Trickey Pond lies entirely within the Town of Naples. It is located just north of Sebago Lake and drains into the Muddy River Bay of Sebago Lake. With no major inlet, this primarily spring-fed lake has an average depth of 33 feet and a maximum depth of 57 feet. Due to the small size of its watershed relative to the waterbody's surface area, Trickey Pond has a low flushing rate: only 0.14 times per year. These features contribute to the lake being one of Maine's clearest waterbodies showing an average transparency of 10 meters. Trickey Pond is on Maine DEP's Non-Point Source Priority list due to its outstanding water quality and sensitivity to additional inputs of phosphorus. The lake is also listed as "Most at Risk from New Development" in Maine DEP's Chapter 502 Stormwater Law. As a small lake, Trickey Pond struggles to absorb the impacts of development in its watershed and as such, it is the only subwatershed in the greater Sebago Lake Watershed that exhibits a decreasing water quality trend.

In 2019, the Trickey Pond Environmental Protection Association (TPEPA) and a consulting firm conducted a watershed and shoreline survey to identify potential sources of nonpoint source pollution (NPS). This self-funded project identified a total of 108 NPS sites: 32 watershed survey sites and 76 shoreline survey sites. Of the 32 watershed survey sites, 25 were roads/driveways, 4 residential, and 3 boat/beach access. This survey served as the basis for the ***Trickey Pond Watershed-based Protection Plan, 2021-2031***, funded and written by the TPA.

PROJECT DESCRIPTION:

The purpose of this Phase I project was to reduce Trickey Pond's declining water quality trends by limiting the export of sediment and phosphorus into the lake, increasing vegetated shoreline buffers, and raising public awareness on watershed stewardship actions. BMPs were constructed at 6 high and medium priority sites and residential buffers installed on 8 residential properties. Educational materials for this project included a "Lawns to Landscaping" workshop that focused on creating shoreline buffers, as well as three

Trickey Pond, photo courtesy of TPEPA

short videos. Outreach was achieved though the TPEPAs newsletter and website, partner websites, and town of Naples public access channel. This project also aimed to raise public awareness through public notices and educational flyers, one-on-one technical assistance site visits, and a series of educational videos on lake protection practices.

PROJECT OUTCOMES:

- More than two dozen site visits were conducted during this grant project by CCSWCD's Senior Project Manager and/or Engineer to the highest priority sites identified in the 2019 NPS and shoreline surveys. Detailed recommendation reports were provided for seventeen sites with engineered designs provided for seven sites. BMPs were constructed at six sites, and included installing culverts, ditching, and creating buffers.
- Three videos approximately 1 minute in length were created for each of the following topics: Driveway Drainage, Roof Runoff, and Shoreline Protection. Each of the three videos provides common lake-friendly practices that residents can implement. Images of example BMP practices within the Trickey Pond watershed were used in the three videos to connect viewers to practices on a local and personal level. Metrics from 2 social platforms for one week in December 2024 indicated a total of 631 separate views, with reach of 420 people for all 3 videos.
- Through this project, an estimated 12.12 tons of soil and 10.31 pounds of phosphorus were prevented from washing into Trickey Pond each year.

Shoreline site before and after buffer planting

PROJECT PARTNERS

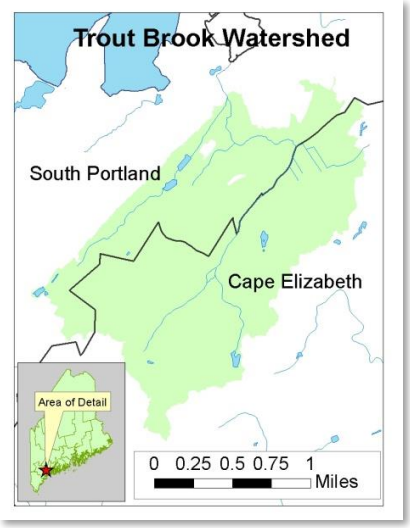
- Trickey Pond Environmental Protection Association
- Lakes Environmental Association
- Portland Water District
- Camp Skylemar
- Town of Naples

CONTACT INFORMATION:

Heather Huntt, Cumberland County SWCD, (207) 892-4700, hhuntt@cumberlandswcd.org
Alex Wong, Maine DEP, (207) 694-9533, alex.wong@maine.gov

Trout Brook Watershed Restoration Project–Phase IV
#20220002

Waterbody Name:	Trout Brook
Location:	South Portland and Cape Elizabeth - Cumberland County
Waterbody Status:	Urban Impaired Stream (Kimball and Trout)
Project Sponsor:	Cumberland Co. SWCD
Project Duration:	January 2022 – December 2024
319 Grant Amount:	$43,965
Local Match:	$39,917



PROBLEM:

Trout Brook is approximately 2.5 miles long, originates in Cape Elizabeth and includes Kimball Brook and several unnamed tributaries. Its 2.4 square mile watershed transitions from woodland headwaters through agricultural lands, wetlands, the Trout Brook Nature Preserve, and dense residential developments before flowing into 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. The Trout Brook TMDL study was completed in 2007, and the ***Trout Brook Watershed-based Plan*** (#2010PT20) was completed in December 2012. A Phase I 319 grant project (#2013RT08) helped fund the installation of BMPs at three priority NPS sites and form the Trout Brook Youth Conservation Corps, which planted 12 residential buffers along nearly 600 feet of stream. A Phase II 319 grant project (#2014RT08) installed five BMPs, including a manure storage facility for an equestrian center, two stormwater treatment BMPs and two new culverts at Down Home Farms. A Phase III 319 grant project (#20190002) installed a swine manure shed, rehabilitated an irrigation pond, and installed over 700 feet of livestock exclusion fencing.

PROJECT DESCRIPTION:

This Phase IV project is part of an overall effort to restore Trout Brook by continuing to implement the strategies of the Trout Brook Watershed Management Plan. In this project, BMPs were installed at three NPS sites. A public park, a town owned parking lot at an elementary school, and a town owned parking lot at a public library. Project activities were promoted by steering committee members through website and social media outlet postings. Specific activity-based outreach to the public by the City of South Portland included those listed below. Previously created fact sheets explaining the benefit of rain gardens were to be distributed to school children in conjunction with installing a rain garden

Biofiltration BMP at the Brown Elementary School

demonstration site at Brown Elementary School's drop off round-about.

PROJECT OUTCOMES:

- Four hundred linear feet of buffer was planted in Hinckley Park along the shoreline of the two impoundments of Kimball Brook, the main tributary of Trout Brook. Hinckley Park is a high-use area for dog walkers. Unfettered access to the shore has left bare soil, little to no buffer and a large amount of dog feces. These impoundments are regularly posted with warnings of harmful algal blooms due to nutrient enrichment.
- A bioinfiltration system was constructed at the Brown Elementary School to intercept and treat stormwater runoff from a 0.36 acre catchment that previously flowed directly into the main stem of Trout Brook.
- A native plant installation was selected in a high visibility area to promote the importance of native landscapes for sustainability efforts including the management and treatment of stormwater.
- 3.38 tons of soil and 2.87 pounds of phosphorus were prevented from washing into Trout Brook each year due to the installations completed at just three NPS abatement sites.

Buffer planting in Hinckley Park

PROJECT PARTNERS

- Brown Elementary School
- City of South Portland
- Cumberland County SWCD
- South Portland Land Trust

CONTACT INFORMATION:

Heather Huntt, Cumberland County SWCD, (207) 892-4700, hhuntt@cumberlandswcd.org
Alex Wong, Maine DEP, (207) 694-9533, alex.wong@maine.gov

Appendix A. NPS Grant Projects Closed in 2024

Project Title	Project ID#	Grantee	319/604b Grant Funds	Non-federal Match	Completion Date
Branch Lake Watershed Protection Project, Phase III	20230005	Hancock County SWCD	$112,483.00	$147,594	12/31/2024
Cobbosee Lake Watershed Protection Project, Phase III	20220005	Cobbossee Watershed District	$93,847.00	$63,800.00	12/31/2024
Cross Lake Watershed Restoration Project, Phase I	20210012	County of Aroostook	$212,300.00	$135,609.00	12/31/2024
Georges Pond Watershed Protection Project, Phase II	20220004	Georges Pond Association	$84,265.00	$56,622.00	12/31/2024
Hogan-Whitney Ponds Watershed Protection Project, Phase II	20230006	Oxford County SWCD	$77,910.00	$55,500.00	12/31/2024
Kennebunk River Watershed Restoration Project, Phase I	20220007	York County SWCD	$88,248.00	$59,192.00	12/31/2024
Long Pond Watershed Restoration Project, Phase V	20230001	7 Lakes Alliance	$112,550.00	$126,498.00	12/31/2024
Lower Aroostook River Tributaries Assessment and Watershed-based Plan for Amsden, Gray, Hacker, and McHugh Brooks	20210011	Central Aroostook SWCD	$23,364.00	$9,395.00	12/31/2024
Messalonskee Lake Watershed Protection Project, Phase II	20230002	7 Lakes Alliance	$111,884.00	$136,058.00	12/31/2024
Ogunquit River Watershed Restoration Project, Phase IV	20210014	Town of Ogunquit	$61,990.00	$48,998.00	12/31/2024
Pleasant River Watershed Restoration Project, Phase II	20210005	Cumberland County SWCD	$134,708.00	$49,441.00	12/31/2024
Sebasticook Lake Watershed-based Management Plan	20220010	Town of Newport	$49,908.00	$47,196.00	12/31/2024
Spruce Creek Watershed-based Management Plan	20220011	Town of Kittery	$34,324.00	$31,625.00	12/31/2024
Topsham Fair Mall Stream	20220008	Town of Topsham	$81,125.00	$49,718	12/31/2024
Trickey Pond Watershed Protection Project, Phase I	20220006	Cumberland County SWCD	$73,242.00	$27.123.00	12/31/2024

Trout Brook Watershed Restoration Project, Phase IV	20220002	Cumberland County SWCD	$43,965.00	$39,917.00	12/31/2024
		Total	$1,396,113.00	$1,343,141.00	

Appendix B. Active NPS Grant Projects

Project Title	Project ID#	Grantee	319/604b Grant Funds	Non- federal Match	Expected Completion Date
Abrams Pond Watershed-based Management Plan Development Project	20230007	Town of Eastbrook	$49,986	$17,508	12/31/2025
Adams Pond and Knickerbocker Lake Protection Project, Phase IV	20240010	Boothbay Region Water District	$149,795.00	$146,787.00	12/31/2026
Androscoggin Lake Watershed Protection Project, Phase I	20240007	30 Mile River Watershed Association	$149,730.00	$101,273.00	12/31/2026
Casco Bay Frontal Drainage Watershed Assessment	20220014	Town of Falmouth	$41,000	$85,660	12/31/2025
China Lake Watershed Restoration Project, Phase III	20240004	Kennebec County SWCD	$100,068.00	$85,924.00	12/31/2026
Cobbosee Lake Watershed Protection Project, Phase	20250007	Cobbosee Watershed District	$113,033	$75,367	12/31/2026
Cross Lake Watershed Restoration Project, Phase II	20240011	County of Aroostook	$120,400	$105,221	12/31/26*
Goodall Brook Watershed Restoration Project, Phase III	20220013	City of Sanford	$61,870.00	$81,761.00	12/31/2025
Goosefare Brook Watershed Restoration Project, Phase IV	20220012	City of Saco	$147,740.00	$180,946.00	12/31/2025
Great Pond Watershed Restoration Project, Phase II	20240002	7 Lakes Alliance	$124,270	$165,850	12/31/2025
Highland Lake Watershed Protection Project, Phase V	20240012	Cumberland County SWCD	$94,845	$97,826	12/31/26*
Lake Pennesseewassee Watershed Protection Project, Phase III	20250004	Oxford County SWCD	$150,000	$203,557	12/31/2026
Lake Pennesseewassee Watershed Protection Project, Phase II	20240006	Oxford County SWCD	$94,682.00	$67,830.00	12/31/2025
Long Pond Watershed Restoration Project, Phase VI	20250002	7 Lakes Alliance	$110,600	$130,500	12/31/2026
Mare Brook Watershed Restoration Project, Phase I	20240003	Town of Brunswick	$149,850.00	$137,489.00	12/31/2025
Meduxnekeag River Watershed Restoration Project, Phase II	20240005	Southern Aroostook SWCD	$32,228.00	$22,890.00	12/31/2026
Messalonskee Lake Watershed Protection Project, Phase III	20250006	7 Lakes Alliance	$112,570	$135,103	12/31/2026
Monson Pond Watershed-based Plan	20240009	Town of Ft. Fairfield	$39,166	$17,188	12/31/2026
North Pond Watershed Protection Project, Phase IV	20240003	7 Lakes Alliance	$112,410.00	$114,350.00	12/31/2026

Parker Pond Watershed Protection Project, Phase I	20250003	30 Mile River Watershed Association	$63,633	$42,638	12/31/2026
Sebago Lake Watershed Protection Project, Phase V	20240001	Portland Water District	$156,370.00	$158,804.00	12/31/2025
Taylor Pond Watershed Protection Project, Phase I	20250005	Androscoggin Valley SWCD	$82,819	$81,331	12/31/2026
Thompson Lake Watershed Protection Project, Phase I	20250001	Androscoggin Valley SWCD	$101,348	$86,345	12/31/2026
Togus Pond Watershed Protection Project, Phase IV	20240011	Kennebec County SWCD	$92,250.00	$71,899.00	12/31/2026
Torsey Pond Watershed Protection Project, Phase I	20240004	Cobbossee Watershed District	$80,391.00	$53,721.00	12/31/2025
Unity Pond Watershed Restoration Project, Phase IV	20250008	Friends of Lake Winnecook	$122,503	$111,801	12/31/2026
Upper Narraguagus River Watershed-based Management Plan Update	20230009	Washington County SWCD	$49,525	$24,342	12/31/2025
Vaughn Brook Watershed-based Plan	20240008	City of Hallowell	$40,887	$24,073	12/31/2026
Webber Pond, Threemile Pond, and Threecornered Pond Tri-watershed Assessment Project	20240010	Kennebec County SWCD	$50,000	$36,858	12/31/2026
Whitten Brook Watershed-based Management Plan	20230008	Town of Skowhegan	$49,760	$18,908	12/31/2025
		Total	$2,843,729	$2,683,750	

Appendix C: 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 2020 through 2024. Tables 10 and 17 focuses on DEP's NPS Program administration and its watershed approach to improve and protect water quality. Tables 11 to 16 list objectives for Maine's statewide approach to address six major NPS pollution categories: developed areas, agriculture, transportation, forestry, subsurface wastewater disposal, and hydrologic and habitat modification.

Table 10. Watershed Approach Lead Agency: Maine DEP				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
1. Prioritization List: Identify NPS Priority Watersheds and evaluate NPS priority lists biennially or more frequently as new information becomes available.	• Evaluate NPS priority watersheds lists and criteria biennially or more frequently as needed. Announce public opportunity to submit requests and support for waterbodies to be added to the priority lists. • Update priority lists and decision tree as needed- add or remove individual waterbodies as new information becomes available. • Notify towns, planning commissions, shellfish committees, and other stakeholders about new or removed NPS priority watersheds. • Develop map and post on DEP webpage. Share with partners, including DEP Land Bureau.	Alaina Chormann, DEP	1. Update NPS priority watershed list and map.	X ✓		X	 ✓	X	2024 update was paused due to staffing changes. Milestone incomplete.
2. Prioritization Criteria: Identify additional prioritization criteria & waters for addition to the NPS Priority Watersheds list and/or for targeted outreach.	• Develop Most Vulnerable Lakes list and associated criteria (considering factors including climate change, sediment chemistry, lake morphometry, anoxia potential, and land use). • Develop and document methods to evaluate waters particularly impacted or threatened by agriculture, forestry and other NPS sources.	Alaina Chorman, DEP	2. Develop Most Vulnerable Lakes list.		X				Scorecard developed in FFY2024. Longer-term plans to work on a statistically robust model for re-defining lake vulnerability pending. Milestone incomplete.

Table 10. Watershed Approach Lead Agency: Maine DEP				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
3. Assessment: Conduct water quality monitoring to support future NPS watershed planning and project development.	• Evaluate data collected by DEP, LSM, and other partners. • Coordinate with local partners to conduct supplemental water quality monitoring, biological monitoring, and bracket sampling. • Consult with partners and use Stream Stressor Guidance document to evaluate and identify primary stressors.	Jeff Dennis, DEP	3. Conduct Supplemental monitoring in at least three watersheds/yr.	3 **6**	3 **3**	3 **4**	3 **11**	3 **10**	Milestone complete.
4. Assessment: Develop State agency and partner capacity to use Microbial Source Tracking to identify and track bacteria sources in streams and marine waters.	• Reach out to Maine and regional labs and compile list of ones with MST analysis capabilities. • Consult with regional experts to create protocol needed to store and transport samples for future MST analysis. • Assess existing DEP lab equipment and explore procurement of equipment needed to filter and freeze samples. • Use above protocol to store/transport DEP and partner water samples. Use resulting MST data to investigate and address bacteria sources.	Meagan Sims, DEP *Partners: DMR*	4. Develop MST storage and transport SOP in 2020 and start using by 2021.	X	X		✓	✓	Milestone complete.
5. Assessment: Streamline and facilitate watershed survey data collection, sharing and analysis through expanded use of mobile apps.	• Explore, promote, and transition to using Survey123 or other mobile data collection tools during watershed surveys.	Addie Halligan, DEP	5. At least one survey in 2020, two surveys in 2021 and 50% of watershed surveys use mobile data collection tools by 2022.	1 **6**	2 **5**	4 ✓	5 ✓	6 ✓	DEP assisted with six watershed surveys on seven waterbodies in 2024: Clary Lake, Crescent Lake, East Pond, Hobbs Pond, Wilson Pond, and Middle & Upper Range Ponds. All used Survey123.

Table 10. Watershed Approach Lead Agency: Maine DEP				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
6. Planning: Incorporate climate change and resilience planning into watershed-based planning.	• Review existing information (e.g., Hazard Mitigation Plans), assess stream culverts during watershed assessments and incorporate in WBPs. • Use available planning tools and resources to identify other potential climate impacts to consider during WBP projects (e.g., sea level rise, vulnerable septic systems, marsh migration, cold water refugia) and incorporate into WBPs. • Incorporate information on climate change impacts into watershed survey training.	Greg Beane, DEP	6. Review tools and incorporate into pilot WBP planning project by 2021. All new WBPs include section on climate change by 2022.		X ✓	X ✓	X ✓	X ✓	All WBP Plans incorporate climate change impacts.
7. Restoration Planning: Approve nine-element watershed-based plans (new or updates) that guide local actions to restore impaired waters.	• Provide decision makers with 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.	Alex Wong, DEP	7. Approve ten nine-element WBPs.	2 **3**	2 **3**	2 **6**	2 **1**	2 **3**	Milestone complete.
8. Protection Planning: Approve alternative WBPs (new or updates) that guide protection of unimpaired waters.	• Working with partners, provide technical assistance for the development of lake watershed-based protection plans. Coordinate to secure EPA approval of alternative WBPs.	Alex Wong, DEP	8. Approve 15 alternative WBPs.	3 **7**	3 **2**	3 **3**	3 **1**	3 **3**	Three Alternative plans accepted: Beech Hill Pond, Taylor Pond, and Thompson Lake. Total of 16 Alternative plans accepted. Milestone complete.

Table 10. Watershed Approach Lead Agency: Maine DEP				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
9. Planning: Promote and support watershed assessment and planning for threatened streams.	• Assess water quality data and watershed conditions to identify stressors for Falmouth's threatened streams. Develop protection strategy for each stream that identify BMPs and actions for addressing existing and future likely stressors. • Promote/pursue development of similar protection strategies with other communities with threatened streams.	Kristin Feindel, DEP	9. Develop Stream Protection Strategy for Falmouth streams by 2020.	X ✓					
10. Planning: Promote collaboration and planning for projects that maintain open shellfish harvesting areas or restore closed shellfish harvesting areas, reduce coastal beach advisories, and mitigate other NPS impacts to coastal waters.	• Convene coastal work group and conduct annual meetings to share information and identify and collaborate on shared priorities. • DEP, DMR, Maine Coastal Program, and MPAP will collaborate to support shared priorities through the NOAA-funded Coastal Community Grants program. DEP and DMR will review proposals and provide technical support to selected projects.	Addie Halligan, DEP *Partners: MCP, DMR, DACF - MPAP*	10. CCG grant program funds at least one planning project per year in DEP NPS Priority Watersheds	1 **1**	1 **1**	1 **1**	1 **1**	1 **1**	DEP convened coastal work group meeting in April 2024.. Milestone complete.
11. Protection: Focus NPS program on watershed protection priorities and highlight the	• Work proactively with partners to protect lakes on DEP's Watch List and Most Vulnerable Lakes list (see #2 above) with the goal of keeping off the impaired list.	Alex Wong, DEP	11. Incorporate summary of work on protection priorities into		X ✓	X ✓	X ✓	X ✓	Summary of lake protection work on DEP's Watch List incorporated into Annual Report (see page 13). Milestone complete.

Table 10. Watershed Approach Lead Agency: Maine DEP				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
value of these protection efforts.	• Report to EPA annually on Maine's protection efforts including work on Most Vulnerable Lakes.		NPS Annual Report.						
12. Restoration: Fully or partially restore four NPS impaired waterbodies and submit to EPA as NPS Success Stories.	• Provide technical support and funding through Section 319 grant program to support implementation of WBPs for waters with high potential to be restored. • Collect targeted water quality and biological information to determine if water classification standards have been met. • Prepare NPS Success Stories that document the restorations.	Alex Wong, DEP	12. Four NPS success stories approved for partially or fully restored waterbodies.		1		2	1 **3**	Three Type 1 Success Stories submitted , Lilly Pond, Cochnewagon Lake, and East Pond. One of the planned waterbodies (Annabessacook Lake) is not yet restored.
13. Substantial Improvement: Demonstrate substantial improvement in water quality and/or ecological condition in two NPS impaired waterbodies.	• Provide technical support and funding through NPS Section 319 grant program to support implementation of WBPs for impaired waters. • Collect targeted water quality and biological information to determine the effectiveness of implementation efforts and guide WBP modifications. • Evaluate data to determine if water classification standards have been met or if there has been substantial incremental improvement. • Prepare NPS Success Stories that document the substantial improvement in water quality and/or ecological condition.	Alex Wong, DEP	13. Two NPS success stories approved that show progress toward achieving water quality goals (Type 2) or ecological restoration (Type 3).		1 **2**		1		

Table 10. Watershed Approach Lead Agency: Maine DEP				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
14. Restoration/ Protection: Promote local efforts to maintain open shellfish harvesting areas or restore closed shellfish harvesting areas.	• DMR meets with coastal towns, local shellfish committees, and other partners to encourage local action (Fisherman's Forum, shellfish committees, or town meetings). • DEP creates Medomak River case study and guidance for investigating and addressing bacteria sources. Materials incorporated into electronic version of Maine Shellfish Handbook.	Addie Halligan, DEP	14. Create Medomak River case study and bacteria investigation/ mitigation guidance.		X				PROJECT WAS CANCELLED IN 2023 DUE TO STAFFING AND OTHER ISSUES.

Table 11. Developed Areas Lead Agency: Maine DEP				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
1. Require and promote the use of effective erosion and sediment control BMPs during soil disturbance activities.	• Update Chapter 305 of the Natural Resource Protection Act to improve erosion and sediment control standards for soil disturbance, instream work and other sections, as needed. • Update ESC BMP Manual to reflect current approaches. Create in a format that can be easily accessed in the field.	Mark Stebbins, DEP	1. NRPA rule-making completed in 2021 and ESC BMP Manual updated in 2022.		X	X		✓	Chapter 305 revised to allow encourage nature-based coastal shoreline stabilization methods, and revised standards for seawalls to account for sea level rise., Rule expected to be adopted in May 2025. Milestone partially completed. ESC BMP Manual update was not completed.
2. Implementation and update of Chapter 1000 Shoreland Zoning to strengthen water quality protection at the local level.	• Work with municipalities with older shoreland zoning ordinances to implement most recent standards. • Review and update Chapter 1000 for areas of possible clarification and improvement, including ESC, buffer standards, contractor certification requirements.	Colin Clark, DEP	2. Shoreland Zoning rule-making completed	X					Given current staffing shortages, DEP's Land Bureau did not undertake this effort in 2024. Milestone not complete.
3. Update Chapter 500 Stormwater Rules to reduce water quality impacts from new or redevelopment projects.	• Initiate stakeholder process to review Chapter 500 for areas for possible clarification and improvement, including natural hydrology and LID/green infrastructure, recertification, and chloride. • Develop draft rules and release for public comment with adoption by 2022.	Kerem Gugnor, DEP	3. Stakeholder process completed in 2021 and Revised rules adopted in 2024.		X	X	✓		Stakeholder process completed, rulemaking process underway with expected submission in January 2026.
4. Regularly update the Maine Stormwater BMP manual to reflect the current best management practices	• Evaluate proposals for new or modified BMPs for approval under Chapter 500 Stormwater Rules. • Conduct annual review and regularly update the Maine Stormwater BMP manual to reflect current science and guidance	Dave Waddell, DEP	4. List of new approved BMPs.	X ✓	X ✓	X ✓	X ✓	X ✓	ACO Stormbrixx® and Storm Tree® have been upgraded to be more accurate. These are both not necessarily "new" but improved.

Table 11. Developed Areas Lead Agency: Maine DEP				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
5. Evaluate stormwater and ESC BMPs and develop guidance about climate change resiliency and adaptation planning.	• Review stormwater and ESC BMPs for climate resiliency and adaptation considerations, including storm sizing and modifications needed for areas with rising groundwater and sea level. • Create appendix for Stormwater Manual that includes design considerations and available tools.	Mark Stebbins, DEP	5. Create an appendix for Stormwater Manual.		X				Milestone not completed. (Stormwater BMP manual now expected to be completed in 2026.) .
6. Provide guidance to State and local regulators, developers, and other partners about BMP selection to target specific localized resource concerns.	• Review stormwater BMPs for nitrogen removal efficiencies and identify additional BMPs to consider adding to the manual. • Develop a crosswalk to highlight BMPs most appropriate and inappropriate for different waterbodies and stressors (e.g., no infiltration for small streams with high commercial development, nitrogen removal BMPs for coastal watersheds). • Incorporate crosswalk into BMP manual and share with partners for use in WBPs and project reviews.	Jeff Dennis, DEP	6. Complete Crosswalk table in 2020. Provide training to DEP Land Bureau on using crosswalk for project reviews in 2021.	X	X		✓ ✓		Milestone completed.
7. Provide training and certification to encourage proper use of ESC BMPs by contractors and other installers.	• Conduct Basic and Advanced Sediment Control training workshops. • Administer the ESC Certification Program and maintain or increase the number of people certified to 2,500 (2,374 in 2019).	John Maclaine, DEP	7. Train at least 500 people and at least 2,500 people with program certification/yr.	500 trained/yr 2,500 certified/yr 348 2,540	401 2,676	486 2,959	631,2,928	530, 2,860	Trained 455 individuals in-person and 75 online and with 2,860 individuals certified in the program for 2024. See Section IV.B. for more details.

8. Develop additional trainings and supplemental training materials to enhance contractor and installer understanding and ability to properly install BMPs.	• Develop additional online trainings and approve/add third-party trainings to facilitate recertification process. Create and post short instructional, demonstration videos about BMPs and NPS- related issues (e.g., silt fence installation).	John Maclaine, DEP	8. Add one course per year and create three videos in 2020 and 2024.	1	1	1	1	1	Milestone complete. See Section IV.B. for more details.
9. Provide municipalities with NPS training, technical support, and resources to prompt and improve water resource protection.	• Develop training and certification program for municipal officials and inspectors. • Certify municipal officials and inspectors to review BMPs for proper use and installation.	John Maclaine, DEP	9. Develop Certification program in 2020. At least 20 municipal officials certified/year beginning in 2021.	X	20 **32**	20 **24**	20 **42**	20 **36**	Milestone complete. .
10. Encourage municipalities to consider water resources in local planning decisions.	• Provide information to municipalities starting to develop or update Comprehensive Plans. • Review draft Comp Plans for consistency and completeness and provide feedback about ways to strengthen local efforts to protect and restore water quality.	Alex Wong, DEP	10. DEP provides feedback on at least four comp plans/year.	4 **9**	4 **10**	4 **9**	4 **5**	4 **17**	Milestone complete.

Table 12. Statewide Approach - Agriculture Lead Agency: Maine DACF				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
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 an 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 an NMP. • Publicize updates to the Nutrient Management Rules, including stream exclusion requirement. • Coordinate with NRCS and DEP Shoreland Zoning to align programs regarding stream exclusion.	Mark Hedrich, DACF	1. 90% of NMPs that are due for renewal are updated within six months of expiration.	90 **56**	90 **50**	90 **57**	90 **52**	90 **58**	There are 280 active Nutrient Management Plans (NMPs). 24 were due for renewal in 2024. Of these, 14 were updated and 3 received variances. (Note:17 total variances issued.) 43 potential updates not needed because farm is out of business or has insufficient animal units to require a Plan.
2. Coordinate training and certification program for Nutrient Management Planning Specialists.	• Provide certification and recertification training opportunities for certified planners. • Update test and training manual to reflect updated nutrient management rules.	Mark Hedrich, DACF	2. Update NMP test in 2021 and update NMP training manual by 2024.	✓	X		✓	X	Milestone complete

Table 12. Statewide Approach - Agriculture Lead Agency: Maine DACF				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
3. Monitor livestock 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 Concentrated Animal Feeding Operation (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.	Mark Hedrich, DACF	3. 75% of farms needing LOPs are developed within nine months.	75 **63**	75 **40**	75 **50**	75 **47**	75 **44**	Nine LOPs needed updating and four were completed.
4. Provide agricultural operations with up to date information on BMPs.	• Update the Manual for Best Management Practices for Maine Agriculture.	Mark Hedrich, DACF	4. Complete update of BMP manual.				X		Two sections of BMP Manual updated. Additional updates to be completed as needed
5. Implement the Agricultural Compliance Program to resolve water quality-related complaints (30 visits conducted in 2018).	• 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 BMPs where needed to resolve the issue, particularly water-quality-related matters. • Complete site visit reports to document complaints received and resolutions. Provide reports to DEP semiannually. • DEP prepares annual summary of water quality complaints received, investigated and resolved and shares with DMR, DEP, NRCS, NMRB.	Matt Randall, DACF	5. Resolve 25% of sites with water quality issues within 30 days; 50% within 90 days; and 75% within 180 days.	X ✓	X **n/a**	X **n/a**	X **n/a**	X **n/a**	There were 0 complaints related to water quality issues in 2024. DACF continues to see results from proactive technical assistance.

Table 12. Statewide Approach - Agriculture Lead Agency: Maine DACF				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
6. Promote the use of BMPs with horse farms and other small hobby farms.	• Convene at least one meeting with DACF, Cooperative Extension, SWCDs, NRCS, DEP and other stakeholders to develop an outreach strategy for hobby farms. • Implement at least one identified strategy.	Alex Wong, DEP	6. Hold stakeholder meeting held in 2020. Pursue at least one stakeholder-recommended outreach strategy by 2022.	X ✓		X		✓	Manure management BMP constructed in Pleasant River Watershed Restoration Project, Phase II (#20210005) in 2024. Milestone met.
7. Collaborate with NRCS and EPA in the NWQI program to make progress restoring impaired waters with agricultural NPS sources.	• Evaluate water quality information for Oliver Brook and Meduxnekeag River NWQI. • Provide information to NRCS for project close-out of the Unity Pond, Halfmoon Stream & Sandy Stream subwatersheds, and Nickerson Lake - Meduxnekeag River subwatershed projects. • Support development of NRCS Watershed Assessments for Readiness Phase of Sheepscot River and Cross Lake NWQI projects. • Conduct monitoring before NWQI implementation in new NWQI watersheds.	Alex Wong, DEP	7. Prepare Oliver Brook water quality summary (post implementation) in 2020. Develop monitoring plan for one Readiness Phase watershed in 2020 and conduct water quality monitoring in 2021.	X ✓	X ✓				Milestones met.

Table 12. Statewide Approach - Agriculture Lead Agency: Maine DACF				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
8. Coordinate and communicate with DACF, SWCDs, NRCS, and industry groups (e.g., Maine Potato Board) on water quality priorities.	• Attend NRCS State Technical Committee meetings. • Participate in SWCD local working group meetings and Natural Resource Assessments to share DEP priorities and opportunities for NRCS program support. • Reach out to the various industry boards and councils to raise awareness of water quality issues related to their industry including nonattainment watersheds.	Alex Wong, DEP	8. Attend at least five local working group meetings/year in a variety of regions in the state and meet with at least one industry group/year	X ✓	X ✓	X ✓	X ✓	X ✓	DEP participated in State Technical Committee meeting and attended 7 local working group meetings in 2024. Milestone complete.
9. Increase field crop agriculture's use of soil health practices to reduce soil erosion, improve water quality, and offset carbon emissions.	• Reach out to various stakeholders at the state and local level and explore ways to address agriculturally derived water quality impairment issues.	Tom Gordon, DACF	9. Hold meeting held between DEP, DACF and NRCS to discuss agriculture and water quality impacts.	X	✓				

Table 13. Statewide Approach - Transportation Lead Agency: Maine DOT				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
1. Continue using Erosion and Sedimentation Control BMPs on applicable Maine DOT projects.	• Continue to implement and enforce Maine DOT Standard Specification 656. • Continue ongoing ESC training for Maine DOT staff and contractors. • Annual Stormwater MOA report submitted to MDEP summarizing Maine DOT activities as required by the Stormwater MOA between DEP and Maine DOT.	Cindy Dionne, Maine DOT	1. Train at least 25 contractors/year and 100 DOT employees/ year	25 contractors & 100 employees trained/yr **62 employees**				**79 employees**	Maine DOT continues to implement "Standard Specification 656: Erosion and Sedimentation Control" for all projects contracted out or performed by the agency. Maine DOT provided virtual ESC training on 09/12/2024 (79 employees)
2. Provide training and technical assistance to promote use of BMPs on town and county roads.	• MLRC will provide training to towns through Maine Local Roads Center (MLRC). • NPSTC will promote DEP Erosion and Sediment Control certification for Public Works staff.	John Maclaine, DEP Peter Coughlin, MDOT	2. DEP will certify at least five DPW employees through the NPSTC per year.	5 **6**	5 **64 employees**	5 **41 employees**	5 **135 employees**	5 **36**	Milestone met
3. Promote chloride salt reduction BMPs to protect water quality while maintaining safe roads for travelling public.	• Continue MLRC training and BMP Task Force to promote snow and ice control BMPs to municipal Public Works. • Maine DOT will continue to investigate new products, technologies, or efficiencies to reduce the use of chlorides.	Peter Coughlin, Maine DOT	3. Hold at least 30 workshops/year, covering 4 different subjects for 150 different towns.	30 **10**	30 **21**	30 **20**	30 **20**	30 **9**	MLRC provided 9 in-person workshops
4. Identify chloride impacted or threatened streams and	• DEP will identify high priority watersheds for salt reduction efforts and share with Maine DOT & towns. Provide chloride fact sheet to towns & provide technical assistance and/or training.	Jeff Dennis, DEP	4. Develop chloride-impacted and	X ✓					Milestone met.

Table 13. Statewide Approach - Transportation Lead Agency: Maine DOT				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
consider/promote salt reduction strategies in these areas.	• Identify DEP priority area to implement alternative practices (e.g., catch basin to deliver chloride to stream instead of infiltration).		threatened streams list.						
5. Explore stakeholder interest, possible program funding options, and feasibility of Green Snow Pro type program.	• Meet with MS4 communities, Maine DOT, SWCDs, Long Creek Watershed Management District and other stakeholders to discuss Green Snow Pro program level of interest and any next steps. • If support and funding exists, propose legislation to limit liability for certified snow removal contractors.	Alex Wong, DEP	5. Draft Limited liability legislation (if supported).	X					Milestone cancelled. Stakeholder interest was explored and found lacking.
6. Promote reduction in the number of outdoor sand/salt piles.	• Maine DOT will eliminate its remaining 13 outdoor sand/salt piles by 2024. • MLRC will provide technical assistance to towns regarding town salt storage facilities.	Cindy Dionne, Maine DOT	6. Maine DOT removes two sand/salt piles per year.	2 **0**	2 **2**	2 **9**	2 **0**	2 **0**	
7. Address NPS problems identified by DEP on State roads through Maine DOT maintenance program and construction projects.	• Annually, DEP will provide Maine DOT and Maine Turnpike Authority (MTA) with a GIS layer of priority watersheds and list of State road watershed survey sites. • MDOT, MTA and DEP will meet annually to review DEP needs (above) and Maine Dot's six-year plan to identify shared priorities and possible NPS projects that can be completed through Maine DOT and MTA maintenance or construction projects.	Cindy Dionne, Maine DOT	7. Maine DOT completes at least one NPS project/year.	1 **2**	1 **0**	1 **1**	1 **1**	1 **10**	

Table 13. Statewide Approach - Transportation Lead Agency: Maine DOT				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
8. Provide technical assistance and training to prevent & mitigate NPS impacts from camp roads.	• NPSTRC and partners will host workshops and online resources to promote gravel road BMPs. • Promote the development of informal or formal road associations to coordinate road maintenance and improvement.	John Maclaine, DEP	8. Hold at least two NPSTC-approved workshops/year.	**2** **1**	**2** **2**	**2** **2**	**2** **6**	**2** **3**	
9. Promote bluestone gravel for use on camp roads and driveways where available.	• Compile a list of providers and post on NPSTC website and in Gravel Road Maintenance Manual.	John Maclaine, DEP	9. List of bluestone suppliers compiled and posted online.	X	✓				Milestone met.

Table 14. Statewide Approach – Forestry Lead Agency: Maine Forest Service				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
1. Increase overall effective BMP application on harvests from 76% to 85% 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.	Tom Gilbert, MFS	1. Maine Forestry BMPs Use and Effectiveness report documents effective BMP application on 85% of sites inspected	85 **78**		85 **68**		85 **70**	A new BMP Use and effectiveness report was released during the 4th quarter of 2024.
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.	Tom Gilbert, MFS	2. Over 90% of sites exhibit environmental compliance during timber harvest inspections.	90 **97**	90 97	90 **96**	90 **94**	90 **94**	
3. Ensure agencies and staff responsible for protecting Maine's	• MFS will work with Land Use Planning Commission (LUPC) and DEP to clarify each agencies' responsibility for permitting and	John Maclaine, NPSTC	3. Hold interagency meeting in 2020 and hold	X	X ✓				

Table 14. Statewide Approach – Forestry Lead Agency: Maine Forest Service				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
water resources from potential degradation have a clear understanding of each's roles and responsibilities including enforcement procedures.	enforcement of NRPA stream crossing and Chop and Drop activities. • MFS will work with LUPC and MDEP to develop and deliver timber harvest NRPA (stream crossing) training to agency staff, municipalities and the industry. • MFS will incorporate NRPA (stream crossing) education in their Certified Logger Program (CLP), Master Logger Program (MLP), and BMP monitoring program.		joint timber harvest NRPA (stream crossing) training event in 2021.						
4. By 2024, improve consistency for the regulated community by increasing the number of critical mass municipalities that have adopted statewide standards for timber harvesting in shoreland areas to 252 (adoption by 224 towns in 2019).	• DEP will support adoption of SWS by inviting MFS to participate in Shoreland Zoning trainings. • DEP will support adoption of SWS by providing draft municipal Shoreland Zoning ordinances to MFS before issuing approvals and incorporating information about SWS adoption process in Shoreland Zoning training. MFS will proactively approach towns, provide technical assistance with ordinance updates, and review draft ordinances to help align with SWS.	Tom Gilbert, MFS	4. By December 2024, 27 new municipalities adopt statewide timber harvesting standards or DEP adopts ordinances for them.	6 **9**	6 **10**	5 **7**	5 **5**	5 **1**	

Table 15. Statewide Approach – Subsurface Wastewater Disposal Lead Agency: Maine DHHS, Environmental Health				**Schedule Planned (X #) Actual (✓ #)**					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
1. Ensure municipalities properly implement Subsurface Wastewater Disposal (SSWD) rules to protect public health and water quality.	• Provide technical assistance and training to towns on the appropriate implementation of the subsurface rules. • Assist in the training and licensing of Local Plumbing Inspectors. Develop resource for CEOs showing photos with a range of site conditions.	Brent Lawson, DHHS	1. 200 visits to towns per year. Photo guide developed for CEOs in 2021.	200 visits/yr **38**	 **20**	 **170**	 **150**	 **2**	2024 visits significantly lower due to DHHS staffing shortage.
2. Consider adjacent water resources when reviewing variance requests for Onsite Sewage Disposal System (OSDS).	• Review advanced treatment systems and identify treatment efficiencies for phosphorus and nitrogen. • Review variance requests for OSDS in shoreland zones and require that systems next to lakes install systems that remove phosphorus, and systems next to coastal waters remove nitrogen.	Brent Lawson, DHHS	2. List of advanced systems with phosphorus and nitrogen removal efficiency.				X ✓		
3. Improve the State's Voluntary OSDS Inspection Program and oversee expansion to all shoreland zones.	• Update inspection program rules with requirements for inspectors to receive national certification, take a standard test, submit inspection forms, etc. • Evaluate the current inspection program and needs before expanding statewide. Develop Legislative report as directed by LD543. • Adjust inspection program in preparation for transition to OSDS Inspection Program expansion to all shoreland zones.	Alex Pugh, DHHS	3. Submit report submitted to Legislature and adopt revised rules in 2020.	X		X	✓ ✓		

Table 15. Statewide Approach – Subsurface Wastewater Disposal Lead Agency: Maine DHHS, Environmental Health				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
4. Conduct public outreach about new requirements in shoreland zone.	• Conduct training for real estate professionals and incorporate information about new legislation re: property transfer inspections.	John Maclaine, DEP	4. Conduct one realtor workshop per year.	1 **0**	1 **0**	1 **0**	1 0	1 0	Milestone not met. DEP reconceptualized this milestone and included it in the new 2025-2029 NPSMP
5. Develop criteria for inspecting OSDS that are at risk for short-circuiting and impacting water resources.	• DEP and DACF will develop guidance on identifying OSDS at high-risk of short-circuiting due to age, soils, and proximity to water. • Dave Rocque (ret. DACF) will develop optional advanced inspection standards/methodology. • DEP and DACF will evaluate/refine through pilot program that uses methods on several types of systems.	Alex Wong, DEP	5. Develop guidance document in 2020. Develop draft advanced inspection standards by 2020 and test by 2022.	X	✓	X			Milestone not met. In 2023, DEP decided to cancel this milestone.
6. Review OSDS threats to water quality as part of watershed-based planning process.	• DEP will promote guidance with partners and incorporate into watershed planning projects.	Alex Wong, DEP	6.Evaluate septic system threat in all watershed-based management plans staring in 2021.	✓	X ✓	X ✓	X ✓	X ✓	

Table 16. Statewide Approach – Hydrologic and Habitat Modification Lead Agency: Maine DEP				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
1. Adopt new standards for stream crossings (new, repair, and replacement) to improve aquatic organism passage and improve hydraulic capacity and resiliency to larger storms.	• Adopt draft standards for stream crossings under Section 305 to better align with Stream Smart principles.	Mark Stebbins, DEP	1. Legislature adopts revised standards.	X					Milestone not met. Due to DEP Land Bureau staff shortages. However, the Land Bureau's priorities pivoted during 2023 and 2024 in response to extreme weather events. Limited staff resources were refocused on revising the shoreline stabilization standards under Section 305 to incorporate green stabilization technologies. The OURSHORE approach was part of this effort. Rulemaking started in 2024, and revisions were adopted by the Legislature in 2025.
2. Provide training to minimize impacts during culvert installation/ replacement and ensure long term stability and proper function.	• Develop curriculum and provide trainings on culvert installation/replacement.	John Maclaine, DEP *Partners: Maine DOT DIFW ACOE*	2. Develop curriculum in 2020 and hold one multi-agency workshop /year starting in 2021.	X ✓	1 **1**	1 **1**	1 **3**	1 **1**	

Table 16. Statewide Approach – Hydrologic and Habitat Modification Lead Agency: Maine DEP				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
3. Administer DEP stream culvert grant program (culvert bond program) that funds upgrades of municipal culverts.	• $3 Million - 2024 grant funding was moved to ARPA monies as part of Maine Jobs & Recovery Plan, with returned funds (~$1.7 Million) being reinvested from previous rounds • Funding was moved to the state budget in 2024 and the program is to be moved to MaineDOT for further rounds. Maine DEP will continue to manage existing grant contracts.	John Maclaine, DEP	3. 100 culverts upgraded through 2019 and 2020 RFPs.	25 **32**	25 **43**	25 **51**	25 **32**	 **24**	
4. Promote use of living shorelines and similar approaches to address NPS problems, restore impacted habitat and maintain existing habitat values.	• Explore and develop policy to limit use of riprap on streambanks and lakeshores in NPS watershed projects. • Evaluate living shorelines pilot projects. If appropriate, pursue revisions to Chapter 305 to accommodate living shoreline approaches in coastal and other shoreline areas.	Alex Wong, DEP	4. Develop shoreline riprap policy for NPS watershed projects in 2021.		X		✓		Milestone was completed in 2023. In 2024 rulemaking was started for Chapter 305 revisions.

Table 17. Statewide Approach – NPS Program Coordination Lead Agency: Maine DEP				Schedule Planned (X #) Actual (✓ #)					
Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
1. 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 funds are used efficiently and consistent with fiscal and legal obligations (Section 319 program guidelines, EPA-DEP Performance Partnership Agreement). • In keeping with CWA Section 319(h)(8) and (11), provide EPA with sufficient information, annual reports, GRTS data and other information about Maine's 319 program to determine whether the State's previous year progress was satisfactory. • Conduct sub-recipient monitoring according to program standard operation procedures using DEP's NPS Grant Administration Guidelines (2016). Complete and close out all active grant projects within the contract period.	Alex Wong, DEP	1. Maine's NPS Program submits annual report to EPA and continues to achieve Satisfactory Progress Determination from EPA.	X ✓	X ✓	X ✓	X ✓	X ✓	SPD for 2024 pending
2. Program Administration: Update the ME NPS Management Plan by 2024.	• Consult with lead agencies and gather partner input to update the Maine NPS Management Program Plan for the next five-year cycle including milestones for 2025-2029.	Alex Wong, DEP	2. EPA approves Maine NPS Management Program Plan by 10/1/24.					X ✓	
3. Education & Outreach: Promote more effective awareness and behavior change methods and tools for DEP programs and NPS projects and partners.	• Provide technical assistance and training opportunities in social marketing by hosting or participating in Maine workshops, seminars and conferences. • Provide technical assistance and training opportunities in how to effectively use social media and other electronic platforms.	Kirsten Thompson, DEP	3. Host or help coordinate at least two social marketing and two social media workshops.	1 **0**	1 **0**	1 **3**	1 **0**		No activity in 2024. Contractor that provided workshops in 2022 went on sabbatical. No new contractor was retained in 2024.

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Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
4. <u>Partnerships:</u> Build and strengthen coordination and communication between Maine's NPS Program's lead agencies.	• Convene meeting of NPS lead agencies and partners to review NPS Plan activities and determine need and frequency of future work group meetings. • Conduct regular outreach to lead agencies, request semiannual updates on NPS Plan action items and milestones, and provide annual updates to lead agencies. • Continue to work with other government agencies to address and improve areas of environmental concern and seize opportunities for further collaboration.	Alex Wong, DEP	5. Hold meeting of NPS Plan lead agencies and partners in 2020. Send NPS Plan status update to lead agencies annually.	X ✓	X ✓	X ✓	X ✓	X ✓	DEP met individually with each lead agency in 2024 on various timely subjects in addition to maintaining regular contact to prompt semi-annual program updates and to plan milestone planning for the 2024-2029 5-yr NPS Management Plan.
5. <u>Partnerships:</u> Build and strengthen partnerships to promote collaboration and effective implementation of the Maine NPS Management Plan.	• Conduct the annual Watershed Roundtable to bring together watershed professionals to share information, network and foster collaboration. • Improve upon and continue to coordinate the watershed managers' listserv to efficiently promote sharing between partners.	Alex Wong, DEP	6. Host annual Watershed Roundtable and explore options and migrate listserv to improved platform in 2020.	X ✓	X ✓	X ✓	X ✓	X ✓	Hosted hybrid Watershed Roundtable in 2024. with approximately 104 participants from municipalities, NGOs, SWCDs and other state agencies.
6. <u>Funding:</u> Explore funding options to address NPS sources and program needs.	• Explore funding options for addressing malfunctioning onsite disposal systems where there are likely water quality impacts (e.g., CWSRF, SCG, Section 319 to replace OSDS, connect to public sewer, or extend sewer lines). • Explore and pursue additional funding to support development of WBPs and watershed implementation projects.	Alex Wong, DEP	7. Develop list of funding options.			X ✓			

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Five-Year Objectives	**Actions**	**Lead Contact**	**Milestones**	**2020**	**2021**	**2022**	**2023**	**2024**	**2024 Accomplishments and Outputs**
	• Explore, promote, and pursue FEMA hazard mitigation grants for installation of green infrastructure, stream/floodplain restoration, and culvert replacements. • Share information with partners about funding opportunities through listserv and WBP planning and implementation projects.								
7. <u>Funding:</u> Promote CWSRF programs, track funding for NPS projects and explore new program opportunities.	• Track CWSRF projects and funding awarded to NPS projects and summarize in the NPS Annual Report. • Explore and promote ways for CWSRF to meet Maine's NPS needs (e.g., salt reduction equipment, uncovered sand/salt piles. WBP development, brownfields, alum treatments, land protection). Review other State programs, meet with partners to explore needs and determine options and feasibility. • Publicize CWSRF opportunities through the watershed listserv and roundtable.	Brandy Piers, DEP	8. Include summary of CWSRF-funded NPS projects in the annual NPS Program Report. Develop one new NPS program area using CWSRF by 2024.	X ✓	X ✓	X ✓	X ✓	X ✓	CWSRF funding for NPS projects in 2024 totaled $6,561,157. Projects described in Section IV.D.

Upper and Middle Range Pond Watershed Survey Crew

Clean water starts with you!

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

DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF MAINE