

2015PP09 PHILLIPS BROOK WATERSHED PLAN DEVELOPMENT

Grantee: Town of Scarborough

WATERSHED INFORMATION:

Phillips Brook, located in the Town of Scarborough in Cumberland County, Maine and City of Saco in York County, Maine, is currently listed on the Maine Department of Environmental Protection's (DEP) 303(d) *Impaired Water Bodies* list for macroinvertebrate and aquatic life and habitat. The Phillips Brook watershed covers 653 acres (1.02 square miles) in the Dunstan Corner area of Scarborough. A small portion of the headwaters is located in Saco. The watershed includes the 2.77-mile Phillips Brook that runs from wetlands in the south of the Town, through a residential area, across Broadturn Road and Payne Road, and behind the commercial development along US Route 1 before entering Scarborough Marsh northeast of Pine Point Road. Portions of the stream corridor are owned by the Town and the State and provide public access for recreational purposes. Phillips Brook is a low-gradient coastal stream with substrate consistent with its glaciomarine origins. The upper watershed is primarily evergreen and deciduous forest cover before flowing into areas of developed open space, pasture/hayland, and into the medium to high intensity development of the Route 1 commercial corridor near Dunstan Corner. Portions of the stream in the lower watershed have been channelized in the past, resulting in sections of straightened, overwidened channel.

Phillips Brook was part of the DEP 2012 Impervious Cover (IC) Total Maximum Daily Load (TMDL) Assessment, which outlined the condition of the waterway and goals for its restoration using impervious cover reductions. Phillips Brook had a calculated impervious cover of 9% (based on 2007 1-meter satellite imagery and a watershed boundary based on topographic contours and digital elevation models). The 2012 report estimated that in order for Phillips Brook to meet Class C Water Quality Standards, it would need to reduce impervious cover by 3% to bring the total effective impervious cover to 6%. Phillips Brook is listed as an Urban Impaired Stream in Maine DEP's Chapter 502, and it is on Maine's 303(d) list for degraded biological community. Both listings are potentially caused by urban nonpoint source pollution (polluted runoff from impervious cover such as rooftops, parking lots, and roads). The majority of the Phillips Brook watershed lies with Scarborough's "regulated area" under the NPDES Phase II Stormwater Program.

PROBLEM / NEED:

Phillips Brook does not meet Class C water quality standards for aquatic life and aquatic habitat use and has been listed on the 303(d) list of impaired waters. The cause of impairment of Phillips Brook is largely unknown but may be partially related to stormwater runoff from IC, stormwater infrastructure along US Route 1, and development in the lower watershed that has encroached on the stream channel, floodplain and wetlands areas. In order to address the water quality impairments, a watershed-based plan should be developed that seeks to determine the stressors in the watershed, identifies the actions to address the causes of impairment, and develop a strategy to implement the identified actions.

PURPOSE:

The purpose of this project is to develop a locally supported, watershed-based management plan that will outline actions needed to improve Phillips Brook's water quality and aquatic habitat to attain Class C standards and to build local support for implementation of this plan. Phillips Brook is a 2.77-mile stream system in Scarborough that does not adequately support aquatic life. Phillips Brook is considered impaired under Maine law and the Federal Clean Water Act.

PROJECT DURATION:

Project Start Date: January 1, 2016
Project Completion Date: December 31, 2017

GENERAL PROJECT PLAN:

The Town of Scarborough will sign a grant agreement with the Maine DEP specifying work to be performed and terms and conditions of the grant. CCSWCD will be responsible for project coordination. The Town of Scarborough and CCSWCD will engage and cooperate with stakeholders including the Scarborough Conservation Commission, the Scarborough Economic Development Corporation, Maine DEP, Scarborough Land Trust, Eastern Trail Alliance, Phillips Brook watershed residents, Phillips Brook watershed businesses, Friends of Scarborough Marsh, the Maine Turnpike Authority, and the Maine Department of Transportation.

This project involves an evaluation of existing watershed information, a detailed characterization and supplemental assessment of the watershed to plan for the targeted use of structural and non-structural Best Management Practices (BMPs) and extensive public outreach and stakeholder involvement. A Steering Committee will be convened to identify subcommittees that will gather public input about local concerns, identify data gaps, and identify restoration opportunities and outreach strategies to promote the use of BMPs.

The Town of Scarborough will work in coordination with CCSWCD and stakeholders to produce a locally-supported Watershed Management Plan (WMP) that addresses all nine of the EPA's required elements for watershed-based plans. This plan will also incorporate stakeholder recommendations and will be designed to address existing development, redevelopment and new development in accordance with current zoning and with the Comprehensive Plan for the Town of Scarborough. The watershed needs will be prioritized based on environmental benefits and impacts, estimated costs, right of way requirements and feasibility of implementation. Most importantly, the Plan will (1) clearly detail what work is needed in order to improve and protect the water quality and aquatic habitat of Phillips Brook and (2) identify an implementation strategy that includes cost estimates, funding strategy and sources, roles and responsibilities and completion schedules.

In managing this project, NPS Program grant funds will not be used to undertake, complete or maintain any work otherwise required by existing permits or orders. Much of the project will be conducted within the Town of Scarborough's Urbanized Area designation. The project activities are not permit requirements under Scarborough's Municipal Separate Storm Sewer System (MS4) General MEPDES permit effective July 1, 2013.

TASKS, SCHEDULES & ESTIMATED COSTS:

TASK #1: Project Management

The Town of Scarborough will sign a grant agreement with DEP outlining project roles, responsibilities and funding arrangements. The Town of Scarborough will also complete a Letter of Agreement with CCSWCD to serve as Project Coordinator. CCSWCD will track project progress, expenses and local match, carry out invoicing and complete progress reports and complete the final project report. CCSWCD and the Town of Scarborough will utilize the DEP NPS Site Tracker tool or equivalent to document and track NPS sites found during the project.

START DATE: January 2016 END DATE: December 2017

1st Year Outputs: Subagreements, Semi-annual Progress Reports.
COST: \$2,912 (grant), \$1,568 (match), \$4,480 (total)

TASK #2: Steering Committee Meeting Coordination and Participation

The Steering Committee will provide oversight and guidance throughout the Watershed Management Plan development process and will consist of representatives from the key stakeholder groups including the Town of Scarborough, Maine DEP, Scarborough Conservation Commission, Scarborough Land Trust, Friends of Scarborough Marsh, Eastern Trail Alliance, Maine Department of Transportation, Maine Turnpike Authority, and the Scarborough Economic Development Corporation. CCSWCD will be responsible for meeting coordination, facilitation and summarization while municipal staff and citizen volunteers will be responsible for meeting participation and collecting input for developing the Watershed Management Plan. CCSWCD will also be responsible for facilitating communications with Steering Committee members that occur outside of scheduled meetings.

Three (3) Steering Committee meetings will be held throughout the course of the project. The first will serve as an initial kickoff meeting to present the project scope/timeline and establish roles and responsibilities for various committee members. The Steering Committee will be invited to provide input to technical aspects of the plan (e.g., engineering assessment, monitoring information, and retrofit recommendations). A mid-project check-in meeting will occur at the project midpoint to follow up on task assignments and ensure adequate progress toward plan completion. This is an important opportunity to gather recommendations from the Steering Committee on any task adjustments. The final meeting will occur near the end of the project timeline so the Committee can ensure that all tasks have been completed in accordance with the project scope; this includes planning and preparation for the presentation of the Draft Plan to the Scarborough Town Council.

START DATE: January 2016 **END DATE:** January 2018

1st Year Outputs: Two steering committee meetings held.
COST: \$3,189 (grant), \$2,749 (match), \$5,938 (total)

TASK #3: Preexisting Information Evaluation, Data Collection and Stressor Identification

Municipal and CCSWCD staff will gather existing information, collect additional data to enhance understanding of the water quality and aquatic impairments, and analyze data to identify stressors and problem sources for different parts of the stream. Specific work under this task includes:

- **Review of Preexisting Watershed Information** – CCSWCD and the Town of Scarborough will gather and compile past assessments, monitoring data, and planning information.
- **Neighborhood Assessment and Hotspot Assessment** – Complete a windshield survey of selected neighborhoods based on the Center for Watershed Protection guidance¹.
- **Stream Corridor Assessment** – Complete a targeted stream corridor walk based on desktop analysis and based on those outlined in Maine DEP guidance² or other methods deemed appropriate by the Steering Committee in consultation with DEP.
- **Water Quality Evaluation** – The Town of Scarborough will complete regular water quality measurements for select parameters (may include temperature, dissolved oxygen, specific conductance, and/or bacteria) at up to 5 selected sites during 2016.

¹ *Urban Subwatershed Restoration Manual 11: Unified Subwatershed and Site Reconnaissance* (Feb. 2005)

² *A Citizen's Guide to Basic Watershed, Habitat and Geomorphology Surveys in Stream and River Watersheds, Volume I.*

- **Stressor Identification** – The CCSWCD, working with DEP biologists and other parties familiar with the stream, will review assessment and historical data to identify (to the extent practicable) and prioritize the primary stressors responsible for the impairment of the stream's biota. Stressors related to water quality, habitat, hydrology, and geomorphology should be considered. Project partners will seek to identify the most likely causes/sources of these stressors in order to provide the basis for identifying and prioritizing action items in the Final Watershed-based Management Plan.

START DATE: January 2016 **END DATE:** August 2017

1st Year Outputs: Review of preexisting information; neighborhood, stream corridor, and hotspot assessments completed.

COST: \$7,267 (grant), \$7,960 (match), \$15,227 (total)

TASK #4: Data Quality Assurance

This project will be conducted to meet applicable quality assurance procedures in the DEP-approved *Cumberland County Soil & Water Conservation District Quality Assurance Project Plan (QAPP)* dated April 2014.

- **Secondary Data** – Development of the watershed plan depends on the use of pre-existing data (secondary data) that may come from a number of sources (other studies, publications, government, etc.). Before using pre-existing data, CCSWCD will evaluate and document findings in accordance with the QAPP to determine if the data is acceptable for use.
- **Neighborhood, Stream Corridor and Hotspot Assessments** – The project (Task 3) involves collection and analysis of neighborhood, stream corridor and hotspot assessment information. CCSWCD will submit a Survey Implementation Plan (SIP) to DEP for approval. The SIP will include field data sheets and methodology for the neighborhood, stream corridor and hotspot assessments in accordance with the DEP QAPP³.
- **Water Quality Evaluation** – The project (Task 3) involves measuring water quality parameters. CCSWCD will submit a Sampling & Analysis Plan (SAP) to DEP for approval before conducting sampling. The SAP will be developed in accordance with CCSWCD's *Quality Assurance Project Plan for Monitoring Rivers and Streams in Maine*.

START DATE: February 2016 **END DATE:** August 2017

1st Year Outputs: Approved Neighborhood, Stream Corridor and Hotspot Assessment SIP; Approved Water Quality Sampling SAP.

COST: \$1,652 (grant), \$200 (match), \$1,852 (total)

TASK #5: Stormwater Infrastructure Inventory and Retrofit Assessment

CCSWCD and the Town of Scarborough will conduct an inventory of existing stormwater infrastructure and identify potential structural retrofits to address the identified stressors. Town of Scarborough staff will support these efforts by providing relevant GIS data layers, inventorying existing stormwater management systems where possible and identifying relevant elements from the Comprehensive Plan (e.g., future development potential, land conservation goals, etc.) to support these assessments.

CCSWCD staff will coordinate with the Town Engineer and interested Steering Committee members to identify and determine what retrofits of existing development are needed as well as to address development and redevelopment. The data collected will be integrated into Town of

³ *Maine Lake and Stream Watershed Survey Quality Assurance Project Plan* dated December 15, 2009

Scarborough GIS system as appropriate for implementation efforts. The list will also be compiled into an *NPS Site Tracker* or equivalent, which will be used to track progress during implementation efforts. Determination of retrofit opportunities for the watershed in order to attain Class C water quality criteria to support aquatic life and recreational use will include:

- **Structural retrofit inventory** – will provide a rational basis for prioritizing structural retrofits to provide cost-effective benefits (planning level estimates will be developed).
- **Nonstructural measures** – may include considering updates, revisions or compilation of ordinances, conservation easements, maintenance activities, etc.
- **Future development potential** – will identify key undeveloped areas remaining in watershed most at risk from future development and provide basis to assist in establishing priorities.
- **Habitat assessment** – will identify specific flood plain areas, riparian areas and in-stream reaches in need of restoration and will prioritize recommended actions.

START DATE: November 2016 **END DATE:** August 2018

1st Year Outputs: Nonstructural (ordinance) review completed.

COST: \$1,111 (grant), \$5,391 (match), \$6,502 (total)

TASK #6: Outreach and Stakeholder Involvement

Public involvement is key to building community support and effectively generating meaningful stakeholder involvement in the watershed management plan development process. Public notification will be posted on the Project and Town of Scarborough websites and appear in the local paper. The Town of Scarborough will prepare periodic press releases with updates on the planning process.

Targeted one-on-one outreach to neighborhood groups, commercial and residential property owners and conservation groups will be conducted by Steering Committee members, CCSWCD, and the Town of Scarborough. The purpose of the outreach will be to inform stakeholders about the planning process and solicit input for restoration needs and on approaches within the watershed. Information gathered through the targeted outreach process will be used to inform the Stormwater Retrofit Inventory and Engineering Assessment (Task 5) and possibly supplement data collection activities (Task 3). Following the stressor identification process (Task 3) and engineering assessment (Task 5), the Town of Scarborough, supported by CCSWCD and the Steering Committee, will host a public meeting to report on the proposed restoration plan and to promote the increased use of BMPs to reduce stormwater impacts throughout the watershed.

CCSWCD and the Town of Scarborough Planning Department will ensure that status reports are provided periodically to relevant officials at milestones throughout the process. As appropriate, this will be accomplished through presentations at Council or Board meetings and/or ongoing electronic communications. The Project Coordinator and key stakeholder participants will also formally present the preliminary plan recommendations and invite comments from Councilors or Board members before the plan is finalized. All presentations provided at the community forums will be posted on the project website for public access.

START DATE: January 2016 **END DATE:** January 2018

1st Year Outputs: Kickoff press release published, outreach to at least 1 neighborhood group and 2 commercial/industrial property owners.

COST: \$2,636 (grant), \$12,569 (match), \$15,205 (total)

TASK #7: Develop Watershed Management Plan

Based on the information developed from all of the previous tasks, CCSWCD will be primarily responsible for preparing a Draft Watershed Management Plan that clearly lays out a strategy for stream restoration and presents the basis for that strategy. EPA's nine elements for watershed-based plans⁴ as well as other relevant elements will be included in the Plan or in its appendices.

In addition, the Plan will clearly outline the entity that will oversee Plan implementation. Once the Draft Watershed Management Plan has been completed, it will be reviewed by the Town, Steering Committee, Maine DEP, and any other interested parties for refinement and revision. Additionally, the key findings and recommendations from the Plan will be presented at a public meeting to which the Scarborough Town Council, Scarborough Conservation Commission, Friends of Scarborough Marsh, and other relevant stakeholders will be invited. Comments and feedback will be accepted for at least 10 business days following the public presentation of the Plan. CCSWCD and the Town of Scarborough will incorporate all relevant comments and suggestions, produce the final version of the Watershed Management Plan, present it to the Scarborough Town Council, and submit it to the Maine DEP.

Additionally, the Watershed Management Plan's recommendations will include provisions for adaptive management to provide the flexibility needed to ensure efficient and successful plan implementation. For a detailed reference "toolbox" on watershed planning, refer to EPA guidance documents^{4,5}.

START DATE: May 2017 **END DATE:** January 2018

1st Year Outputs: Background information, historical data review, and assessment data collected

COST: \$4,277 (grant), \$12,788 (match), \$17,065 (total)

DELIVERABLES:

Three (3) copies of each Deliverable will be provided to the DEP Agreement Administrator (AA). The DEP AA will forward a copy of all deliverables to EPA. The Grantee will label each deliverable according to procedures described in DEP guidance⁶.

1. Sub-agreements, semi-annual progress reports and final project report (Task #1)
2. Data and assessment results and stressor identification presentation to the Steering Committee (Task #3)
3. Approved Water Quality Sampling SAP, and Neighborhood, Stream Corridor and Hotspot Assessment SIP (Task #4)
4. Retrofit Inventory & Opportunities Table and NPS Site Tracker summary (Task #5)
5. Kick-off press release, summary of targeted outreach efforts (Task #6)
6. Final Watershed Management Plan (Task #7)

INTERAGENCY COORDINATION, ROLES, AND RESPONSIBILITIES:

The Town of Scarborough (Grantee) will guide the project, serve on the Steering Committee, provide technical support and expertise, provide project updates at Town meetings, advertise project activities on its website and provide meeting space.

The Scarborough Economic Development Corporation, Scarborough Land Trust and Scarborough Conservation Commission will serve on the Steering Committee, assist with outreach activities, provide field support and advertise project activities as appropriate.

⁴ Handbook for Developing Watershed Plans to Restore and Protect Our Waters (March 2008)

⁵ A Quick Guide to Developing Watershed Plans to Restore and Protect Our Waters (May 2013)

⁶ Nonpoint Source Grant Administrative Guidelines

The **Cumberland County SWCD** will serve as the project coordinator, provide technical expertise and be responsible for the coordination and implementation of all project activities. CCSWCD will provide engineering, planning, outreach, data collection and analysis support as well as assist with coordination and facilitation of the Steering Committee and stakeholder processes.

The **Maine Department of Environmental Protection** will administer project funding, serve as the project advisor, participate on the Steering Committee and subcommittees and assist with water quality monitoring and other watershed assessment needs.

The **US Environmental Protection Agency** will provide project funding and guidance.

PROJECT SPONSOR:

Dan Bacon, Town of Scarborough
P.O. Box 360, Scarborough, Maine 04074
(207)730-4040, DBacon@ci.scarborough.me.us
DUNS #: 08-688-5340

PROJECT COORDINATOR:

Kate McDonald, Cumberland SWCD
35 Main St, Windham, ME 04062
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ESTIMATED TOTAL COST, FEDERAL AND NONFEDERAL SOURCES:

Federal EPA Section 604b Grant Funds:	\$23,044
Nonfederal Match	<u>\$43,225</u>
Total:	\$66,269

<u>Sources of Match</u>	<u>Dollar Value Planned</u>
Town of Scarborough Cash	\$10,000
Town of Scarborough In-Kind	\$27,673
Citizen and Business Representatives	\$ 5,552
Total	\$43,225

BUDGET INFORMATION:

Part 1, Estimated Personnel Expenses (Grantee staff only)

Position Name and Title	Hourly Rate	Number of Project Hours	Salary and Fringe	Total Grantee Personnel Expenses
Planning Department Staff	\$55	264		\$15,620
Town Engineer	\$75	156		\$12,053
Totals		420		\$27,673

Part 2, Budget Estimates by Cost Category:

Cost Category	EPA 604(b) Grant Funds	Non-Federal Match	Total Cost
Salary & Fringe (from Part 1)	0	\$27,673	\$27,673
Subgrantee (1)	\$22,428	\$9,974	\$32,402
Donated Services – Labor (2)	0	\$5,552	\$5,552
Travel (2)	\$616	\$26	\$642
Totals	\$23,044	\$43,225	\$66,269

NOTES:

1. Subgrantee: CCSWCD, \$32,402

GRANT: Financial Manager, 10.5 hrs x 71.33/hr = \$749; QA/QC Manager, 8 hrs x 52.58/hr = \$421; Field Team Lead, 14 hrs x 67.09/hr = 939; Outreach Manager, 16 hours x 76.51/hr = \$1,224; Outreach Coordinator, 104 hrs x 55.10/hr = \$5,730; Project Scientist, 168 hrs x 76.14/hr = \$12,792, Senior Review, 5 hrs x 114.60/hr = \$573

MATCH: District Engineer, 28 hrs x 99.10/hr = \$2,775; Outreach Manager, 12 hours x 76.04/hr = \$912; Outreach Coordinator, 20 hrs x 55.14/hr = \$1,103; Project Scientist, 71.5 hrs x 69.37/hr = \$4,960; Senior Review, 2 hrs x 116.31/hr = \$232

2. Donated services – labor includes local citizens, stewardship groups, and business leaders

3. Travel at state rate of \$0.44/mile for total of 1,400 miles