

Guidance for Maine Lake Watershed-based Protection Plans

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I. Introduction

This document was developed to help partners:

- understand the minimum elements required by Maine Department of Environmental Protection (MDEP) for lake watershed-based protection plans;
- produce a locally-supported plan that describes actions needed for nonpoint source pollution (NPS) mitigation and water quality protection over a five to ten year period;
- efficiently assemble plans using watershed survey findings and other available resources; and
- become eligible to apply for US Environmental Protection Agency (EPA) Section 319 grants through MDEP's NPS program.

II. Background

Effective planning is always necessary to guide successful watershed restoration and protection efforts. In general, watershed planning can help to identify: water quality goals; causes and sources of pollution; structural and nonstructural practices needed to address pollution sources; stakeholders and cooperators who can work on projects; pollutant reduction goals; cost estimates; and other aspects important for careful project management, including monitoring approaches to measure implementation results and water quality improvements.

EPA has required nine-element watershed-based plans to guide Section 319-funded work in impaired watersheds since 2004. In the NPS Program and Grant Guidelines (April 2013)¹ EPA recognized several cases where alternatives to nine-element plans may provide an effective approach toward achieving the water quality goals of Section 319-funded restoration or protection efforts. EPA outlined the elements required in alternative plans and the circumstances whereby alternative plans may be accepted, including those pertaining to the protection of high quality and/or unimpaired waters

MDEP has used the EPA guidelines as a basis for this document, which is intended to guide the development of **lake watershed-based protection plans in the state of Maine**. The minimum elements needed for lake protection plans are discussed in Section V. of this guidance.

III. Applicability

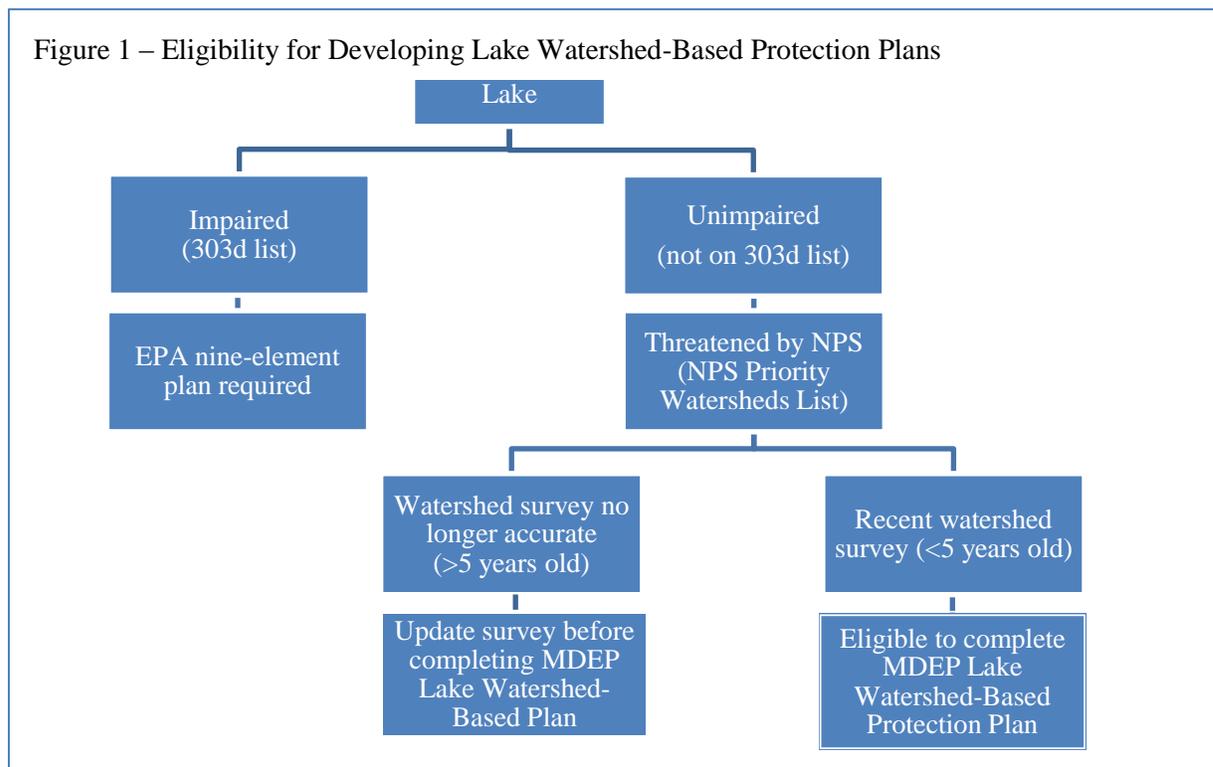
The type of alternative plan described in this document applies only to unimpaired lakes that are considered threatened by NPS pollution and referenced as a priority in Maine's NPS Management Program. A recent NPS watershed survey (or equivalent assessment) must be in place before a lake watershed-based protection plan can be developed, and only those plans that reference an appropriate geographic scale will be considered. These criteria are described in further detail below and in Figure 1.

- **Unimpaired Lakes threatened by NPS** – This guidance applies only to unimpaired lakes threatened by NPS pollution. Lakes are considered unimpaired if they are not listed on

¹ <http://water.epa.gov/polwaste/nps/cwact.cfm>

Maine’s Section 303(d) list of impaired waters². There are over 5,700 lakes in Maine, and many of these are threatened to some extent by NPS pollution. MDEP has developed a *NPS Priority Watersheds List*, which includes a subset of those waters particularly threatened by NPS pollution³. This list is included in Maine’s NPS Management Program.

- **Recent Watershed Survey** – Maine’s lake watershed surveys identify, document and prioritize specific NPS problem sites in a watershed. This information is a key component of an alternative plan. If the watershed survey is relatively outdated, there is an increased likelihood that the survey is no longer accurate. As such, lakes with surveys over five years old should not complete alternative plans until the survey data are validated or updated. MDEP encourages groups to use the NPS Site Tracker⁴ to keep watershed surveys up to date. New sites can be added to the tracking spreadsheet, and fixed sites can be noted. If this tool has not been in use and the survey is over five years old, a survey can often be carried out to efficiently check on the status of NPS sites and develop an updated site list for a plan.
- **Geographic Scale** – Plans should reference a geographically-appropriate scale, whereby the planned implementation efforts can lead to measurable reductions in pollution and to the achievement of water quality goals. The plans should reference an area large enough to address all the major sources and causes of impairments and threats to the waterbody of concern. However, the area should not be so large that chances of successful implementation are nullified by attempting to implement actions on an overly-broad scale.



² Most recent *Integrated Water Quality Report* at <http://www.maine.gov/dep/water/monitoring/305b/index.htm>.

³ NPS Priority Watersheds List available at <http://www.maine.gov/dep/land/watershed/prilist5.pdf>

⁴ Contact MDEP for *NPS Site Tracker: Tracking Sites for Long Term Watershed Stewardship* (2012).

IV. Plan Preparation and Anticipated Level of Effort

Partners are **strongly encouraged to contact MDEP** before starting to prepare a plan. MDEP staff can review eligibility criteria and discuss other planning considerations to help partners prepare plans in an efficient and informed way.

Much of the effort associated with the development of an alternative plan is associated with the NPS watershed survey. Significant resources typically go into survey planning, outreach, volunteer training, field work, data analysis and report preparation. Once the survey is completed, however, preparation of an alternative plan should be relatively straight-forward. A rough estimate of the time needed to prepare a plan ranges from 15 to 30 hours.

V. Required Plan Elements

The purpose of a lake watershed-based protection plan is to lay out a strategy and schedule for NPS mitigation and water quality protection efforts over a five to ten year period. The following elements are required for all Maine lake watershed-based protection plans (See Appendix A for a checklist.) Suggested page length is listed for each element.

a. Watershed Background Information (1-3 pages)

Provide a brief summary of the characteristics of the watershed and water body, including the lake and watershed location, approximate size of the lake (acres), approximate size of the watershed (square miles), watershed land uses and uses of the waterbody by the public (e.g., drinking water supply, public recreational opportunities, fisheries etc.) Include a map of the watershed. Summarize ongoing and past activities to assess and fix NPS issues in the watershed.

Potential Sources of Information – Most of this background information is usually included in watershed survey reports. If any 319 projects have been carried out in the watershed, project work plans also include this information in the “Watershed Information” section. Watershed maps can be found in watershed survey reports or provided by MDEP staff. Lake and road associations may be good sources of local pollution prevention efforts, including Road Maintenance Plans or similar efforts designed to prevent erosion.

b. Identification of the causes or sources of NPS threat (2-4 pages)

Provide a summary of past water quality monitoring including a description of local monitoring efforts and MDEP baseline monitoring. If available, include the MDEP water quality summary⁵ which includes a summary of past data and risk of algal blooms and phosphorus recycling. Indicate if the lake is included on the most recent NPS Priority Watersheds list, list of lakes Most at Risk from New Development (MAR)⁶ and/or other lists that indicate the lake is threatened by NPS pollution. Provide a summary of the NPS causes

⁵ Available for most lakes at www.lakesofmaine.org in the ‘Water Quality’ tab.

⁶ MAR list available at <http://www.maine.gov/dep/land/stormwater/storm.html>.

and sources in the watershed, including a brief summary of the watershed survey findings and tables/charts showing the land uses and ratings of the documented NPS sites.

Potential Sources of Information – If any 319 projects have been carried out in the watershed, these project work plans include information on water quality monitoring and NPS sources in the “Problem/Need” section. See footnote 3 for link to NPS Priority Watersheds List, footnote 5 for link to MDEP water quality summaries, and footnote 6 to the MAR list. Refer to the watershed survey report for a summary of the NPS sites and associated tables and figures.

c. Watershed goal(s) and explanation of how the proposed actions will achieve or make advancements towards water quality goals (1/2 - 1 page)

State the overall watershed goals (e.g., maintain or improve Class GPA water quality standards by reducing phosphorus and sediment loading to the lake). Lake phosphorus reduction goals should also be included, if available. List the time period of the plan (e.g., five or ten years). State the objectives or general actions being proposed to achieve this goal (e.g., reducing current phosphorus sources, preventing new phosphorus sources, building local support, conducting ongoing monitoring).

Potential Sources of Information – For projects that have already completed watershed surveys, the survey reports may include a list the types of actions needed in the watershed. Steering committees should also be consulted to develop the plan goals and objectives.

d. Schedule and milestones to guide project implementation (2 – 4 pages)

This section of the plan includes specific actions needed to carry out the plan’s goal and objectives. A schedule and milestones for each of these actions should also be provided. Where possible, provide cost estimates, potential funding sources and who will be responsible for each item.

Note that the plan should be detailed enough to guide future watershed efforts, but it does not need to include the tactical detail of a 319 project work plan (e.g., specific site names). Tables such as the examples shown below (Table 1 and 2) provide a helpful reference for the plan’s suite of actions and schedule.

Table 1 – Implementation Schedule

2013 – 2014	<ul style="list-style-type: none"> Form Woods Pond Association. Apply for EPA Section 319 Clean Water Act grant through MDEP. Notify landowners about NPS sites on their properties.
2014 – 2016	<ul style="list-style-type: none"> Conduct EPA 319 project (if funded) with targeted cost sharing and matching grants for high priority sites. Set up NPS Site Tracker.
2013 – 2023	<ul style="list-style-type: none"> LEA conducts Clean Lake Check-ups, monitoring and municipal assistance for new development projects. Woods Pond Association conducts annual meetings, outreach, maintains NPS Site Tracker and raises funds for ongoing stewardship. Landowners fix NPS sites independently. Woods Pond Association uses NPS Site Tracker to identify maintenance needs and prompt ongoing road maintenance.

Table 2 – Action Items and Milestones	Schedule	Who	Potential Funding Sources
Reduce current sources of P loading to the lake by addressing NPS sites identified in the watershed survey			
Landowner self-funded BMP installations at NPS sites			
Driveway sites (4 sites)	2014-2019	Landowners	Private, WPA
Residential sites (12 sites)	2014-2019	Landowners	Private
Commercial Youth Camps (3 sites)	2014-2019	Youth Camps	Youth Camps
State Road site (1 site)	2014-2016	MDOT	MDOT
Provide opportunity for cost sharing assistance to install BMPs at NPS sites			
Private Roads (22 sites) & Driveways (4 sites)	2014-2023	Private	EPA (319), Private
Commercial Youth Camps (4 sites)	2014-2019	Private	EPA (319), Private
Town Road Site (1 site)	2014-2016	Town	EPA (319), Town, PWD
Residential sites (10 sites)	2014-2016	Volunteers	EPA (319), Private
Conduct clean lake check-ups for lake residents (outreach & tech assistance)	Ongoing	LEA, PWD	LEA, PWD
Notify landowners with watershed survey sites	2013-2014	WPA	WPA
Prevent new sources of phosphorus loading to the lake			
Construction site inspections and buffer delineation	Ongoing	LEA, Town	LEA, Town
Hold tours to highlight conservation practices	2014-2020	WPA	EPA (319)
Work with road associations and Town to prompt ongoing road maintenance	2014-2023	WPA, LEA	Town, Private
Build local capacity for watershed stewardship			
Apply for 319 Watershed Implementation Grant	2013	LEA	Private
Form Woods Pond Association (WPA)	2013-2014	WPWQC	Private
WPA applies for non-profit status	2013-2014	WPA	Private
Conduct WPA annual meetings	Ongoing	WPA	WPA
Raise funds to support ongoing lake stewardship work	Ongoing	WPA	Private, Town
Conduct ongoing lake and watershed assessment			
Conduct lake water quality monitoring	Ongoing	LEA, MDEP	LEA
Set up NPS Site Tracker and train WPA to use	2013-2014	MDEP	Private
NPS Site Tracker annual use and maintenance	Ongoing	WPA	Private

e. Proposed management measures (including description of operation/maintenance requirements) and explanation of how these measures will effectively address the NPS threat (2-4 pages)

Describe the management measures needed to achieve the plan's goals and objectives. This should include structural BMPs for NPS sites and nonstructural BMPs.

Structural BMPs at Existing NPS Sites - For each category of NPS sites (e.g., private roads, residential shorefront properties), describe the number, severity and types of documented NPS sites; list the anticipated BMPs that will be used to fix these NPS issues and the associated maintenance requirements for these BMPs; and describe the general strategy that will be employed to fix the sites (e.g., voluntary adoption of BMPs, cost sharing assistance).

Non-Structural BMPs - In addition to the structural BMPs used to mitigate existing NPS sites, consider and describe other non-structural management measures that will be used to prevent and address new and existing NPS sources and long-term maintenance needs. This can include measures such as outreach, new ordinances and technical assistance. Consider incorporating the use of the NPS Site Tracker to track and prompt ongoing maintenance.

Potential Sources of Information – Several MDEP publications⁷ provide information about BMPs and maintenance requirements. These include *Gravel Road Maintenance Manual*, *Conservation Practices for Homeowners* fact sheet series, and *Erosion and Sediment Control Manual*. Recommended BMPs for correcting pollution problems are typically described in watershed survey reports. The report's appendix includes a list of recommendations for each documented NPS site in a table format, and a summary of NPS problems and solutions for each land use is also usually included within the body of the watershed survey report.

f. Plan Ownership and Partner Roles (1 page)

There must be an **entity** designated with appropriate capacity to lead and direct actions needed to make progress implementing the plan. Identify this entity and also list the other key partners and their roles in plan implementation.

g. Water quality results monitoring component, including description of process and measures (e.g., water quality parameters) to gauge project success (1-2 pages)

Summarize the expected ongoing monitoring activities, including the monitoring frequency and parameters collected by local groups and MDEP. Describe any other relevant monitoring (e.g., pollutant load reduction estimates) that will be used to measure progress.

h. Watershed Survey Report

Include the watershed survey report as an appendix to the plan. (Plans can be in pdf format.)

⁷ <http://www.maine.gov/dep/land/watershed/materials.html>

VI. Submission and Evaluation Process

After using this guidance document and the attached checklist (Appendix A), partners should submit plans to MDEP for formal review. MDEP and EPA will review to ensure that the plan meet the minimum required elements. Please be advised that the plan must be acceptable to DEP and EPA. An accepted WBP is a prerequisite to be eligible to submit a proposal for 319 grant funds to implement the plan. Anticipate about 2 months for DEP and EPA to review a proposed WBP.

If possible, the plan should be submitted in electronic format (preferably MS Word⁸) to facilitate an efficient review process. The plan should be submitted to MDEP by one of the following options:

- Email to the DEP Nonpoint Source Program Coordinator
- Mail or hand-deliver on a CD, thumb drive or hard copy document to:

Maine DEP
Attn: Nonpoint Source Program Coordinator
17 State House Station
Augusta, ME 04333

MDEP and EPA will review plans and contact partners to discuss reviewer comments and additional needs. MDEP will notify the organization in writing once the plan is finalized.

VII. Additional Available Resources

Electronic copies of the *Woods Pond Watershed-Based Protection Plan* are available upon request. This alternative plan serves as an example to help partners prepare plans for their own watersheds.

MDEP staff is available to provide guidance and answer questions and may be able to assist with plan preparation as time allows. For more information, contact DEP.

⁸ Watershed survey reports can be submitted in pdf format.

Appendix A – Alternative Plan Preparation Checklist

- Applicability**
 - Unimpaired lake (not on 303(d) list)
 - Threatened by NPS pollution (NPS Priority Watersheds list)
 - Recent watershed survey? (Date of survey _____)

- Watershed Background Information**
 - Description of lake and watershed
 - Overview of past watershed work
 - Watershed Map

- Identification of the causes or sources of water quality threat**
 - Water Quality Summary
 - Threatened Status (NPS Priority Watersheds List, MAR list, etc.)
 - Summary of NPS Sources and Threats (including watershed survey findings)

- Watershed project goal(s) and explanation of how the proposed project(s) will achieve or make advancements towards achieving water quality goals**
 - Overall plan goal
 - Plan objectives to achieve goal

- Schedule and milestones to guide project implementation**
 - Action Plan & Schedule
 - Milestones

- Plan Ownership and Partner Roles**
 - Name of entity that will lead efforts to implement the WBP
 - Description of other key partners and their anticipated roles

- Proposed management measures (including description of operation/maintenance requirements) & explanation of how the measures will effectively address the NPS threat**
 - Description of measures needed for different categories of NPS sites (including number and severity of sites, common problems, anticipated BMPs and maintenance, strategies)
 - Non-structural BMPs for NPS site mitigation and prevention of new NPS sites

- Water quality results monitoring component, including description of process and measures (e.g., water quality parameters) to gauge project success.**
 - Overview of water quality monitoring

- Watershed Survey Report** (or equivalent)