Long Pond Watershed-Based Management Plan

EXECUTIVE SUMMARY

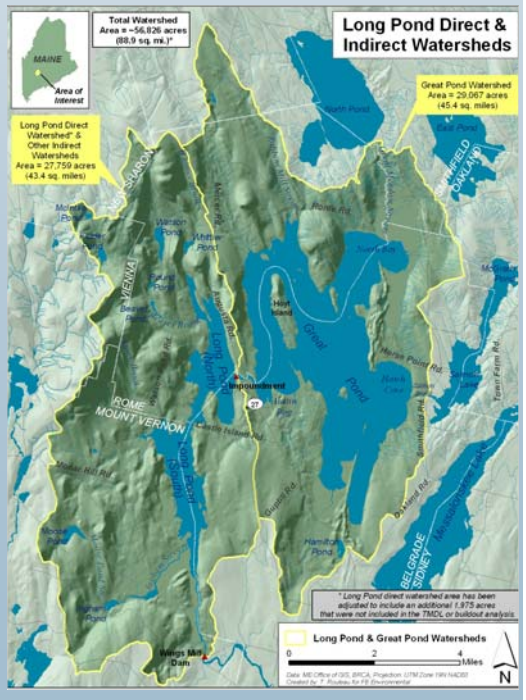
Project Overview

The Long Pond Watershed-Based Management Plan (WBMP) is a reflection of the interests and ideas put forth by a dedicated group of individuals to protect and restore the water quality of Long Pond. This group of local landowners, businesses, residents, municipal officials (Rome, Belgrade and Mount Vernon), teachers, lake associations and natural resource professionals agree that Long Pond and its natural resources are of significant value to the community, and that immediate action is needed to address the water quality in Long Pond. The Kennebec County Soil and Water Conservation District (KC-SWCD) obtained a grant from the U.S. Environmental Protection Agency (EPA) and the Maine Department of Environmental Protection (DEP) to develop this community-based plan in cooperation with the Belgrade Regional Conservation Alliance (BRCA) and local stakeholders.

A Watershed Steering Committee, led by the BRCA, was developed as part of this plan. The Steering Committee represents a number of stakeholders including the BRCA Lake Trust, Belgrade Lakes Association (BLA), KC-SWCD, the Town of Belgrade, and the Maine Lakes Conservancy Institute.

The Long Pond Watershed

The Long Pond watershed is the area of land from which water flows into Long Pond or its tributaries. The direct watershed spans approximately 16,275 acres in the towns of Mount Vernon, Rome, Belgrade, and Vienna, and is sixth in the seven lake Belgrade Chain. The entire watershed area, which includes its upstream or indirect watersheds, covers 88 square miles (56,826 acres). Approximately 85% of the water flowing into Long Pond each year originates in the watersheds of its upstream lakes, including Great Pond (5th in the chain) which flows into Long Pond from the northeast.



Long Pond is separated into two distinct basins. Long Pond's north basin flows through the narrows under Castle Island Rd. into the south basin of Long Pond, which then drains over the Wings Mill dam in Mount Vernon and into Belgrade Stream. Belgrade Stream eventually flows to Messalonskee Lake -the last lake in the seven lake chain.

The majority of land in the watershed consists of non-developed land including mixed forest, regenerating land, and wetlands. The large extent of wetlands and other riparian habitat in the Long Pond watershed are home to a diverse community of fish, birds, mammals and plants that are dependent on clean water for survival. The watershed is home to several rare wildlife species as well as numerous protected areas for waterfowl and other wildlife including large mammals such as deer and moose. The Kennebec Highlands, in the upper watershed is a focus area for conservation of native habitats. Managed land uses in the watershed include residential and commercial development, agricultural land, parks, and a golf course.

The Problem

Residential development, including both shoreline and non-shoreline development, and the roads, driveways, and septic systems that serve them are considered the most significant threat to the water quality of Long Pond. Stormwater runoff from other forms of development add to the increased levels of phosphorus in the lake, which have resulted in significant declines in water clarity over the past thirty years. This increase in phosphorus in the lake, and resulting decline in water clarity over the past decade prompted the state to list Long Pond as an "impaired" waterbody in 2006 because it was not meeting state and federal Clean Water Act standards.

In April 2008, EPA approved a Total Maximum Daily Load (TMDL) report which examined sources of total phosphorus in the lake, and set guidelines for phosphorus inputs to the lake from the watershed. The TMDL determined that in addition to known sources of pollution from developed land in the watershed, phosphorus loading from upstream, or indirect watersheds (primarily Great Pond) represent a major source of phosphorus in the lake, and therefore have a major impact on the water quality of Long Pond.

Why Develop a Management Plan?

Long Pond has long been recognized for its aesthetic beauty, its outstanding recreational fishery, and its value to the local economy. The lake provides clean water for swimming and fishing, supports the quality of life for area residents, and has created lifelong memories for residents and visitors alike.

The current decline in water quality is a signal that current land use practices are not protecting the lake, and that immediate coordinated planning efforts are needed to halt further declines in lake water clarity. The TMDL for

Long Pond estimated that the amount of phosphorus that is delivered from the watershed each year needs to be reduced by 45%. This includes addressing phosphorus runoff from existing development in the watersheds of Long Pond and Great Pond, as well as taking important steps now to address future sources of phosphorus from new development.

This WBMP provides a roadmap for improving the water quality of Long Pond, and provides a mechanism and rational for acquiring grants and other funding to help pay for the efforts needed to address the problem. In addition, it sets the stage for ongoing dialogue among key stakeholders in many facets of the community, and promotes coordinated municipal land use ordinance changes to address stormwater runoff. For this plan to succeed, it will need a concerted effort of volunteers, and a strong and diverse steering committee that will meet at least annually to review progress made, and to make adjustments to the plan as needed.

What the Plan Includes

In February of 2009, sixty local stakeholders gathered to provide valuable input for this plan. These ideas were further refined into an Action Plan by the Steering Committee in May of 2009. The Steering Committee further defined these actions, and set time-frames and approximate costs for each action item listed in the Action Plan. FB Environmental was hired to facilitate the planning process and to help develop the Plan under the guidance of the Steering Committee.

Major Planning Objectives (2010-2020):

⇒ Improve the trophic state of Long Pond;
⇒ Lower current phosphorus concentrations in the lake by 0.3-0.4 ppb;
⇒ Reduce probability of late summer/early fall nuisance algae blooms;
⇒ Maintain a healthy coldwater fishery.

Section 1 of the Plan introduces the plan, describing the problem, defining the goals and objectives, the community-based planning process, and outlines the federal requirements of the Plan. Section 1 also provides background information including watershed survey results, current efforts to reduce phosphorus input to Long Pond, and a description of BRCA and KC-SWCD efforts.

Section 2 describes the watershed, providing detailed information about climate, population and demographics, land uses, topography, soils and geology, wetlands, streams, and other important habitat, lake morphology and morphometry, as well as the measured impact of the indirect drainage areas.

Section 3 describes water quality standards, highlights the estimated sources of phosphorus in Long Pond, and provides a summary of current classification based on the water chemistry assessment and water quality goals.

Estimates of future phosphorus loading, municipal ordinance recommendations, and the estimated effects on water quality if ordinance revisions are not implemented are also included in this section.

Section 4 gets to the core of the Plan, outlining necessary management strategies to reduce phosphorus to Long Pond. A description of management measures is provided by land use type, and includes indirect loading from upstream waterbodies as well as phosphorus loading from future development.

Section 5 describes who will be carrying out the plan, and how the action items in the plan will be tracked in order to ensure that necessary steps are being taken to improve the water quality of Long Pond over the next 10 years. This section also provides estimated costs and technical assistance needed to successfully implement the plan, a description of the education and outreach and monitoring activities that are needed, and a description of the evaluation plan to evaluate the effectiveness of restoration and monitoring activities.

Key Actions For Restoring Long Pond:

⇒ Reduce phosphorus inputs to Long Pond from indirect waterbodies (specifically Great Pond);
⇒ Focus efforts on 70% of shoreline, 75% of non-shoreline and 50% of commercial NPS sites;
⇒ Upgrade, repair, and maintain 13 miles of gravel roads along the shoreline of Long/Great ponds;
⇒ Implement a regular pumping and inspection program for septic systems;
⇒ Address runoff from 50-100% of agricultural land in the Long and Great Pond watersheds;
⇒ Develop a sustainable funding plan within the first year of the Plan;
⇒ Work with local towns to adopt a resolution to support the Plan;
⇒ Work with towns to develop a watershed-wide P Control Ordinance;
⇒ Require Control Plans for all new development, not just major or high impact subdivisions;
⇒ Work with towns to step-up compliance inspections, and implement a regular inspection program.

Funding the Plan

Reducing phosphorus inputs from existing development in both the Long Pond and Great Pond watersheds will require significant financial and technical resources on the order of $6,000,000 over the course of ten years (2010-2020), including the financial support of private, town, state and federal partners. Section 5.4 lists the costs associated with successfully implementing this 10-year watershed plan, including both structural and non-structural management measures. A sustainable funding plan should be developed within the first year of this Plan to ensure that the major planning objectives can be achieved over the long-term. This funding strategy will outline the financial responsibilities at all levels of the community (landowners, towns, community groups, and state and federal government). The funding plan should be incorporated into this WBMP within the first year, and revisited on an annual basis.

Administering the Plan

The Long Pond Watershed Management Plan will be administered by the BRCA. The BRCA will work toward implementing the Action Plan, which outlines responsible parties, potential funding sources, approximate costs, and an implementation schedule for each task within six major categories: Education and Outreach, Municipal Ordinances, Private and Public Roadways BMPs; Septic Systems, Monitoring and Assessment, and Administration and Funding.

BRCA will help convene the Steering Committee at least annually to provide periodic updates to the plan, track and record any progress made, maintain and sustain the action items, and make the plan relevant on an ongoing basis by adding new tasks as they develop. The Steering Committee will use established indicators within the WBMP to determine the effectiveness of the Plan. All achievements, such as press releases, outreach activities, number of sites repaired, number of volunteers, amount of funding received, number of sites documented, will be tracked by BRCA using the DEP WBMP tracking database (currently under development).

Next Steps

The success of the plan can be measured in many ways, as outlined in Section 5.3, *Indicators to Measure Progress.* Much of this progress is going to weigh heavily on the cooperation of local municipalities and key stakeholders to support the plan, and secondly, on the ability of the Steering Committee to develop a sustainable funding plan and acquire necessary funding to implement the plan.

Should it be determined that significant progress is not being made on the plan by 2015, then a Watershed District should be established to see that the plan is fully implemented.