

Maranacook Lake Watershed NPS Reduction Project - Phase II #2004R-26A - WIFAP

Waterbody Name: Maranacook Lake
Location: Readfield, Winthrop – Kennebec County
Waterbody Status: NPS Priority Watershed, Most At Risk
Project Grantee: Kennebec County SWCD
Project Duration: May 2004 – December 2006
319 Grant Amount: \$55,000
Local Match: \$87,346 (local), \$15,000 (ME Dept. Ag.)



PROBLEM:

Maranacook Lake has two basins with a total surface area of 1,166 acres and a 33 square mile watershed. The lake is the secondary drinking water supply for Winthrop. Water quality is considered average based on monitoring information since 1976. However, Maranacook Lake is on Maine's Nonpoint Source Priority Watershed List, based upon marginal water quality in the north basin, sensitivity to change, being a community focal point, high use and its outstanding fishery. Maranacook Lake is threatened by increasing development, conversions of seasonal camps to year-round homes, eroding road systems, and shoreline erosion due to high water levels.

In 2000, an NPS watershed survey conducted in the north basin documented 108 erosion sites. A 319 grant funded the Phase I project on the lake between 2002 and 2004. Several shoreline erosion sites were fixed; a large gully that deposited a sediment delta in the lake was stabilized, and 43 BMPs were installed on six gravel roads.

PROJECT DESCRIPTION:

The Phase II project continued reducing sediment and phosphorus loads to Maranacook Lake and Torsey Pond (a major tributary north of the lake) by fixing medium and high priority sites from the NPS watershed surveys. Landowner contacts and technical assistance helped promote voluntary adoption of BMPs on many of the low priority sites. Construction sites included a mixture of shorefront work (rip-rap, buffers) and road work (culverts, ditching, etc.). The dam that controls water levels in Maranacook Lake was lowered 15 inches to better control water levels during high water events (spring runoff or heavy rains).



Project work included a number of outreach activities, such as the popular Camp Road Maintenance Workshop, which was attended by 29 individuals and included a demonstration of a Front Runner grader that grades the surface of gravel roads to prevent erosion and sedimentation.

PROJECT OUTCOMES:

- Most of the project funds were used to achieve on-the-ground installation of best management practices. Cost share agreements with both public and private landowners resulted in installation of BMPs at 27 priority NPS sites. Work primarily involved stabilizing eroding lake shorelines and improving gravel road surfaces and roadside drainage to prevent erosion and sedimentation.
- The 25 foot long spillway of the Maranacook Lake Dam in Winthrop was lowered by 15 inches to reestablish the correct level. This will greatly reduce shoreline erosion during periods of high water levels. Since reconstruction by the owner in 1994, restricted outflow at the dam caused high spring water levels and accelerated shoreline erosion. High water and ice damage in 2005 was particularly extensive and generated new shoreline erosion sites.
- Staff estimated that that erosion control projects reduced pollutant loading to the lake by about 10 tons of sediment and 9 pounds of phosphorus per year.
- Over 2,200 feet of eroding shoreline on 17 properties were stabilized.
- The value of local contribution to the project was \$87,346, which far exceeded the planned goal of \$51,000, due to strong participation from landowners and the Towns of Winthrop and Readfield.



PROJECT PARTNERS:

Town of Readfield

Town of Winthrop

Friends of Cobbossee Watershed

Cobbossee Watershed District

Maine Department of Agriculture

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