

Green Lake Watershed Improvement Project – Phase 1

#2009RR01

Waterbody Name: Green Lake
Location: Dedham, Otis, Ellsworth – Hancock County
Waterbody Status: NPS Priority Watershed
Project Grantee: Hancock County SWCD
Project Duration: April 2009 – October 2011
319 Grant Amount: \$50,685
Local Match: \$61,778



PROBLEM:

Green Lake covers 3,132 acres and has a direct watershed extending 21.4 square miles. The lake has one City-owned boat launch and two private boat launches. Green Lake supports heavy, year-round recreational use, in part since it is one of the eight original locations of landlocked salmon in Maine and home to the southernmost population of arctic charr. Water quality data has been collected for Green Lake since 1974. The water quality is considered above average, and the potential for nuisance algae blooms is low. However, there is dissolved oxygen depletion in some areas in late summer months.

In 1999, a watershed survey was conducted, and in 2001, Green Lake and Phillips Lake received a 319 Grant to install BMPs at major problem areas identified in the watershed survey. Through this grant, BMPs were installed around Green Lake at 14 NPS sites and project staff completed 17 technical assistance visits with watershed landowners. In 2006, University of Maine Cooperative Extension (UMCE) completed a survey update focused on roads and identified 57 road-related sites that still required erosion control measures. A Rainy Day Survey conducted by Hancock County SWCD also highlighted high priority sites and the need for erosion and sediment control.

PROJECT DESCRIPTION:

The Phase I project focused on reducing sediment loading to Green Lake by fixing high and medium priority road sites from recent surveys. Phase I also included a public boat launch stabilization project and a 50 percent cash match and technical assistance program to encourage residential properties to install conservation practices such as vegetative buffers or water diverters on driveways.

At the beginning of the project, UMCE led a session to identify outreach priorities. The resulting education and outreach plan will guide education activities and implementation efforts. Project information was advertised through presentations at the Green Lake Association's annual meetings, press releases, and the Hancock County SWCD's biannual newsletter and website.



Buffer strip planted at Sunset

PROJECT OUTCOMES:

- The project addressed NPS issues at 20 road sites and eight residential sites in the western half of the watershed to reduce erosion and help protect water quality.
- Project work helped reduce annual pollution loading to Green Lake by an estimated 325 tons of sediment, 276 pounds of phosphorous, and 552 pounds of nitrogen (Region 5 Method). In addition, an estimated 432 feet of shoreline was protected or restored around the lake.
- A long range plan for meeting education/outreach needs in the Green Lake Watershed was developed.
- Five outreach activities were conducted through the project, including a mailing to increase GLA membership; a Lake Day Event with a BBQ and MLCI boat cruise; a survey of knowledge levels; a campaign to raise awareness of the LakeSmart program; and Buffer Boat Cruises for Ellsworth and Dedham/Lucerne town officials and planning board members.



Nicolin Road boat launch before stabilization



Nicolin Road boat launch after stabilization

PROJECT PARTNERS:

City of Ellsworth
Town of Dedham
University of Maine Cooperative Extension

Green Lake Association
Town of Lucerne

CONTACT INFORMATION:

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Maine Department of Environmental Protection (2012) “Nonpoint Source Management Program 2011 Annual Report,” Document # DEPLW-1237. Augusta: MDEP.