

## Norway Lakes Improvement Project, Phase III

#2002-08

Waterbody Names: Pennesseewassee Lake, North Pond,  
Sand Pond, Little Pennesseewassee Lake

Location: Norway, Oxford County

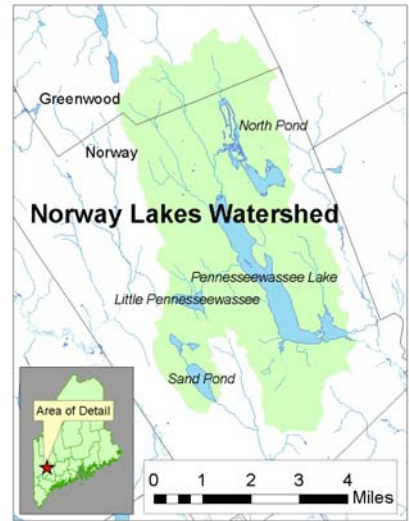
Waterbody Status: NPS Priority Watersheds – except Sand Pond

Project Sponsor: Androscoggin Valley Council of Governments

Project Duration: March 2002 – May 2005

319 Grant Amount: \$44,700

Match: \$34,229



### PROBLEM:

Norway's major lakes include Pennesseewassee Lake, North Pond, Little Pennesseewassee Lake (also known as Hobbs Pond) and Sand Pond. Both Little Pennesseewassee and North Pond drain into Pennesseewassee, which is a major recreational resource for Norway and the surrounding area. There is public access to Pennesseewassee by a public beach and boat landing, and there is public access to Little Pennesseewassee via a town-maintained picnic area and canoe launch. Both Little Pennesseewassee and Pennesseewassee are located near downtown Norway and are prime areas for residential development.

The Maine DEP and volunteers have monitored water quality on all four lakes since 1976. Sand Pond's water quality is considered to be above average; Pennesseewassee and Little Pennesseewassee are considered average; and North Pond is considered below average. However, all four lakes experience moderate to high oxygen depletion in deep areas of the lake during lake summer months. North Pond also has a high potential for nuisance algal blooms and internal loading problems.

In the mid-1990s, AVCOG and the Lakes Association of Norway (LAON) conducted a town-wide road ditch inventory and watershed surveys and identified over 100 sites with significant erosion problems (604b funding). Phase I and II of the Norway Lakes Improvement Project, which were conducted from 1997 to 2003, helped fix numerous erosion sites, provided landowner technical assistance and raised public awareness through workshops and high-visibility demonstration projects.

### PROJECT DESCRIPTION:

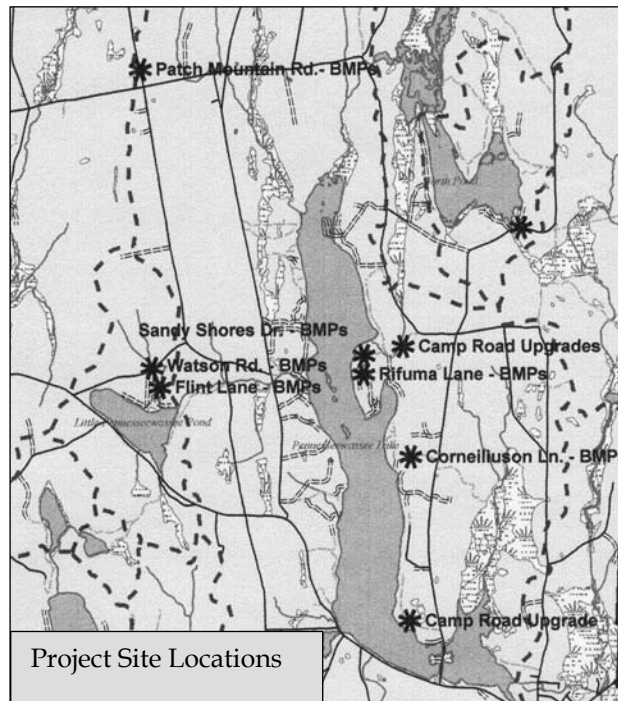
The purpose of the project was to reduce sediment and phosphorus loading to the four lakes in Norway. This was accomplished by fixing erosion problems and improving stormwater management on four private roads and three town roads. Project staff also worked with road associations to upgrade and implement maintenance programs on four camp roads. In addition, 14 technical assistance visits were completed.

Education and outreach efforts included two public tours of completed project sites; three presentations at LAON annual meetings; one camp road workshop; and four workshops for the town road crew and Planning Board. Numerous articles were also printed in the LAON newsletter and local newspapers.



## PROJECT OUTCOMES:

- The project fixed high impact erosion problems on 7 private and town roads. In addition, road upgrades were completed and maintenance programs were initiated on another four camp roads.
- The project reduced pollutant loading to the Norway Lakes by an estimated 56 tons of sediment per year and 50 pounds of phosphorus per year (US EPA, Region 5 Method and WEPP: Road model).
- The Maine DOT addressed a severe and chronic erosion problem on Route 118 through their Surface Water Quality Protection Program. Project staff nominated the site for the SWQPP, and the mitigation work was funded outside of the 319 grant.
- Project staff conducted 14 technical assistance visits with groups including lakefront landowners, road associations and the Norway Planning Board, road crew and code enforcement officer.
- The four “NEMO-like” workshops and technical assistance with the Norway Planning Board and road crew appears to have raised awareness about lake protection. The Town has since passed a one million dollar bond for road and drainage problems; the Planning Board frequently relies on AVCOG to review proposed developments; and project staff have found that road crews continue to employ Best Management Practices in their road projects.



## Erosion Control and Paved Shoulder Enhance 118

**Project Description:**  
The Norway Route 118 project was nominated by Rick Jeselskis of the Western Region MaineDOT in the fall of 2003. The project site consisted of approximately 1500' of roadway south of Hobbs (Little Pennessewassee) Pond. The road section contributes runoff to an unnamed tributary stream which enters the Hobbs Pond. The primary concern on site was moderate erosion along the road shoulders, ditch erosion, and failing driveway culverts due to unstable shoulder erosion.

**Best Management Practices Design:**  
The BMP design for this section of road included stone-lined and erosion control blanket-lined ditches. Additionally, a sediment trap and an armored filter berm were constructed on the lower end of the ditchline. A straw erosion control blanket was used on sensitive backslopes, in the ditch bottom of the upper ditch to prevent post-construction scour, and to provide stability for vegetative reestablishment. The filter berm was constructed of erosion control mulch and crushed stone for low flow filtration, and a riprap overflow weir for high flows. Erosion control mulch and seed mix was applied through a blower truck on the inslopes of the project area. Improvement of the turnout and paved shoulders should eliminate shoulder erosion on the site.

Total Cost: \$37,422  
PIN# 11244.06

*Blown on Erosion  
Control Mulch and Seed*



BEFORE



DOT's SWQPP Project

## PROJECT PARTNERS:

Lakes Association of Norway  
Town of Norway  
Maine Department of Transportation

## CONTACT INFORMATION:

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