

# PROVINCE LAKE WATERSHED SURVEY SUMMARY FACT SHEET



## BACKGROUND:

The Province Lake Watershed (all the land that drains to Province Lake) covers 7.3 square miles in the towns of Wakefield & Effingham, New Hampshire and Parsonsfield, Maine.

Province Lake is classified as impaired for aquatic life and primary contact recreation by the New Hampshire Department of Environmental Services, due to high levels of phosphorus, chlorophyll-a, and cyanobacteria. One of the greatest sources of pollution in Province Lake is soil erosion.

- Soil contains phosphorus, a nutrient that helps algae and cyanobacteria grow. When extra phosphorus enters a lake and causes excess growth the lake can experience algae and cyanobacteria blooms. These blooms make it undesirable for people to recreate on lakes.
- When algae & cyanobacteria living in a lake dies, it decomposes, depleting the oxygen level of the lake. Below certain oxygen levels animals living in the lake are unable to survive.
- Algae & cyanobacteria growth directly contributes to turbidity (cloudiness of water). Studies have shown that as water clarity decreases, property values also drop.

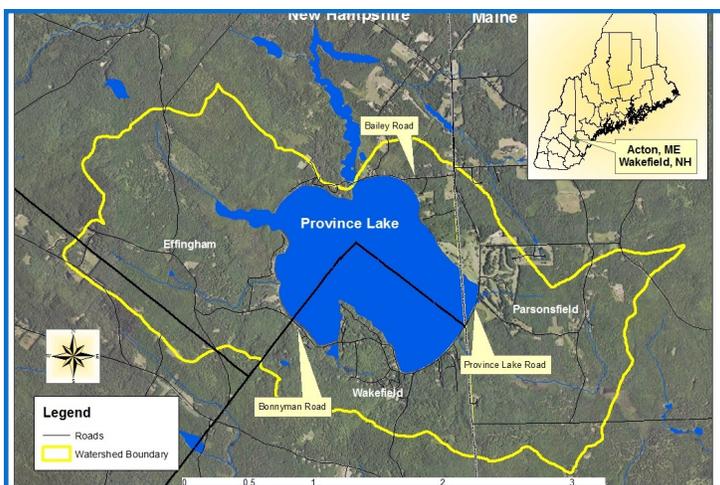
## WATERSHED SURVEY:

In May 2013, a team of 23 volunteers and technical leaders fanned out around the Province Lake watershed in seven teams to identify areas of erosion that contribute pollution to the lakes. Technical leaders for the survey teams were from Acton Wakefield Watersheds Alliance, NH DES, and Maine DEP.

The volunteers took careful notes when they identified a source of erosion using standardized data sheets. They also photographed the site for future reference. On each site where erosion was evident volunteers characterized the impact that the site was having on the lake, estimated the cost to remediate the problem and made BMP recommendations.

Volunteers and technical staff identified 61 sites that are impacting or have the potential to impact water quality.

## Province Lake Watershed



Volunteer photos of erosion sites documented during the survey.



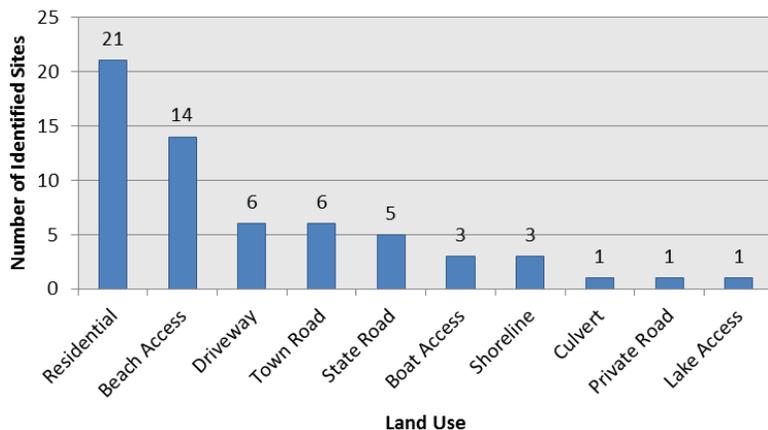
## **KEY SURVEY RESULTS:**

- Residential properties accounted for 21 of the identified sites (34%) . Most of these sites have a low to moderate impact on water quality and will be inexpensive to fix (less than \$500) using some simple best management practices, often easily fixed by the landowner.
- Private, town and state roads accounted for 12 of the sites identified (20%) . These sites have the potential to have a severe impact on the lake with higher associated costs (greater than \$2500) and often require technical experience to properly solve the erosion problems.
- Beach access sites accounted for 14 of the sites identified (23%). Due to their proximity to the lake and how easily water can move beach sand, these sites tend to have a high impact on the lake.

## **PROJECT PARTNERS:**

Province Lake Association (PLA), Acton Wakefield Watersheds Alliance (AWWA), FB Environmental, NH Dept. of Environmental Services, and Maine Dept of Environmental Protection , Towns of Wakefield & Effingham, NH & Parsonsfield, ME

### **Erosion Sites By Land Use**



Erosion sites were identified all around the watershed and on 10 different types of land uses. Everyone has a role to play in protecting Province Lake. The Towns of Wakefield, Effingham and Parsonsfield, waterfront property owners, road associations, and even people living far from the lake can all help reduce pollution entering the lake to protect this treasured resource.

## **NEXT STEPS:**

- The information gathered from the watershed survey, along with the septic survey taking place in August 2013 will be utilized in the creation of a watershed-based management plan for the Province Lake watershed.
- AWWA and PLA will work together to apply for grants to help landowners, road associations, and the towns and states to fix some of the larger erosion problems identified in the survey.
- Landowners of identified sites will have the opportunity to meet with the AWWA Program Manager and receive a site-specific remediation design as well as be considered as a YCC project host.

## **FOR MORE INFORMATION:**

A digital copy of the full survey report will soon be available online at [www.awwatersheds.org](http://www.awwatersheds.org). If you would like information about fixing erosion problems on your property or a copy of the Province Lake Watershed Survey Report, contact:



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