SATURDAY POND WATERSHED NEWS

FALL 2008 www.saturdaypond.org Issue 17

OUR MISSION

We are committed to preserve, enhance and protect Saturday Pond and its environs.

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Board of Trustees

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Inside This Issue

Message from our Corresponding Secretary,

Dear Friends and Neighbors,

This past July marked the fifteenth anniversary of the formation of the Saturday Pond Watershed Association. In the decade preceding the formation, Saturday Pond saw dramatic changes to a once quiet pond. Previously, the pond did see some spots of activity with a boys camp at Great Oaks or the sawmill in an era when the pond's value was looked at in a much different way.

In the mid 1980's the construction of two residential developments had a major influence on the tranquility of this small and beautiful pond. The entire west shore was developed to form Pond View Estates and the Great Oaks development was created on the northeast shore. These changes came at a time when the Oxford Hills region was seeing unprecedented growth and demand for development.

The risks to the ecological value of the pond were suddenly high. There were ways to reduce that risk and ensure the preservation of Saturday Pond but it would require everyone to work together and raise awareness of how to protect the pond.

Fortunately, in 1990, the old dam was in such disrepair that is was barely functional. I say fortunately because this event was the sole catalyst that brought everyone on the pond together to do something about it. Over the next few years folks from around the pond pitched in and worked with the town to provide temporary repairs to the dam. Fire Chief Garry Dyer advised us that if we wanted any action to resolve the Dam, we would have a much better chance to get the town and state government's attention if we lobbied as a formal organization. We had lots of help getting started include the late Joan Irish from the Maine Congress of Lake Association driving several hours on a Saturday to meet with us and give us all the tools we needed to form the Association. But the real key was that everyone wanted to work together but they just needed the seed.

In the fifteen years that followed much has been done. The dam was rebuilt and now managed by the town, a Jet Ski ban was established, formal water testing programs have been carried out by volunteers each year, regular communications about protecting the pond and the watershed, and this past year a watershed survey. These all happened because of our common love for the pond.

What would Saturday Pond be like if that seed was not planted back in 1990?

Eric Williams
Corresponding Secretary

YOU'RE INVITED TO AN IMPORTANT MEETING

WHAT: Otisfield Lake Association
WHO: Scott Williams (MVLMP)
TOPIC: "What we know about our lakes and a look at future challenges.
WHERE: Otisfield Town Office
DATE: November 12th
TIME: 7:00 P.M.

Invasive Plants on Saturday Pond

Submitted by Pixie Williams

Early in the morning of Aug 31st, Fred Cummings and I set out to survey Saturday Pond for invasive plants. Good News! No invasive plants were found in any of the sections we surveyed. We found the usual set of friendly native plants and an unusual newcomer, several bryozoan colonies. These are large gelatinous blobs adhering to a submersed stick or rock. Actually within this gelatinous material, are many small invertebrate animals, and the occasional alga, insect larvae and protozoa can also be present. These blobs can be quite rubberlike when poked, unlike metaphyton (an algae cloud) which offers little to no resistance. Are these blobs harmful? No, they are a colony of native organisms. They do not persist for long and can be an indicator that the waterbody is relatively free of pollution. For more information, see the article in the
Fall 2006 "Water Column"
(http://www.mainevolunteerlakemonitors.org/WCFall2006.pdf

Metaphyton (algae clouds) were abundant in Saturday Pond at the time of our survey, but this could be predicted with last summer's wet weather. Other ponds and lakes were also full of it. Too much runoff produces abundant nutrition for algal growth. Our old friends the Chinese Mystery Snails continue to enjoy Saturday Pond, and there is still some small indication of benthic disturbance in the northwest cove. Benthic means the bottom of the lake or ocean, i.e. the sand, mud or rocks that make up the floor of the waterbody. A number of Pipewort rosettes (see photo on left) were found uprooted and floating in that area.

By 10:00AM a stiff northerly breeze picked up. Fred and I continued on, but the chop made it difficult to continue the survey. We had to limit our efforts to quiet bays and marshy spots where invasive plants would be most
likely to colonize. This survey should be considered at Level 2, but next year we will try to survey the whole pond.

Saturday Pond is in pretty good shape at the moment, but a few words of caution. Keep track of your non-point source pollution. Saturday Pond is fairly rich in nutrients, judging from the wealth of native species found in its waters. Don't let it get any richer!

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No Phosphorous results for 2008.

Submitted by Lew Wetzel

No phosphorus measurements were taken this year in Saturday Pond. With all the rain this past summer, the readings would have been misleadingly low.

Read more about Saturday Pond by visiting our newly redesigned website: www.saturdaypond.org

Special thanks to our webmaster Eric Williams and his wife Ann for their excellent work.

Secchi Disk Testing

Submitted by Jacinthe Sirois

Every year the Association tries to provide you with different water testing results. The greatest value of the Secchi disc measurements occurs when each lake compares its own readings from week to week, month to month and season to season. No comparisons between lakes should be made unless similarities in measurements are followed vigorously. In this article we'll briefly explain the procedure and results for the Secchi disk testing.

Photo from Maine Volunteer Lake Monitoring Program (MVLMP)

A Secchi disk reading is an inexpensive and straightforward method of measuring water clarity.
Our volunteers, trained by the MVLMP (Maine Volunteer Lake Monitor Program), are supplied with a viewing scope and a Secchi disk. A Secchi disk is simply an 8-inch circle with alternating black and white equal quadrants (sections) attached to a waterproof calibrated line. The volunteer takes a boat usually to the deepest point in the pond, (a spot about 200 feet directly west of the old Great Oaks Camp dock) drops the disk in the water until he loses sight of the disk. The disk is then slowly raised until the observer can see it again using his viewing scope. The calibrated line helps determine the depth from the water surface to the level where the disk vanishes and reappears. That is the Secchi disk reading. In order to establish meaningful water quality trends, readings should be taken at least twice a month from May through September.

YEAR	AVG DEPTH IN METER
1984	5.0
1987	6.40
1988	5.60
1989	5.50
1990	5.00
1996	5.20
1999	6.45
2000	7.45
2004	6.05
2005	6.40
2006	6.40
2007	6.64
2008	5.99

The graphic below shows our records for the Secchi disk readings (average depth in meter) since 1984.This data is available on our website. The average for Maine lakes is 4.9 m.

Although this is the easiest method for measuring the clarity of the water, errors may occur. One observer may see the disk at one depth, but another may see it at a greater depth. The sun's glare on the water may also affect the results. Needless to say that large wakes would make it very difficult and possibly dangerous for an observer to perform the testing.

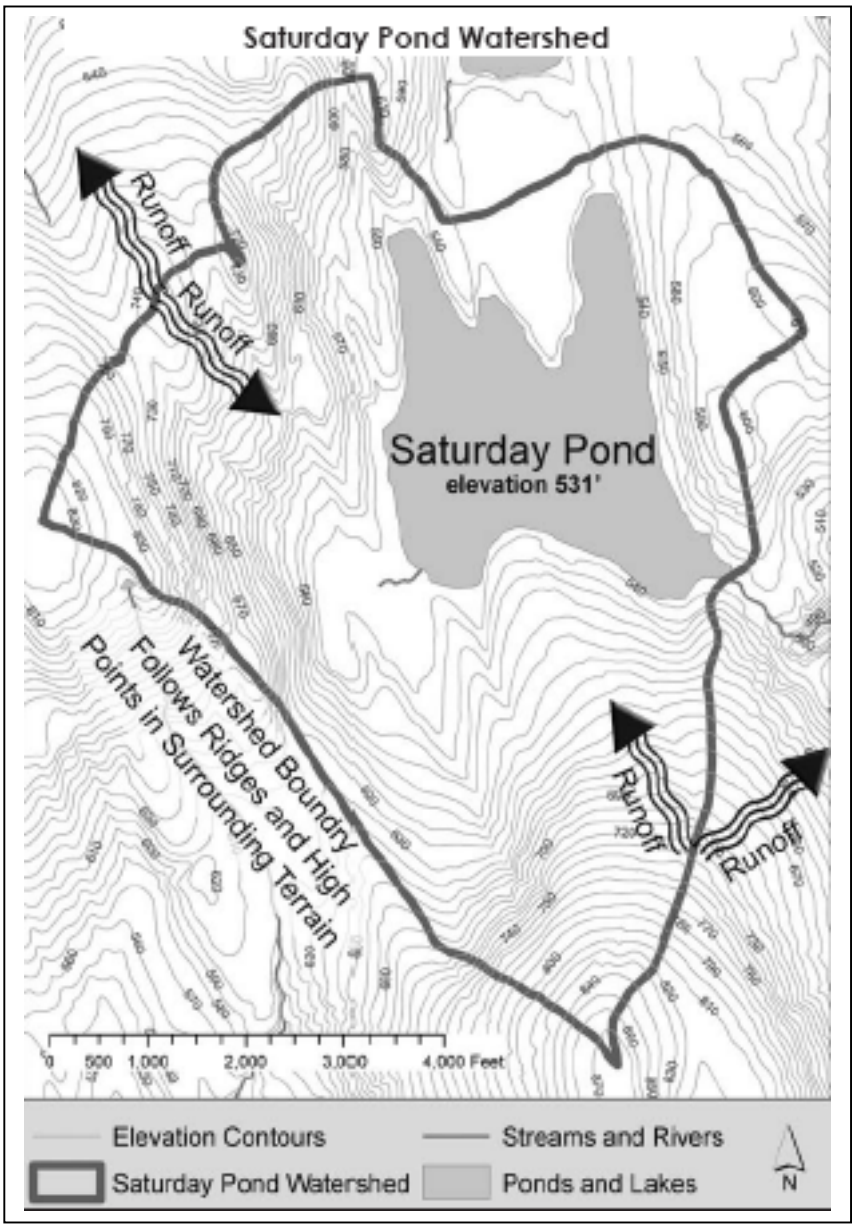
We appreciate the work of our trained volunteers for their work in collecting this very important data. We thank all our past and present volunteers especially Eric Groves and Carl Anderson who provided the data for 2008.

SATURDAY POND WATERSHED SURVEY

Submitted by Eric Williams (prepared by Kristin Feindel)

BACKGROUND:

Saturday Pond has an area of 170 acres. Its watershed (all the land that drains to Saturday Pond) is 1.3 square miles. The outlet of the pond feeds Thompson Lake via Sucker Brook.



According to the Maine Department of Environmental Protection (DEP), Saturday Pond's water quality is considered to be slightly above average with a low potential for nuisance algal blooms. Soil erosion is the greatest source of pollution and is a threat to the water quality of Saturday Pond.

- Soil contains the nutrient phosphorus, which has the potential to promote algae blooms when it enters a lake in large quantities. As the algae die off, the water becomes depleted of oxygen through the breakdown process, and fish and animals are unable to survive.

- Algae blooms also turn water green and make a lake virtually unusable.

- Studies have shown that as water clarity decreases, property values also drop.

WATERSHED SURVEY:

In the spring of 2008 a team of 11 local volunteers and technical staff from DEP and the Natural Resource Conservation Service conducted a survey of the watershed and identified 23 sites that are contributing polluted runoff to Saturday Pond. Teams documented polluted runoff sources from roads, properties, driveways, and access points using cameras and standardized field data sheets. Teams made recommendations to remediate each source using erosion control practices and rated impact and cost to fix. Technical staff reviewed all volunteer data.

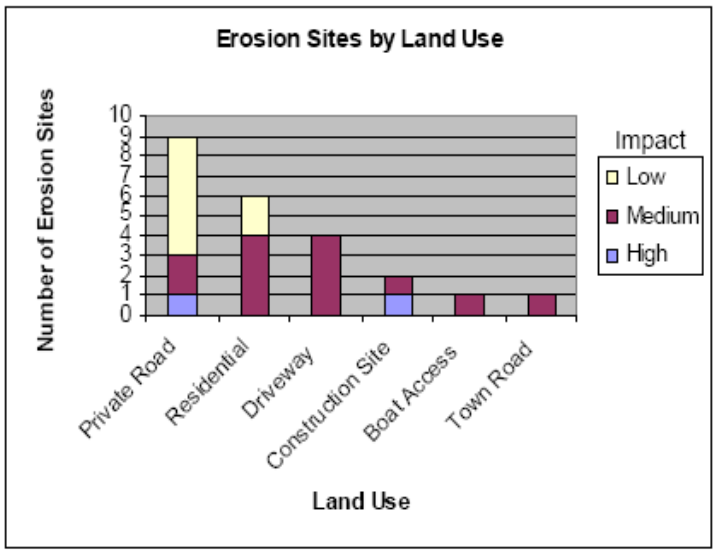
Private road erosion site

KEY SURVEY RESULTS:

Volunteers and technical staff identified and rated the impact of 23 erosion sites in the Saturday Pond Watershed (see chart). These sites are impacting or have the potential to impact water quality.

- 10 (43%) of the identified sites were found in residential areas (6 residential and 4 driveway). These sites tend to have less severe erosion and can be fixed easily with low cost.

- 9 (39%) of the erosion sites were associated with private roads. Some are located back from the lake but erode into the lake's tributaries. Erosion sites were identified all around the watershed and on 6 different types of land uses. As such, everyone has a role to play in lake protection. The Town of Otisfield, shorefront property owners, road associations, and even people living far from the lake can all help reduce lake pollution.



PROJECT PARTNERS:
Saturday Pond Watershed Association, Maine DEP, Town of Otisfield, AmeriCorps, Natural Resource Conservation Service, Oxford County Soil & Water Conservation District.

NEXT STEPS:
Now that the watershed survey is complete, fixing the sites identified in this survey will require efforts by individuals, the Saturday Pond Watershed Association, road associations, and municipal officials. Some areas have already been corrected.

LOCAL ACTION

Work has already begun to address some erosion sources found on private roads. While the Saturday Pond Watershed Association is discussing ways to help fix some of the larger identified problems, it is also important that local residents do their part to address erosion problems on their own. Many residential sites can be easily fixed by defining a path to the shoreline and planting native plants to help stabilize the soil. Sometimes simply not raking the pine needles is enough to help reduce polluted runoff—those needles on the ground help protect the soil.

For more simple solutions for your property, to see if you have an identified erosion problem on your property, or for more information, please contact:

Ellen Attaliades at the Saturday Pond Watershed Association at
Ellen@saturdaypond.org
or visit www.saturdaypond.org.

Saturday Pond 2008 Loon Count Report

By Al Sirois, your local Loon Ranger

The 2008 Maine Audubon Society Loon Count was conducted throughout the state on Saturday, July 19th from 7 to 7:30 A.M. Upon observation of Saturday Pond, and within this time allowed, two adult loons were seen together, pruning themselves while in very shallow water about 25 feet from the shoreline and approximately 1/3 of the way down the northeastern cove (opposite from the Great Oaks Shores).

After nearly ten minutes, the loon's meticulous pruning session came to an end, and they both dove under water looking most likely for breakfast. I then became certain that no young chicks were present either along the shore or with their parents. The total loon count observed on Saturday Pond on this day was a total of two adult loons

Welcome to a New Board Member…

We are pleased to welcome David Steuer as the new Board of Trustees recording secretary. David lives in Cumberland with his wife Callie and their five children, three girls and two boys. They enjoy spending time at Saturday Pond. David and his family look forward to being helpful, and involved in any way. They wish all a wonderful fall, and look forward to the winter months- the peace and beauty of this area is breathtaking.

And Many Thanks…

Ruth Wilson for her many years of service on the Board of Trustees!

We thank the following contributors to our Fall 2008 Newsletter:

Eric Williams: Intro. Message
Eric Williams/ Kristin Feindel: Watershed Survey
Pixie Williams: Invasive Plants
Jacinthe Sirois: Secchi Disk
Lew Wetzel: Phosphorus test
Al Sirois: Loon Count Report
Jennie Williams: Logo
Maine COLA: Under the Ice
Publishers: J. Sirois

Congratulations ……

Jennie Williams is the winner of our logo contest. Bravo Jennie !

Jennie will receive **"**The **Call of the Loon"** book & CD.

JOIN SPWA NOW for *2009*

and receive the new **Lake Book,** a $5.00 value.

Name: _____
Address _____
City/Town _____
State _____ Zip code_____
Email (optional): _____

Membership $15.00

Make check payable to : **Saturday Pond Watershed Association** and mail to:

Saturday Pond Watershed Association
Jacinthe Sirois Treasurer
P.O. Box 919
Oxford, ME 04270

I am interested in helping with the following:

r Water Testing Program
r Board of Trustees
r Communication/Newsletter
r Others

THANK YOU

Suggestions - Comments - Questions:

Under Ice: A New England Lake in Winter

By Keith Williams, PhD.

Highland Lake in Bridgton, Maine is somewhat typical of moderately productive, moderate size (254 hectares), moderate depth (maximum 20 meters), lakes in southern Maine.

The lake freezes over completely each winter and has been sampled through the ice most winters since February 1994. Fall turn-over takes several weeks as the thermocline lowers toward the bottom, and mixing continues until the water temperature drops to about 4 degrees Centigrade.

Gases achieve equilibrium with their respective atmospheric partial pressures. Freezing starts usually in December around the shoreline, and the ice may achieve complete cover of the lake in one cold calm night, or take weeks, and usually accretes from the bottom and top and even occasionally have multiple layers of ice and water, finally achieving a maximum thickness of as much as half a meter.

The ice will "sing" various tunes from time to time. The ice may buckle into ridges, usually adjacent to the shoreline, a half-meter high. Dissolved gas measurements show the under-ice water slowly stratifies, but doesn't reach anoxia.

Absence of wind-powered currents means water movement is very slow, but it does take place, from stream water entering and spreading out under the ice, and sliding along the bottom as differences in density set up as the edges begin to melt in March.

Ice-out may drag out over a few weeks, or happen suddenly in one windy warm rainy day. Spring turnover is sudden as the lake "burps" and gases quickly achieve partial pressure with the atmosphere.

Editor's Note: Keith Williams' gave his talk on a Maine Lake in Winter at the 2003 NALMS Conference and at the Maine Lakes Conference in June, 2004. This synopsis of Dr. Williams' observations was submitted by George Bouchard, COLA Board Member.

Visit: http://www.mainecola.org/under_ice.htm

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09 next to your name indicate paid membership for 2009.

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