



THE LAKESIDER

Newsletter of the Greater Pushaw Lake Association, serving Pushaw Lake and Little Pushaw Pond
Read more online at www.greaterpushaw.org

Managing Water Levels on Pushaw Lake by Rich Dressler

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What factors determine water level on Pushaw Lake? During the course of the year, precipitation is the primary factor, whether rain or snow that melts in the spring. Runoff from the watershed influences the water level throughout the year, especially in the spring during the thaw. The dam on the outlet helps to maintain stable water levels during the drier portions of the year.

The outlet dam is owned and operated by the Kukunsook Camp Owners Association (KCOA). KCOA members are landowners on the Old Town side of the lake from the outlet to the south end of Woodland Avenue. Water level of Pushaw Lake is controlled according to the 1978 Order of the Soil and Water Conservation Commission, which directs KCOA to "maintain a water level at Pushaw Lake from on or about June 1 through October 31, not to exceed a maximum of 1 inch below the top of the dam." What this means is KCOA closes the gate at the dam during May as the water level approaches



Fig. 1: Pushaw Lake outlet dam in summer— fishway on left. (Gate is closed)
Photo credit: Rich Dressler

the top of the dam, but not later than end of May. Closed gate (Figure 1) means water flows out only over the dam, through a slot in top of gate, or through the fishway (see below for allowances for alewife passage). During rainy periods from June through October, water may continue to go over the dam. On or about October 31, the gate is opened (Figure 2) to allow drawdown of water over the winter prior to the spring flooding.

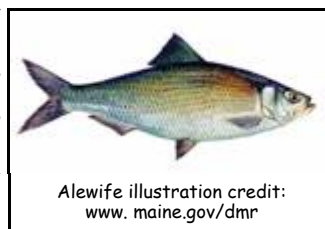


Fig. 2: Pushaw Lake outlet dam in early winter with gate open (fishway on left)
Photo credit: Rich Dressler

When the water is higher than the dam, "Mother Nature" controls the water level. During the spring of the year in high water periods, the flow of the water into Pushaw Stream sometimes reverses itself and actually flows back over the dam into the lake. This is caused by high Penobscot River water levels, resulting in the Pushaw Stream "backing up." Much of the shoreline erosion damage occurs during the spring thaw period as a result of wave action during high water.

The outlet dam benefits lakeside landowners in a number of ways. Stable water levels reduce the potential for erosion. Maintaining stable water levels during the summer increases the benefits to boaters and reduces the potential for damage to watercraft. There still remain numerous water hazards, some of which are marked by hazard buoys. Others are not always marked.

During the recent construction of the fishway at the dam, a schedule to allow for passage of alewives was part of agreement between KCOA and Department of Marine Resources. The fishway is open from May 1 to June 15. During the remainder of the year, water does not flow out through the fishway. In addition, the new gate is modified to allow some flow over the top of the gate when it is closed, to allow downstream passage of alewives from early June through October. A "slot" allows some water to pass over the gate so the alewives can leave the lake even if the water level is below the top of the dam. The amount of water going through the fishway or the slot is not sufficient to have any noticeable effect on the water level of Pushaw Lake, due to its large size. In fact, more water will be lost through natural evaporation from the large surface area of the lake than from water passing through the fishway.



Alewife illustration credit: www.maine.gov/dmr

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DID YOU KNOW?

- **Have you seen buffleheads on the lake this fall? These small diving ducks have large, round heads that look like snowballs. They nest in tree cavities near lakes in conifer-aspens forests, mostly in Canada, and spend their winters in sheltered bays along the Maine coast. We often get to see a small flock resting and feeding on our lakes for a few days, en route to and from their winter home on the ocean each fall and spring.**



A LAKESIDER SALUTE: DORLI AND LOU CLOUTIER by Bill Phillips



Dorli and Lou Cloutier are ideal lakesiders. Longtime summer residents of Pushaw Lake, the Cloutiers thoroughly appreciate and enjoy both the recreational and the aesthetic pleasures of lakeside living. More importantly, however, this couple is also fully committed to doing what they can to preserve the health and beauty of Pushaw for the enjoyment of future lakesiders.



Photo credit: Cheryl Fox-Briggs

To this end, the Cloutiers have been trained and certified to serve as volunteers for testing Pushaw's water quality. In this capacity, they use their privately owned pontoon boat and equipment provided by the Greater Pushaw Lake Association (GPLA) to conduct testing at two of the deeper sections of the lake on a biweekly basis between May and October.

This periodic testing is for purposes of monitoring conditions indicative of the lake's health. These include water clarity, temperature and levels of oxygen, and the phosphorus content of the water. The results of such testing can tell us the extent to which we may be at risk of an algae bloom and what measures we might need to take to prevent such a daunting eventuality.

We salute Dorli and Lou Cloutier for their selfless dedication in assuming a guardianship role on behalf of the entire Pushaw community. We thank them especially for modeling the kind of stewardship behavior that needs to be adopted and practiced by the rest of us lakesiders.

FIVE YEARS OF ICE DATA FOR PUSHAW LAKE compiled by Cheryl Fox-Briggs

Each year, Cheryl Fox-Briggs logs the dates of ice-out and ice-in on Pushaw Lake, as observed from her home on Lakeside Landing in Glenburn. Here are the dates she has recorded since 2010. It's interesting to note that ice-in since 2010 has occurred within a two-week window each December, but spring ice-out has been far less predictable! Your own ice records may differ by a few days from Cheryl's, due to prevailing winds, water currents, and microclimates across this long, narrow lake. We'll share ice data from Little Pushaw Pond in a future issue.

Year	Ice Out	Ice In
2010	3/17/2010	12/15/2010
2011	4/15/2011	12/20/2011
2012	3/22/2012	12/14/2012
2013	4/1/2013	12/7/2013
2014	4/23/2014	12/5/2014
2015	4/19/2015	?

YES, GPLA MEMBERSHIPS & DONATIONS ARE TAX-DEDUCTIBLE!

Name(s): _____

Address: (please provide both summer and winter addresses, if applicable):

Phone: _____ E-mail: _____

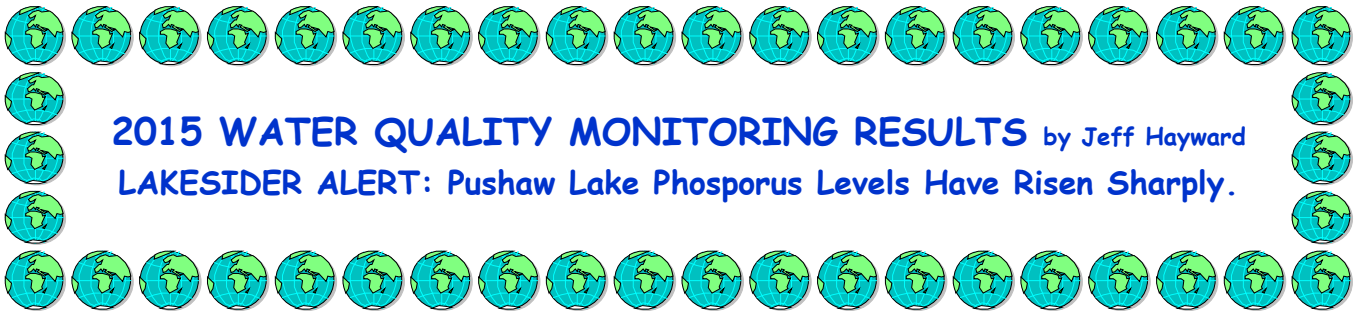
We can do so much more to help our lakes with your financial support! Please cut out and mail this form, along with \$15 annual dues (more if you wish, & if you can) to: GPLA, PO Box 302, Stillwater, ME 04489. **Thanks!**

2015 FINAL LOON COUNT RESULTS

by Rich Dressler



The Annual Loon Count took place on Sunday, July 18, from 7:00 to 7:30 a.m. (some counts ran longer due to the size of the area being covered). Based on volunteer data sheets, the count reported to Maine Audubon for Pushaw Lake included 27 adults and four chicks. While we have full coverage of the lake we do not always get a complete count due to weather/wave conditions and movement of loons. There was some wind with waves on the lake during the count this year. Volunteers also counted eight adults and two chicks on Little Pushaw Pond. In summary, adult loon numbers were down somewhat in 2015 over 2014 but within the range observed over recent years. Chick production and survival was encouraging this year – some of the chicks survived and were observed in September. Thanks to all volunteers that participated in the count from boats, kayaks, and shoreline – without your help, the count could not be completed in time allotted.



2015 WATER QUALITY MONITORING RESULTS by Jeff Hayward

LAKESIDER ALERT: Pushaw Lake Phosphorus Levels Have Risen Sharply.

Water quality testing has wrapped up for the season on both Pushaw Lake and Little Pushaw Pond (LPP). Our volunteer testers were Lou and Dorli Cloutier (Pushaw) and Robert Stessel (LPP). The Pushaw testing started in June this year, and wrapped up in mid September. LPP testing continued into late October. Thanks to Lou, Dorli and Robert for their volunteer efforts again this year on this extremely important GPLA activity.

Phosphorus levels took a significant jump this year on Pushaw Lake, with 5 out of 8 tests coming in at over 20 parts per billion (ppb), and an average level of over 19 ppb for the season. This is just the opposite of 2014, when the phosphorus numbers dipped for the summer, averaging 12.5 ppb. These differences can be attributed to many possible causes, but this is the highest seasonal average ever since we started testing in 1980. These results emphasize why we must all work together to minimize phosphorus contributions to the lake from soil erosion, and drive phosphorus levels back to the single digits. Anything over 10 ppb can lead to algae blooms!

On a more positive note, clarity (the distance in meters that an object can be viewed under the water from the surface of the lake) and dissolved oxygen (DO) continued to be healthy for Pushaw Lake, with an average clarity of 3.6 meters and a DO average of 8.5 mg/l at the surface and just over 6 mg/l at the bottom. This continues to indicate heavy mixing of the water from top to bottom.

As of the printing of this newsletter, annual water quality results for LPP were still being tabulated. We'll present those results in a future issue of *The Lakesider*.

Your annual dues, local municipal funding, and private donations have helped to make this monitoring possible!

As always, water quality testing and results reporting are conducted solely by volunteers. All results are reported to the Maine Volunteer Lake Monitoring Program and go into the Maine lakes database, where environmental scientists (the true experts in water quality) monitor the results and study the trends. For more information, visit

<http://www.mainevolunteerlakemonitors.org/>.

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*"Never doubt that a small
committed group of
citizens can change the
world. Indeed it is the
only thing that ever has."*

Margaret Mead

BUSINESS SPONSORS WANTED to help support GPLA and its mission of preserving and improving water quality in Pushaw Lake and Little Pushaw Pond. If you own a lakeside business, or one that serves lakesiders, please consider a tax-deductible **GPLA CORPORATE SPONSORSHIP** of \$100 or more. We'll acknowledge your business name and contact information in future newsletters, and you'll be doing your part to help keep our lakes clean and healthy! Thank you!

Thank You to Our Municipal Leaders and Voters

In keeping with their municipal policies and comprehensive plans, the four communities surrounding our lakes (Glenburn, Hudson, Old Town, and Orono) have each agreed to share equally in underwriting GPLA's 2015 costs for water quality monitoring and education on lake issues. Their support allows us to publish two editions per year of *The Lakesider*. The GPLA board of directors sends its thanks to all involved in these decisions, and applauds our local governments for their dedication to maintaining water quality and their cooperation on regional matters.

-Kathy Lukas, GPLA President