Pleasant Lake
Preservation Association

Deerfield / Northwood

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August 3, 2011

Pleasant Lake Residents,

A poll of residents was recently made to determine the breadth of support or opposition to a change in the current draw down schedule. We would like to thank everyone that responded and especially thank those that either included additional comments or helped surface additional information and concerns on the change.

Approximately 63% of lake residents responded to the survey. The raw numbers indicated that:

73 % Supported a change in the draw down schedule
14 % Opposed a change
13 % Were good either way

As indicated, some residents took the time to dig deeper into the process and the potential impact of a change in the draw down schedule. One resulted in an email from Amy Smagula the Limnologist / Exotic Species Program Coordinator with the NH Department of Environmental Services of DES. A copy of the complete email from Amy is attached. Two key comments excerpted from her email are:

(1) Based on water quality data I do not expect that we'd see any in-lake water quality changes as a result of a change in drawdown schedule

(2) Most studies show negative impacts to aquatic organisms as a result of later and/or delayed drawdowns. These studies also show that more rapid water level reductions result in negative impacts as well. Impacts could be seen to macroinvertebrate communities, freshwater mussels, aquatic plant communities, and amphibians. I would not recommend holding water as long as the boating season lasts then rapidly lowing water level to achieve your winter lake level. That could bode ill for the lake and associated aquatic life.

As a result of this additional input your Board plans to:

(a) Meet with Amy Smagula and others at DES to help us understand their views on this issue and the potential environmental impact on the lake.

(b) Meet with Jim Gallagher to clearly understand the process and the constraints that need to be followed in order to effect any changes in the lake level or the draw down schedule.

If, as a result of the meetings with DES, the Board believes that there would be a negative environmental impact on the lake, we would oppose the change.

As we stated in the ballot, we believe that making changes to the draw down schedule or the lake level is beyond the purview of the PLPA. We will share the methodology and the results of the survey with DES and leave the decision and the process for effecting it in their hands.

In summary, we learned a great deal from this process including:

- ✓ **Expert Opinions:** We need to find a better way to garner input and concerns from a broader range of the professionals at DES and elsewhere earlier in the process.

- ✓ **The Process:** Many people commented that they liked the fact that we asked for input. One example of this kind of feedback:

  The board avoided placing itself above the property owners in a matter that comes down to preference. It may be a small pond and a single issue, but in this day and age, it struck me, my older son and my wife as a simple example of good governance. Well done!!

- ✓ **Lake Level:** There were a significant number of ballots cast with the added input that a much larger concern is for the spring level of 6.3.

Tom Brennan

President, Pleasant Lake Preservation Association

From: Smagula, Amy
Sent: Tuesday, June 21, 2011 10:53 PM
To: Ann/Joseph Farrelly
Cc: Steiner, Sara
Subject: Pleasant Lake Dam
Hi Joe,

Following up on our conversation a couple weeks back relative to the drawdown schedule on Pleasant Lake, I took some time to review your VLAP data and the Diagnostic Feasibility Study report to see if there were any potential problems that could arise due to changes in flow regime or lake level as a result of a potential change in lake-level maintenance.
Based on your in-lake VLAP data, overall water quality looks good in the lake. The chlorophyll-a concentrations have been on the decline over the last ten years (which is good), Secchi disk has remained stable, and that phosphorus concentrations in the lake are stable. You do have low oxygen in the deep portions of the lake over the sediments, which is something to continue monitoring over time.

Based on the Diagnostic Study (Sept 99-Aug 00), most of your hydrologic inputs are from tributaries, with lowest flows documented in December, January and August of the year of study. Lower flows are also documented in June and September. Nutrient inputs to the lake from tributaries were relatively low during times of historic drawdown schedules.
Based on water quality data I do not expect that we'd see any in-lake water quality changes as a result of a change in drawdown schedule (i.e., delaying drawdown timeframe to later in the fall).

With that said, one concern I do have about later drawdowns is related to aquatic biota. Most studies show negative impacts to aquatic organisms as a result of later and/or delayed drawdowns. These studies also show that more rapid water level reductions result in negative impacts as well. Impacts could be seen to macroinvertebrate communities, freshwater mussels, aquatic plant communities, and amphibians. Many of these organisms require drawdowns to start early in the fall (late August/early September) so that organisms can move with and acclimate to receding water levels, and be in a safe zone before they go into a winter dormancy or hibernation mode. I would not recommend holding water as long as the boating season lasts then rapidly lowing water level to achieve your winter lake level. That could bode ill for the lake and associated aquatic life.
Care should be taken in weighing the options for drawdown schedule change before any decisions are made. I suggest that if your lake association does vote in favor of a change that it not be made permanent until some real trials are done over a couple of years to see what effects an altered drawdown schedule has on Pleasant Lake. Volunteer monitoring data can be used to pick up any changes, though close observation of the lake/shoreland areas by residents should be done in case routine monitoring does not pick up on subtle changes in the watershed. Issues that residents have with shallow water in some areas may be remedied by asking Wetlands for waivers to dock length restrictions, so that affected owners can have longer docks for their boats to get them farther out of shallow areas.

Despite some concerns about hypolimnetic oxygen concentrations, Pleasant Lake is in overall good health. I am not sure if that is attributed to the lake level maintenance over the years, but can say that the watershed and depth and volume of the lake do have a lot to do with it.
Pleasant Lake is a gem of a lake, and careful consideration should be granted in any circumstance when change is considered (be it lake water level maintenance, watershed development, etc).
I have copied Sara Steiner on this e-mail in case she wishes to chime in as well.
Please let me know if you have any questions or would like additional information.

Amy
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