



Worthley Pond Association

P.O. Box 230 Peru, Maine 04290

www.worthleypond.org

wpa@worthleypond.org

9th Edition June 2010

2009 – 2010 WPA Officers

President:	Tim Placey
Vice President:	Dan Noyes
Secretary:	Kathy Hussey
Treasurer:	Kathy Barrett

Board of Directors

Ron Ashworth Steve Gallant Bill Gates

2010 ASSOCIATION CALENDAR

July 10	Annual Meeting at the Peru Town Office 8:30-11:00 a.m.
July 17	A Round the Pond Yard Sale
July 23 & 24	Christmas in July
August 14	Annual Golf Tournament
August 21	Ice Cream Social – The Bus

President's Corner

Well – June 26th was a great day for our “**Welcome Back Social.**” Phil & Kathy Buskey graciously opened their camp to over 38 members, who all seem to have had a fabulous time. Everyone brought some “goodies” to share. Don & Sara Sillars volunteered to host the social next year. I just would like to say thank you to everyone for making our social such a success.

Our “**Annual Meeting**” will take place at the old Peru Elementary School in front of the town office. Hopefully our main speaker will be someone from Pine Tree Engineering on the public boat ramp, which will be built this year. We, as an association, feel this will add a better place to launch boats instead of the beach. As you all know, the beach area has many rocks which can be a danger to people who do not know the area. So save the date of July 10th at 8:30 A.M. to 11:00 A.M.

Please note that the “**Around the Pond Sale**” will be on July 17th from 9:00 A.M. to 1:00 P.M. this year. We plan on placing an ad in The Rumford Times & on the Public Access Channel (7). You will need to place your own signs at the end of your roads for your sales. July 23, 24, and 25th is “**Christmas in July.**” So start thinking on unique decorating ideas for your cottages and boats. We are asking boats to pre register at the BUS and get a number to help make it easier in the judging. We have asked two couples to help us with the judging. Please watch the bulletin boards for our **Golf Tournament** at Oakdale Country Club and our **Ice Cream & Luncheon Social** at the BUS.

Finally –It is time for new ideas and younger thoughts to keep the association on course for many years to come. We are in great need of people stepping up and volunteering to be officers and directors, as well as committee workers. The association has been successful for many years, but we need young people to carry the torch, to keep the pond beautiful for years to come. Please contact me at 562-7840, 653-4666 or e-mail me at tng1966@roadrunner.com . I have never been more serious in all my life. **We need your help!!**

Your friend always,
~Tim~

Worthley Pond Baseline Water Quality Report 2009

On July 28 and August 24, 2009, baseline water quality monitoring was done on Worthley Pond, in order to assess present conditions, and to compare the findings to similar historical data for the pond. It is important to recognize that lakes and ponds often experience considerable natural variability on a seasonal and annual basis, and that a single baseline event represents a “snapshot” of conditions on the date of sampling. However, baseline sampling conducted during the late summer (mid-August through early September) is generally considered to be optimum time to obtain information about the conditions in a lake during the peak of biological activity in the lake basin. It is during this period when many lakes and ponds exhibit the greatest signs of stress.

In addition to the data gathered in July and August, a complete season of water clarity (Secchi disk transparency) data was collected by certified volunteer lake monitor, Bruce Eastman. This additional information is very useful in interpreting the baseline data.

Baseline sampling took place at the deepest known area in the lake basin, referred to in historical reports as “Station 01”. Volunteer water clarity data were also collected at this location, as well as at Station 02, situated in the easterly basin of the lake. Historical sampling of Worthley Pond has shown that there is little variation in conditions between the two sampling stations. That is most probably due to the fact that no significant restrictions to the circulation of lake water exist between the two locations.

Water clarity is measured to estimate the amount of planktonic (free floating) algae growing in the lake. On July 28, water clarity (Secchi transparency) measured 5.0 meters at Station 01. The August 24 reading measured 6.0 meters. Readings taken by Bruce Eastman during the course of the summer ranged from a low of 4.3 meters to a high reading of 6.7 meters. The average for all water clarity readings taken in the period from May through October was 5.7 meters (~19 feet) for Station 01, compared to 6.8 meters in 2008, 6.9 meters in 2007, and 6.6 meters in 2006. The historical average for this area of the lake, from 1980 to present, is 6.6 meters (~22 feet). Water clarity varies from year to year as a result of a number of influences, including human activity in the watershed and the weather.

The clarity of the water in Worthley Pond declined sharply in 2009, compared to previous years, and the long-term historical average for the pond. Last summer was one of the two least clear years for the pond, going back to 1980, the other year being 1998. The sharp decline was most probably due extreme rain and stormwater runoff that occurred nearly continuously, prior to, and during the summer lake monitoring season last year. Many Maine lakes experienced a similar negative response to weather conditions in 2009.

Phosphorus is the nutrient that most directly influences the growth of algae in lakes and ponds. Total phosphorus (TP) is measured to determine the amount of this nutrient that is available to algae in the water, and the amount that is “tied up” in algal cells and other organic matter in the water. An integrated water column sample taken on July 28 measured 11 parts per billion (ppb); the August sample measured 10 ppb. Historical samples for Worthley Pond have ranged from 4-11 ppb TP. The historical average for the lake is 7 ppb. The July and August, 2009 phosphorus samples were among the highest that have been recorded for this lake. It is likely that the high concentration of phosphorus measured in the water last summer was related to extreme precipitation that was documented throughout much of the area from snowmelt in the spring throughout the summer months. The unusually heavy, and frequent rain undoubtedly caused excess storm water runoff from the Worthley Pond watershed to carry excess phosphorus into the lake, resulting in an increase in algae growth. Some of the phosphorus may also have been due to suspended sediment particles in the water, resulting from soil erosion in the watershed. However, phosphorus levels in the lake for the past two years are the highest on record for this lake.

Phosphorus was also sampled from the water just above the bottom of the deepest point in the lake, in order to determine whether or not the nutrient was being released from the bottom sediments to the overlying water (a

condition that may occur when dissolved oxygen levels in the water are very low). The bottom “grab” sample measured 11 ppb. In past years, many of the phosphorus samples taken near the bottom of the deep station were substantially higher in concentration than samples taken near the surface. But that was not the case in 2009, in part due to the high phosphorus level at the surface.

Worthley Pond experiences oxygen loss in the deepest area of the lake during the late summer. However, a relatively small area of the lake is sufficiently deep for this phenomenon to occur. Therefore, at this point in time, any release of phosphorus is probably having a minimal adverse effect on the lake. Nonetheless, this phenomenon should continue to be monitored in the future because the low late summer dissolved oxygen levels are a sensitive indicator of change in lakes, often leading more obvious signs of change, such as lake water clarity, by several years.

Chlorophyll *a* (CHL) is a pigment found in algal cells. The CHL sample taken on July 28 measured 4.8 ppb, and the August sample measured 4.6 ppb, resulting in an average for the year of 4.7 ppb. CHL levels during the past two summers have been the highest recorded for Worthley Pond, and historical data suggest that CHL levels in the lake may be on the rise. The historical average for the lake is 3.4 ppb. The relatively high (for Worthley Pond) 2008 and 2009 averages suggest that the high phosphorus concentration in the lake may have stimulated the growth of algae in the water. The relatively low water clarity readings taken on both dates were probably the result of increased algae growth in the lake, as well as some sediment-related turbidity.

The amount of oxygen that is dissolved in the water in the deepest point of the lake during late summer is an important overall indicator of lake quality. Historically, Worthley Pond has experienced moderate oxygen loss near the bottom of the deepest areas of both monitoring stations during the months of July, August and September. A temperature and dissolved oxygen profile taken on July 28 showed depressed oxygen levels below 7 meters depth, and very low oxygen levels below 12 meters depth. The August 24 profile showed depressed oxygen below 5 meters depth, and critically low levels of dissolved oxygen from 8 meters to the bottom of the pond at 14.7 meters depth. Thermal stratification of the water column was strong on both dates.

The 2009 dissolved oxygen profiles were similar to historical profiles for the lake. This indicator of water quality should continue to be monitored whenever possible, in order to document any changes that may be taking place in the lake. The degree to which this phenomenon has changed over time in Worthley Pond is unclear because of the complexity of the variables that influence the process. However, conditions appear to be stable during the past decade.

Additional water quality indicators measured in July and August, including background water color, pH, total alkalinity, were within the range of historical values for the lake. The natural color of the water last summer was somewhat higher than the historical average for the lake. Water color is influenced by the degree to which natural humic acids are dissolved in the water. Higher concentrations of water color generally cause water to be less clear. Water color varies somewhat from year to year, depending on the amount of precipitation that has occurred. The higher level of natural water color in 2009 could account for a slight decrease in water clarity, as well as slightly higher levels of phosphorus and CHL. However, the effect would not have been significant.

For the period from 2004-2006, the “average” clarity of Maine lakes dropped substantially. This may have been due to the fact that much of the state experienced above average precipitation during the period. But in 2007, Maine lakes as a whole were significantly clearer, most probably due to reduced precipitation during the winter, spring and early summer months, when a high percentage of watershed phosphorus loading typically occurs for lakes. Maine experienced very wet conditions in 2008 and 2009, at which time the state average declined. Some of the “clearest” years have been those during which drought has recently occurred, such as 1985 and 2002 and 2003, which followed the severe statewide drought of 2001.

To put into perspective the significance of the 2009 water clarity findings, consider that out of 457 Maine lakes that were assessed last year, 39.2% were clearer, but 50.1 % were less clear, and 10.7% were unchanged, compared to their historical average (Figure 2). The clarity of Maine's lakes has declined significantly during the past two years, compared to 2007, when a much higher percentage of lakes were clearer than they had been historically.

It is likely that the decline in the number of lakes that were clearer than average in 2009 was the result of heavy snow melt during the spring, and moderate to severe rainfall throughout much of Maine during the summer period. In fact, 2009 was one of the wettest years on record for the State of Maine. Information obtained from the National Weather Service indicated that Portland and much of the State of Maine experienced the wettest summer on record.

Each lake and pond responds in a unique way to the influences of weather, changes in land use in the watershed, and other forces upon the ecosystem. This is because of the wide range of physical, chemical and biological characteristics of each lake basin and its watershed. Most lakes and ponds experience a moderate amount of natural annual variability. It is likely that the decline in the number of lakes that were clearer than average in 2009 was the result of heavy snow melt during the spring, and moderate to severe rainfall throughout much of Maine during the summer period. In fact, 2009 was one of the wettest years on record for the State of Maine. Information obtained from the National Weather service indicated that Portland and much of the State of Maine experienced the wettest summer on record.

Water clarity (Secchi transparency) is one of four primary indicators of the biological productivity of lake ecosystems, in addition to the nutrient phosphorus (TP), chlorophyll a (CHL), a plant pigment used to measure of the concentration of algae in lake water, and the concentration of dissolved oxygen in deep areas of the lake during the summer months.

Summary:

Although the overall water quality of Worthley Pond continues to be good, conditions documented during the past two years suggest that the pond is vulnerable to a negative change under certain circumstances. While the extreme weather for the summer may have caused unusual conditions to occur in Worthley Pond, the demonstration provided by mother nature shows us how precipitation, stormwater runoff and watershed development have caused a two year decline in the pond. Unless similar weather occurs in 2010, it is likely that the pond will recover the very good water quality that it has had historically.

However, some of the changes observed during the past two years may be part of a longer-term trend. Although historical sampling is somewhat limited, the concentration of chlorophyll in the lake appears to be rising – an indication that algae levels in the water are increasing. This possibility is cause for concern.

Late summer oxygen levels continue to be low in Worthley, and while this phenomenon does not appear to pose a threat to water quality at this time, any worsening of this condition could seriously impact water quality, as well as the health of the coldwater fishery.

The most effective strategy for protecting the lake against increasing algae growth in the lake, resulting in additional dissolved oxygen loss during the summer, is to implement water quality conservation practices in the watershed to minimize the amount of phosphorus that flows into the lake from areas that are developed. This includes roads, residential lots, timber harvest areas, and any locations where the natural forest cover has been altered. Proposals for new development in the watershed should always be assessed for the potential of the project to impact water quality, and specific conservation practices should be required to protect Worthley Pond.

Prepared by Scott Williams, Aquatic Biologist; Lake & Watershed Resource Management Associates; P.O. Box 65; Turner, ME 04282; 207-336-2980
LWRMA@megalink.net

WHAT DO COURTESY BOAT INSPECTIONS ENTAIL?

This article is primarily to give an overview to Courtesy Boat Inspectors (CBI) and to provide details to all others regarding the program and what it entails. ALL Worthley Pond property owners (and pleasure boaters/swimmers/fishermen who don't) should personally THANK anyone they see who is involved in this program.

Courtesy Boat Inspections are the First Line of Defense for Worthley Pond. The involvement of those contributing their time and energy to do these inspections and the people launching their boats allowing these inspections on their watercraft is priceless and very much appreciated.

Every inspection has 2 objectives: STOPPING all plants and fragments from entering or leaving the Pond. TEACHING the boater to inspect their boat before and after each launch consistently.

Boat inspections are a COURTESY procedure. Boaters must agree to the inspection and interview. A boat owner may refuse inspection; thus, they should be politely reminded that Maine has a tough Invasive Aquatic Plant law. They may receive a fine of up to \$500 (\$2500 for subsequent violations) for transporting ANY plant, native or invasive; or between \$100 and \$250 for failure to have the CURRENT years' Lake and River Protection sticker.

The Inspector's safety is of most importance and one should never allow a confrontation to develop (no matter how strongly one feels about the subject). NEVER alienate the boater by being judgmental or unfriendly, but, agree to make friends.

A Courtesy Boat Inspector should be prepared to relay invasive plant threat information, referencing training material if necessary. Handout materials, provided by Lakes Environmental Association, (LEA) are available.

SURVEY: The Courtesy Boat Inspector must accurately fill out a simple survey form each time they do inspections. This is important so the State can keep accurate account of traffic and incidences. If not filled out completely, the form will be invalidated. The information on this survey includes:

- ~State the boat is registered in and a partial recording of its registration number.
- ~Does the boat have a current Lake & River Protection sticker?
- ~What was the name of the last water body the boat visited and what state is it located in.
- ~Time (military) of entry and exit from Worthley Pond?
- ~Any plants found? If yes, identified as invasive? By whom?

Once completed, the inspector provides the form to the person (within the Pond Association) who is compiling the records to submit the information to the LEA.

PLANTS: In the event suspicious plants are located, the plant should be packaged in a labeled zip lock bag, in water and kept cool for prompt (within 1 day if possible) sending to VLMP for identification. All plants found on the boat/trailer/equipment must be disposed of FAR away from the water/ramp.

STICKER: Boaters can buy the Lake & River Protection Sticker at Town Offices or contact Maine Dept. of Inland Fish and Wildlife (287-8000) for other locations. CBI's must check for the current year sticker – which is a different color each year.

If you are interested in helping to protect Worthley Pond, contact the Worthley Pond Association. NOTE: ALL persons performing Courtesy Boat Inspections are required to wear a CBI identifying shirt when doing so. This is so the public can identify as well as staff from LEA. Information in this article was taken from DEP handouts.

MEMBERSHIP

MEMBERSHIP

MEMBERSHIP

Membership is a vital part of any organization. Our association is no different. Please review the current membership list in this newsletter and if your name is not there, we have also attached a membership form so that you can send it to the association. It is easy to forget in our busy lives and yet so needed to keep the Worthley Pond Association on track. It is only \$10.00 for an Individual membership and \$15.00 for a Family. It is the cheapest insurance to protect your property investment. Thank you in advance for becoming a member.

**Worthley Pond Association Membership
July 1st - June 30th Each Year**



Please complete form below for membership:

Name: _____

Permanent Address: _____

City: _____ State: _____ Zip Code: _____

If Different, June to September Address: _____

Peru 911 Street Address: _____

Home Phone # () _____ Worthley phone #(207) _____

E-mail Address: _____

I would like to receive the Newsletter online: [] Yes [] No

Are you interested in.....

Committee Work? _____ Yes _____ No

Being an Officer? _____ Yes _____ No

Being on the Board? _____ Yes _____ No

Volunteering at the WPA store? _____ Yes _____ No

Membership Type and Fees: (please check desired type of membership)

Individual Membership \$10 []

Family Membership \$15 []

Supporting Membership \$25 []

Commodore Membership \$50 []

Other Membership \$_____* []

*Any amount over \$50. Please enter amount.

Please send application and your generous payment to: **Worthley Pond Association**

Worthley Pond Association, Treasurer, PO Box 230, Peru, Maine 04290

Thank you for your Support.

Maine Milfoil Summit

Steve Gallant and Kathy Hussey attended the Courtesy Boat Inspector Training at the 11th Annual Maine Milfoil Summit on February 26, 2010. This was co-sponsored by several organizations including the Lakes Environmental Association. It was mandatory that all organizations seeking a DEP grant for boat inspection programs send at least one representative to this training.

Most of the discussion entailed how one should approach those who are launching boats asking if you may check their boat. It was recommended that Courtesy Boat Inspectors be cordial and friendly, not pushy and domineering. People may refuse to have you inspect their boat, it is their right; however, most have found people to be very receptive to the inspection and many will help and indicate that they fully understand the purpose and support it.

A representative of Inland Fisheries & Wildlife was present, providing a boat and trailer to be used in a Courtesy Boat Inspection demonstration. This was helpful as they really got into the details of different places to check for plants....just a small piece of those unfriendly plants can be hidden in a crevice or around a screw on the boat or the trailer ...even on fishing gear and bait boxes, live wells, tire hubs, motors and props, etc. A GOOD inspection may take ten minutes or more. This may seem like a long time to the person being "held up"; however, it could be disastrous to the pond if not done thoroughly. Getting the person who is launching the boat involved in the inspection may make the timeframe less of an issue.

The need to identify and have suspicious plants checked is of utmost importance as there are presently 32 inland waters in Maine infested with invasive aquatic plants. The quicker an invasive plant can be identified, the sooner measures to prevent its spreading and eradication can be implemented. Also, it is MANDATORY that while working as a Courtesy Boat Inspector, you wear a CBI t-shirt identifying that you are part of the program. Apparently, there are spot checks done by those involved in the program checking these things and if the Association is not in compliance, there may be trouble.

Stickers for the tongues of trailers are available to place on trailers to help remind people to check for these invasive plants and informative brochures are available for handing out. Thank you to everyone involved in this program for your efforts!

Current 2010 Worthley Pond Association Membership List July 1, 2010 to June 30, 2011

George & Aliette Allen
David & Karin Arsenault
Bertha & Kathy Barrett
Marie Boudreau
Philip J. Bretz
Maurice & Nancy Brooks
Elliot & Barbara Burns
Richard & Mary Child
Edward & Eileen Cunningham
Charles & Roberta Day
Kerry & Pamela Gill
Brenda Hallion
Janet Hooley
Bernice & Cynthia Kelley
Kerry & Maria Merrill
Bruce & Sharon Eastman
Bernard & Judith Elfring
Sandy & Judy Fortin
Tom & Deani Jordan
Martin Miller
Gary & Annette Nash
John Paradis
Richard & Merlene Patton
Robert & Ann Rouleau
Hugh & Pamela Rowley
Shawn Shea
Joanne Smith
Lewis & Joyce Stowe
Mark & Barbara Vaughn
James & Brenda Whytock
Reginald & Patricia Wing
Elizabeth Wooley

Gift Shop

(located at Honey Run Campground)

Thursday – 1:00 to 4:00 p.m.

Friday – 1:00 to 4:00 p.m.

Saturday – 10:00 a.m. to 1:00 P.M.

We need VOLUNTEERS

Please let us know if you can help.

Attention!



Attention Photographers or just plain Shutterbugs like me.

The Worthley Pond Association is interested in selling post cards at the Gift Shop this summer. If anyone has snap shots, you think are worth printing and you want to share with us, please get in touch or e-mail Gladys Placey at tng1966@roadrunner.com.

We have some views of the east side, but would like a variety from around the pond. Thanks for your help!

Worthley Pond Association

P.O. Box 230
Peru, ME 04290

