

Panther Pond Association Annual Meeting July 9, 2016

The Annual Meeting was called to order by President Peggy Jensen at 10 AM, July 9 at Kings Grant, with approximately 60 people in attendance.



Election results - The slate of officers were elected unanimously.

Treasurer's report - A statement showing income and expenses from 1/1/2016 - 6/30/2016 was presented and approved.

Secretary's report - The minutes of the 2015 Annual Meeting have been emailed to members, posted on the PPA website and written copies were available at the meeting. The Secretary's report was accepted.

Loon Count - Marie Connolly requested that anyone seeing any loon nests this year should contact her as the Audubon Society will be mapping nesting sites this year. It was reported that 2 loon babies were seen in Sloan Cove, but one of the babies might have perished. There are 2 loon eggs on the west shore of Panther Pond, and a loon's nest on the bog off Dolly's Island.

Panther Pond Invasive Plant Patrollers (Ppipers) - Bunny Wescott and Sibyl French reported that we had 24 volunteer Ppipers last year and no invasive plants were detected. We currently have 23 volunteers this year.

There will be an Introduction to Aquatic Plant training workshop, August 6, from 8:30 - 3:30 at the New Gloucester Congregational Church. Anyone that is interested can register for this 6 hour workshop at maine.vlmp.org.

Hazard Marker Buoys - currently all hazards over 200' from shore are marked. Hazards within 200' of shore are not marked as state law requires boats within that safety zone to move at headway speed only. Caution is advised in these areas as there could be unmarked rocks. Several members expressed concern over boats that create a large wake near their properties which cause erosion and wear on mooring and docks. This is a link to a lake hazard map.

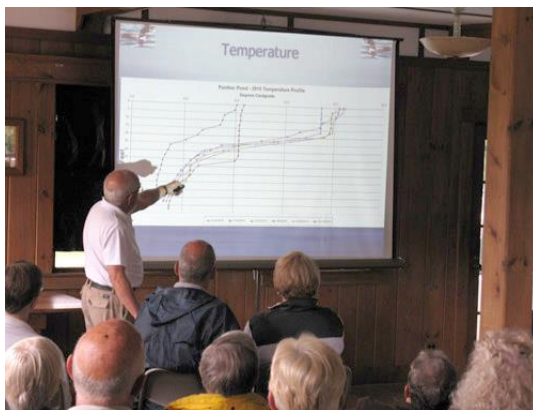
<http://www.raymondmaine.org/community-resources/panther-pond-association/ppa-visitors-guide/ppa-boating/ppa-boating-hazards>

Courtesy Boat Inspectors (CBI's) - through RWPA, PPA is funding inspectors at the Mill Street boat launch. Signs and T shirts have been created for identification of the inspectors.



Clean Water Act Section 319 Grant Application - although the application was praised, PPA missed acquiring a grant by 1 “review” point. Heather True, of the Cumberland County Soil & Water Conservation District will rewrite the application and a decision will be made by this Fall as to whether PPA will receive the grant. The PPA grant application was ranked #4, and only 3 grants were given this year. Mini grants from PPA will continue.

Tenney River Protection Updates- Peggy showed members a map of the area surrounding the Tenney River. One parcel was purchased by the Boy Scouts with a conservation easement held by the Loon Echo Land Trust. Another parcel near Crescent Lake, on either side of Conesca Road, was also approved with a Loon Echo Trust easement with the goal of turning it over to the Town of Raymond. This parcel contains Mt. Pismire, which has great views of the area. There are plans to make trails. The entire Tenney River is now currently well protected. Only one parcel of land remains in private ownership.



Water Quality - Phil Boissonneault reviewed the water quality of Panther Pond. Charlie Turner has been collecting the data for 40 years, the PPA is very grateful for his dedication. Phil discussed the temperature profile with respect to the thermocline. The thermocline is a steep temperature gradient in a body of water such as a lake, marked by a layer above and below which the water is at different temperatures. The thermocline acts as a barrier to wind action mixing and replenishing oxygen in the upper layer. The oxygen profile showed an alarming zero oxygen level on October 12, 2015 below 45 feet. Under these conditions, phosphorus in the bottom sediment becomes soluble, and when the upper level cools down, the lake will turn

over for a total mixing, which will bring phosphorus to the upper level. This provides more food for algae, which is undesirable for the health of the lake.

Phosphorus samples were taken in the fall.

surface: 2.3 ppb (low)

at rapid temperature change zone: 13.8 pp. (high)

bottom: 38 ppb (very high)

Levels above 15ppb are concerning, so the sample at the bottom is not good.

Spring samples of phosphorus showed acceptable phosphorus levels.

surface: 6.5 ppb

at rapid temperature change zone: 8.0 ppb

bottom: 13 ppb

Historically, levels at Panther Run are 7-8 pp. This outlet is the third largest source of water for the drinking water on Lake Sebago. Phosphorous level will be watched since they may impact water quality in the future.

Data obtained from Secchi Disk testing were average for all lakes in Maine.

Overall, the water quality of Panther Pond is considered average or above average when compared to other lakes in Maine. Some lakes release phosphorous under low oxygen conditions, others do not. The phosphorous issue is something that will be watched.

Monitoring Buoy- A high frequency data collection system was installed at the deepest part of Panther Pond, 71 feet, as part of a study with Dr. Holly Ewing of Bates College. Nine light and temperature sensors were installed on a cable at 18 inches, 1, 2, 4, 6, 8, 10, 18 meters and at the bottom. Data is collected every 10 minutes and downloaded every 2 weeks. A permit for the buoy was obtained from the Department of Conservation. Phil Boissoneault designed the system, Peter Leitner designed the anchor and Neil Jensen helped with the location. The site is marked by a large red buoy (that birds love to sit on).

Gloeotrichia Update - Dr. Holly Ewing spoke to the group about her gloeotrichia (gloeo) research at Panther Pond and other low nutrient lakes in the region.

Highlights of the talk:

Gloeo look like tiny koosh balls, they are a cyanobacteria, nitrogen fixing and mildly toxic. They show up in low nutrient lakes where phosphorous is 10-12 ppb. or less.

They are undesirable as they are not aesthetic, lower property values, change how people interact with the lake and as they decompose they use up oxygen. Cold water fish will die when there is no longer any oxygen in the colder, bottom water.

Gloeo can produce mild liver toxicity and skin rashes.

To protect a lake from gloeo it is best to keep nitrogen, phosphorous and sediments from entering the lake. Buffers along the lake shore are also helpful to maintain water quality. This has been a consistent focus of PPA.

Gloeo provides its own nutrients, using atmospheric nitrogen as a food source. In the fall, when they drop to the bottom, they will germinate and then float to the top taking phosphorus from the bottom sediments and nitrogen into the water column.

Gloeo thrive in warmer water, so global warming is of concern. Ice outs in the 1800's occurred in May, since 2003, ice outs occur in April or March. This year, 2016, ice out was the earliest on record.

Studies have looked into what determines a good vs a bad year for gloeo. Parameters studied include ice out date, air temperature, water temperature, stratification and mixing, precipitation, nutrient loading, and wind. The most important parameter appears to be stratification and mixing. More research is needed.

Core samples were taken of bottom samples to see when gloeo became residents in the lakes. In Panther Pond, gloeo has been present before European settlement, it is not new.

Panther Pond seems to be at a tipping point. It is between the desirable oligotrophic lake with low nutrient levels and the eutrophic lake with lots of nutrients and an anoxic bottom.

