

## Caspian Lake Protection Committee

Submitted by Stew Arnold, Chair, Aug 8, 2019

First off, our best news is Caspian Lake is still free of any known invasive species - plant or animal. This is how our prior Lake Protection chair, Andy Dales, addressed the Association- I hope to be able to do the same for a long time.

This Lake Protection Committee stewards the following: Water Quality Monitoring, Greeter Program, Lake Level, Shoreline Protection, and Watershed Monitoring. Other areas of care and concern include FOVLAP, Dam Integrity, Loons, Goose Poop, and any environmental issues. This committee is looking for VIPs (or Volunteer Invasive Patrollers), Lay Monitors, and others to assist with these tasks. Thank you to all for caring so much about our lake!

### **Water Quality**

Caspian Lake remains good to excellent for water clarity, average levels for Chlorophyll-a, and some increase trending in Total Phosphorus. Our Lay Monitors collect samples weekly and the DEC (Dept of Environmental Conservation) of Vermont compiles results. In addition, weekly monitoring is done for Cyanobacteria and we have been getting the best rating of “generally safe”.

Because of the increase in Total Phosphorus, the GA approved last year our purchasing a Phosphorus Testing kit. Last fall, David Miltenberger and I used that kit on 6 Tributaries around the west, north, and east sides to see if we can determine any sources of higher concentrations such as stream runoff or areas of erosion. Reporting a positive result near a culvert under East Craftsbury Rd by Perron Farm to DEC, we were able to implement, with DEC’s support and more sensitive lab equipment, a 2019 monthly sampling of these same tributaries. June and July have been collected and we are waited test results. This data will assist in developing a plan to reduce Phosphorus from these source.

### **Greeter Program**

To reduce the risk of introducing aquatic nuisance species and to educate lake visitors about the threat of degraded water quality by aquatic nuisance species, the Town of Greensboro employs Greeters to monitor the boat access area from Memorial Day to Labor Day. Their objective is to inspect all entering trailers/boats to ensure they are free of all aquatic nuisance species such as Eurasian Water Milfoil, Zebra Mussels, Water Chestnuts, Spiny Water Fleas, etc before entering Caspian Lake. The Greeters were trained by VT DEC personnel. In addition, the Greeters take this opportunity to inform boaters about aquatic nuisance species. Our surveys of these boaters indicates that almost 100% are now knowledgeable about the invasive threat.

The Greeter Program is funded by the Town of Greensboro with an assisted grant from the DEC of Vermont. Typically, monitoring is done in two or three shifts each day - weather permitting, from 6am to 6pm. 1207 boats entered Caspian lake in the 2018 season, compared to 1186 for 2017 season and 1002 for 2016 season. 700+ boats have been inspected this year as of Aug 1st. Most of our boat traffic is Kayaks and other non-risk watercraft. Nearly all boats are local as Caspian is their last prior use lake.

During last 3 seasons, **NO** Eurasian Water Milfoil was found by our inspectors on any trailer/boat!

### **Lake Level**

The past 4 winter and spring's extremely high water and ice break-up combined with high winds has caused significant damage to shoreline and property around the lake. We have addressed this issue multiple times with the Department of Environmental Conservation and they agreed to opening the dam weir 1 inch (we had suggested 6 - 8 inches). The opening occurred in early January 2018. Shoreline damage occurred that February and combined shoreline & property damage occurred during ice out in May 2018. This experiment was not successful in achieving our objectives to lower the high lake levels by lowering the annual lake level average. Another meeting in Fall 2018 with DEC concluded with their turning down our request for a greater weir opening. This early May, the lake level reached an extreme high, where it was less than 1/2 inch from breaching the dam. An emergency order by the State Dam Engineers opened the weir to full. This stopped the rise just in time and in a month's time, the lake returned to normal seasonal level. The weir was reset to the current 6 inches opening. We will continue to monitor this issue.

### **Shoreline Protection and Watershed Monitoring**

There are educational opportunities available for our community in both of these areas. The state has developed a "Lake Wise" Program is give shoreline owners guides to best practices on maintaining environmentally friendly approaches to the lake. In addition, there are state resources available for towns and property owners to review best practices in repair or replacement of culverts, drain systems, and road maintenance in our watershed.

### **FOVLAP - Federation Of Vermont Lakes And Ponds**

We have board representation on this statewide association which meets monthly to address common areas of concern for all lakes and ponds. They sponsor educational opportunities with a Spring (and sometimes Fall) Seminar and Summer Annual Meeting. Greatest concern last year was the re-education of Act 67 - to crack down on the transport of aquatic plants and all invasive species. This year, the increase in Phosphorus in lakes state wide is getting additional attention.

### **Dam Integrity**

Caspian Lake's outflow is control by a dam owned by Hardwick Electric. This dam got a poor rating in it's last inspection and is showing major signs of stress. Hardwick Electric has been very responsive when asked to remove blockages and has made major improvements to beach side of dam. We will assist all powers available to address these concerns before an actual failure occurs.

### **Loons**

We have had our 4th summer with successful hatching of chicks off Burlington Point. Our team of Linda and Bill Shatney, Nina and Greg Sharp, Eric Hanson, myself, and many others keep a watchful eye on the mating pair and chick(s). This year, when the chicks were just 15 days old, there was a territorial battle for the nesting rights (for next year). During the battle, one chick was killed, one adult disappeared, and the remaining adult with surviving chick fled to east side of lake. This chick is now 7 weeks old and has been actively feeding on the east shore by itself for the past two weeks. We will be ready to assist next spring with the island and signage.

### **Goose Poop**

Our lake had been experiencing an increasing population of Canada Geese and the environmental/aesthetic impact associated. This spring Ila Hunt spearheaded an effort to mitigate the goose population by applying for Federal Permits. During May & June, teams searched for nests and while we found and destroyed only one, we may have disturbed enough others, as there is only one family of 2 adults and 3 goslings active on the lake. Permits also allow property owners to harass the geese while on land, not in the water. Less geese means less poop at public beach and on lawns around the lake.

**Other occasional topics**

Septic systems, fireworks, sky lanterns, fishing, recreation, water & wastewater town plans are discussion points on occasion.

**Summary**

More help is needed to address these programs and areas of concern. Please join in the fun!