

Caspian Lake Protection Committee

Submitted by Stew Arnold, Chair, Aug 6 2020

First off, our best news is Caspian Lake is still free of any known invasive species - plant or animal.

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 all for caring so much about our lake!

Water Quality

Caspian Lake remains good to excellent for water clarity with a best reading of 11m (36ft) in mid July. Average levels for Chlorophyll-a and some increase trending in Total Phosphorus still exist. Our Lay Monitors collect samples weekly and the DEC (Dept of Environmental Conservation) of Vermont compiles results.

Because of the increasing trend in Total Phosphorus, we are testing 6 Tributaries around the west, north, and east sides of Caspian Lake to see if we can determine any sources of higher concentrations such as agriculture, road runoff, or areas of erosion. Results from 4 months of sampling in summer of 2019 showed 5 of the streams matched or only slightly above the state standard of 12-15ug/L (think parts per million) during normal flows. One stream called Trib 10 is a culvert under East Craftsbury Rd that drains the Perron Farm field and empty's into cove south of Black's Point. Trib 10 had readings of 54, 66, & 70 during normal flows and 189 during a high flow event on Aug 8th. During this same high flow, Cemetery Brook had 78, Porter Brook had 36, and Tate Brook had 24. The two high numbers can be attributed to agricultural runoff due to the supporting Dissolved Phosphorus sampling done at same time.

Sampling continues for Summer of 2020. This data will assist in developing a plan to reduce both Total and Dissolved Phosphorus from these sources.

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. 960 boats entered Caspian lake in the 2019 season, compared to 1207 for 2018 season and 1186

for 2017 season. 700+ boats have been inspected this year as of Aug 1st. Most of our boat traffic are Kayaks and other non-risk watercraft. Nearly all boats are local as Caspian is their last prior use lake.

During last 4 seasons, **NO** Eurasian Water Milfoil was found by our inspectors on any trailer/boat!

Lake Level and Ice

The past 5 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 following last year's recovery of extremely high water threatening the dam, the weir was reset to the current 6 inch opening. This led to slightly lower levels throughout the past year. We will continue to monitor this issue.

Ice On = first 100% coverage just a sheen on Dec 8th, all gone by 9th. Full Ice On = Dec 17th.

Ice Off, begins April 17th with enough open water for loons. Full Ice Off = April 29th

Shoreline Protection and Watershed Monitoring

Following last year's Greater Greensboro Community Visit, the Stewards of the Greensboro Watersheds Committee was formed to address water quality and lake protection. We determined to let the Greensboro Association Lake Protection (this committee) continue to focus on Caspian Lake while the new Stewards of the Greensboro Watersheds will focus on the whole town including all of the streams and ponds within the multiple watersheds such as Barr Hill (Stanley and Greensboro Brooks), Long Pond (Sawmill Brook), Lamoille River, Lake Eligo, and North Greensboro (Whetstone and Whitney Brooks)

There are educational opportunities available for our community in both of these areas. The state has developed a "Lake Wise" Program which gives 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 watersheds.

FOVLAP - Federation Of Vermont Lakes And Ponds

We have 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.

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 responsive when asked to remove blockages at weir and has made upgrades to both sides of dam to improve integrity - Rock piling on south side and tree removal on north side both to prevent future erosion. We will assist all powers available to address these concerns.

Loons

We have had our 5th summer with successful nesting with eggs laid on the loon raft off Burlington Point. Our team of Linda Shatney, Will Lyman, Nina and Greg Sharp, Eric Hanson, myself, and many

others keep a watchful eye on the mating pair and chick(s). Unfortunately this year, a day after the second egg was laid, an intruder loon attacked the mating pair. After the 30 second skirmish, the mating pair did not return to nest thus the eggs never incubated. Eric Hanson, state biologist, states that this is a good sign in the long term to have competition and let the pairs solve the conflict. We will be ready to assist next spring with the loon raft and signage.

Goose Poop

Our lake had been experiencing an increasing population of Canada Geese and the environmental/aesthetic impact. Last spring Ila Hunt spearheaded an effort to mitigate the goose population by applying for Federal Permits. Again this May & June, teams searched for nests and while we found and destroyed only one, we may have disturbed enough others, as there are a family of 4 adults and 9 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!