

Water Quality on Seymour Lake 2011

Water quality is an important endeavor of Seymour Lake Association (SLA). Here is a brief synopsis of our ongoing work followed by a conclusion regarding where our efforts should be focused.

1. Eurasian Watermilfoil: This aquatic plant has been wreaking havoc in many Vermont Lakes. SLA, the town of Morgan and a state grant are funding two monitors at the lake access to check boats for the presence of transported milfoil. This endeavor and a volunteer program surveying the lake perimeter are headed by Janet Selby. Seymour, so far has been free of milfoil, but our efforts must continue. This saying is extremely important – “an ounce of prevention is worth a pound of cure”.

2. Spring Testing: State scientists test our lake water in early spring for clarity and phosphorus. In 2009, the highest level of phosphorus ever was recorded.

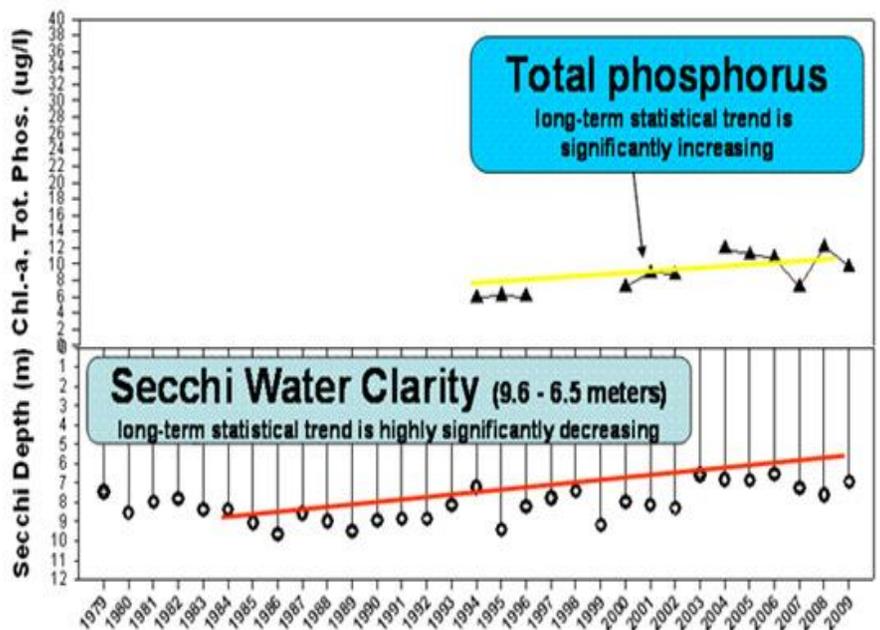
3. Better Back Roads: Programs to minimize undesired runoff of sediment and phosphorus into the lake from roads was initiated in 2008. In 2011, additional programs for town and private roads are being considered.

4. Tributary Testing: To learn about the amount of phosphorus and sediment entering the lake from streams samples from six tributaries were tested during the summers of 2008– 2009. State scientists and SLA volunteers collaborated on this program which showed that the tributaries are not carrying sufficient amount of phosphorus, nitrogen and

sediment into the lake to account for the downward trend in water quality by themselves.

5. Lay Monitoring Program: Testing for clarity, phosphorus and chlorophyll is done by Tom Emery throughout the warm months. These three measurements are the best overall indication of water quality in Seymour.

The increase in phosphorus and the decrease in clarity are of significant concern and ultimately negatively impact lake property owners and lake users. Chlorophyll levels have been low in the past, but were significantly higher in 2010, perhaps due to the high spring phosphorus levels. **National, state and local studies show that the most significant impact on water quality in Seymour is loss of the natural buffer on the shore.**



Lake Evolution: In their original condition, lakes have no shore land development and their highest water quality. Seymour was this way in 1799 and until 1985. As people recognized the beauty of lakes, they naturally wanted to build homes on the lakeshore. This started in earnest on Seymour in 1920 and since that time 366 homes have been built on the lake and each has had an impact upon water quality. The cumulative effect was not noticeable until 1995.

When people develop property on a lake, major changes occur to the native forest, including the addition of houses and their roofs, roads and driveways, loss of trees, loss of shrubs and planting of lawns. In excess of 50% of the shore of Seymour has been cleared of native vegetation which has been replaced with lawns extending down to the water's edge. State scientists explain that lack of a natural buffer means that most of the runoff with its sediment and phosphorus runs directly into the lake. This increased amount of phosphorus is the source of lowered water quality and clarity. In addition, the natural buffer is home to creatures that spend part of their lives in the water eating algae. This keeps the algae population in balance and prevents algae blooms. To quote Pogo, "we have met the enemy and he is us". The only known solution is to restore natural shoreland as much as possible.

Shoreland Restoration: Natural lakeshore vegetation is critical to *the long term health of the lake environment*. A "buffer" of natural vegetation along the water's edge separates the upper land uses from the lake and can be thought of as native Vermont woods. A buffer slows and filters runoff, diminishing amounts of sediment and phosphorus entering the lake. It also maintains the habitat for developing algae eating creatures. To function as a buffer, the vegetation should be a natural mixture of trees, shrubs, ground cover and the duff layer which collects under the plants.

What you can do:

- Look over your property to find places you feel you can give a bit of the shore land back for protecting the lake.
- Look for places where you might be willing to plant ferns or small shrubs to soak up runoff.
- Visit seymourlake.org and use the "BUFFER" button to learn what you can do or to leave a message at the web site asking SLA volunteers to help.
- Organize a few neighbors and arrange a brief presentation by a Water Quality Committee member who can also answer your questions.

