Tom Emery and Seymour's Lay Monitoring Program

by Erik Lessing

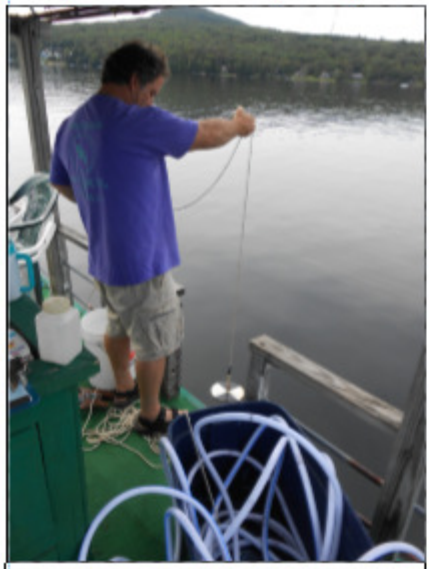
Seymour is one of 55 lakes which participate in Vermont's Lay Monitoring Program. It is "Lay" because the individual lakes use volunteers to measure clarity and collect water samples which are then analyzed by the Department of Environmental Conservation laboratory chemists. Since the initiation of the program in 1979, the principal objectives have been to accumulate an accurate water quality database in terms of nutrient enrichment and to educate lake residents about lake protection.

Three parameters are monitored: Water Clarity, Chlorophyll-a Concentration, and Total Phosphorus Concentration:

Water Clarity is a measure of the absence of particulate matter, such as algae and silt and is measured using a Secchi (pronounced "sekē") disc lowered into the water on a rope. The deeper you can still see the disc, the clearer the water.

Chlorophyll-a Concentration is a measure which is directly proportional to the amount of algae living in the water. In general, higher chlorophyll-a concentration correlates with lower water clarity as measured using the Secchi disc.

Total Phosphorus Concentration is a measure of nutrients for algal growth and the potential for future algal growth. Phosphorus enters a lake primarily from rain, streams, and runoff. Its concentration tracks chlorophyll-a, both of which adversely affect water quality.



Tom lowering the Secchi disc into Seymour. Notice the black and white markings on the disc to assist Tom visually.

Tom Emery

So meet Tom Emery. He is Seymour's volunteer Lay Monitor, and he's been doing this for ten years, following a long line of previous volunteers, all dedicated to monitoring our water's health. As Lord Kelvin said, *"When you can measure what you are speaking about, and express it in numbers, you know something about it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely, in your thoughts advanced to the stage of science."*—and knowing about the state and trends of our water quality is vital.

Each summer, Tom samples our water nine or more times, usually a week apart. He sets out in his hand-crafted pontoon boat and in about two hours measures and collects water samples from two locations: the middle of the main part of Seymour and the middle of the "L" section. He first lowers the Secchi disc, and when he no longer can see it, records that depth—8 meters this time in both locations. After rinsing a long hose, he lowers it to twice the Secchi depth (16 meters) and pulls up a representative sampling of Seymour water over those 16 meters. He bottles it in two containers to be picked up by the state scientists and tested.

Tom is a special education teacher in Burlington, lives in Essex Junction, VT and comes every summer week-end and more to his other home in Seymour East. He is just one of many, many relatives who live on Seymour and enjoy its benefits. Of course, with most of your family here too (parents, brothers, sisters, kids) how can you not like it!

One of Tom's recommendations to help Seymour Lake is to not feed the ducks. While cute, ducks, especially a lot of them, deposit bad things, which are not good for our lake. Feeding them only encourages more, so in addition to being illegal, it's something you don't want to do.

Tom pulling up the hose with the water samples from the 16 meter depth

Tom is really passionate about his love of Seymour. You can tell it instantly in the way he talks about it and his desire to continue his contribution to the health of our lake. Concerned about the future when he no longer can continue to do his job? Not to worry—he has a son, James, who aspires to take over and continue a family tradition. □