

Water Testing – Chapter #39A

Chris Giordano, Fairview North Tract Director, presented the latest lake monitoring data. It showed a trend toward decreasing most nutrient levels; however some spots had increased in turbidity and phosphorus, a primary cause of algae blooms. Chris would contact Dr. Makierawicz to learn more about the newest type of algae seen in the lake. According to Francis Foulkrod's resource book on algae, it was *spirogyra*.

Mr. Reckahn, the County Water Quality Technician, discussed water sampling and grants. Grant money was available to continue removing debris from the outlet. Much debris was hauled away by Perry Public Works Department and Groveland inmates that did community service. The two year monitoring program started in May 2000. Equipment that measured the flow of water in the tributaries of the lake allowed technicians to compare all three kinds of data to get an idea of what's coming off the watershed. Site locations were: Suckerbrook Road, Koziel's Boat Livery, a bridge on Route 20A, behind the Pro Shop at Silver Lake Golf Course, Private Drive #3 off West Lake Road, and the outlet. Fifty-three percent of the water entering Silver Lake enters through the inlet at Koziel's. Because the lake had the inlet and outlet at the north end, many nutrients go right out again through the outlet. Dave Reckahn said when it came to pollution, Silver Lake was "middle of the road" compared to other lakes. It was not too bad but could be better. The federal government continued to make drinking water standards stricter because the technology to get water cleaner exists and was improving all the time.

Perry Town Supervisor Anne Humphrey was the new Watershed Commission Chair; a new sampling program was proposed in response to the blue-green algae scum. Sampling would be done every other week from May to October; the County already did tests for dissolved oxygen as it had for 10 years. Estimated cost was \$5,000-\$12,000 and did not include event monitoring. The SLA appealed to the Watershed Commission for funds and would go before the County Water Quality Resources Committee for money too, citing the health risks of neotoxins. The Watershed Commission favored \$5,000. The SLA discussed giving \$3,000 to the program the first year.

The discussion continued on lake sampling at the April 2004 meeting. The new sampling protocol would be 6 samples 8 times with two in each month June – September with a report due in October. The total cost would be \$8,230 with a \$230 discount. The county could not commit the money because of the Oatka Creek project. The Watershed Commission would be willing to give \$5,000. Silver Lake Marine could not donate a boat but was willing to lease one for \$100 per day. Dick Laley felt that the SLA wouldn't get anything from it. The majority felt data gleaned could help ID reasons for blue-green algae and support lobbying for future funds. Dick Swanson motioned that the SLA commit \$3,000 contingent upon the Watershed Commission's \$5,000 commitment and pending evaluation of the results, to continue in 2005. The motion was passed by 6 voting aye, 1 nay, 1 abstained. The Watershed Commission had okayed the \$5,000 toward the \$8,000 needed by SUNY Brockport to do the monitoring testing. Volunteers were needed with boats to meet the students at the state launch every two weeks.

At the annual meeting of 2004 Rich Eliaz read a report on the lake testing. The preliminary data of the samples that were taken June 10, June 24, and July 7, and found that the *E. coli* was well below the unsafe standards set by the EPA. Toxin was found in the first two samples but not in the third and was below the World Health Organization standards. The dissolved oxygen declined as the depth increased, which could contribute to fish kills; and the phosphorous were elevated. Terry Baumer said the deplorable condition of the water was impacting his property value and his family's enjoyment of the lake. Terry asked if the SLA would establish groups or subcommittees to act quickly and critique local politicians on the conditions in the lake. Ruth Lavin felt the SLA should find an environmental attorney on the lake who would get involved.

There was no report on the lake testing from the SUNY Brockport test findings. Ted Lewis from SUNY Brockport and Wyoming County Water Quality Technician Dave Reckahn monitored the lake during storms. The

Mueller ditch near Smith and Fairview Roads had high levels of nutrients (possibly silage). Dave's last tests at the lake woke up the county as to what was happening. Conesus farmers were putting up fences to keep cattle out of ditches.

Bill distributed copies of a layman's version of the limnological study of the lake. Brockport would send a person to the SLA's May meeting to discuss evaluating the monitoring program and how to recognize and sample a bloom. Wyoming County Water Quality Technician Dave Reckahn drafted plans to build sediment retention dams on tributaries, a potential Boy Scout project using railroad ties. SLA would look into the costs of the project and coordination with the scouts.

Information on lake monitoring was reported to the membership at the 2006 annual meeting. There were 3 types of monitoring: 1) samples taken at 1 meter and at the deepest location biweekly with analysis of conductivity, pH, phosphorous, nitrogen, chlorophyll a, and calcium. 2) Other samples were drawn by the county using a hydrolab operated by intern Lori Kessel and using Bayne Johnson's boat. Weekly, she took electronic measurements at 5 selected locations, at 1 meter intervals from the surface to the lake bottom (depth, temperature, dissolved oxygen, conductivity, and pH were documented). 3) Secchi readings for water clarity were done weekly at 5 sites; SLI dock at 37 feet and 2 each at the North and South ends. The North end showed more flow than the South end.

Bill Soules updated the board on the water quality stats. The committee had assumed the taking of samples and there was low oxygen content in the lake. The lake began to turn over 9/1/07. This was a natural happening at that time of year. Each year was different depending on the weather conditions. There were improvements. Before the sewer installation, the lake turn over lasted the entire month of August and you could not use the lake.

Bill Soules said data was needed to see if testing would show patterns and would be useful for keeping up the health of our lake. There were 150 lakes participating in CSLAP. 10 years of water sampling would be compared to other lakes. Jim Coles offered to take a technician out on his boat and assist with the sampling.

Bill Soules reported that May-October the SLA would be testing the lake in 5 tributaries. Testing was planned during rain events. Bethany Klein had plotted dissolved oxygen levels. She discovered there was no dissolved oxygen at South end. The problem stemmed from a lack of flow through the lake; the inlet and outlet were at the same end. A dissolved oxygen meter (cost \$600) purchase was proposed to the board. Mary Kay Barton added if the SLA wanted grant money for our lake issues, it needed more concrete data to present the problems.

Bill Soules was contacted by Oneonta and stated they could potentially give a \$1,000 scholarship to a student for study in the Water Management program. Genesee Community College Ecofocus program may be sampling from our lake. The CSLAP report was received; it was a 167 page report. It charted all the upstate New York lakes. The total phosphorus average-lowest reading in WNY was Seneca Lake at .005; Smith Pond near Avoca was the highest at 0.337. Silver Lake was at .318. Surface Phosphorus readings were; Lowest-Loon Lake .0010; highest .106 Java Lake. Silver Lake's reading was .043. Water clarity readings were; the clearest was 9.44 Skaneateles (at 30 feet!); the worst was .78 Java Lake; Silver Lake was 2.16. The other readings for Silver Lake were; Nitrogen .65 and PH-7.99. Bill continued saying that phosphorus was present in fertilizers, detergents, storm water runoff, and pesticides. It was asked if there was any way to mitigate, neutralize, etc. the existing phosphorus. Bill answered that Irondequoit Bay tried encapsulating the bottom with a very expensive treatment, it only lasts approx. 5 years and he was not sure of results.

Bill Soules reported on Water Quality at the August 2010 meeting and said; the weeds were substantially gone at 5 to 6 feet of depth because the lake had been so green and light didn't get through; the SLA was sampling for algae for the 2nd year; the CSLAP testing was going up to \$600 total in 2010; the phosphate levels had dropped by 50% since 1986; Milfoil was no greater than other years; and the phosphates were reduced but Silver Lake was the 2nd highest in the state.