

REPORTER

Fall 1997

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Field Station Biocontrol Activities

BFS personnel are involved in ongoing biocontrol efforts throughout New York State: **Bill Harman**, as Vice President of the New York Federation of Lake Associations, is working with organization officers to increase federal and State funding for development of an exotic plant control program that can address problems in New York State lakes. Associated funding should support pilot projects on Lake George and Eagle Lake using SONAR, an herbicide. In addition, a research project under the direction of **Bob Johnson** from Cornell University studying the impacts of weevils and aquatic moths for milfoil biocontrol is included. The above mentioned projects provide data necessary for the implementation of a viable control program.

BFS is involved in field work in several areas with milfoil and purple loosestrife control. **Matt Albright** has been studying macrobenthos associated with milfoil in Waneta and Lamoka Lakes. **Shannon Bennett** has monitored the response of milfoil to herbicide treatment in Moraine Lake. **Mary Minor** conducted a survey of *Acentria ephemerella*, an aquatic moth that eats milfoil and has apparently contributed to the lack of serious problems with milfoil in Otsego Lake. **Tavis Austin**, working with Cooperstown's Lake and Valley Garden Club and **Bernd Blossey** of Cornell's "Biological Control of Non-indigenous Plant Species Program" introduced *Galerucella* sp., a weevil that eats purple loosestrife, into

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Do we have your correct address?

Located in Cooperstown and founded in 1968, the Biological Field Station is a unique facility serving the Upper Susquehanna Watershed, Otsego county and the immediate Cooperstown area. It is primarily a teaching and research center for undergraduate and graduate

students from across New York, the United States, and Canada. Directed by Dr. Willard Harman and staffed with talented, experienced professionals, the Biological Field Station is presently the focal point for information about issues affecting Lake Otsego and the Susquehanna River.



BFS Summer Interns — 1997

OCWQCC Funds Willow Brook Monitoring

The Otsego County Water Quality Coordinating Committee, with funding by The NYS Department of Agriculture and Markets, has arranged with the BFS to evaluate the effectiveness of urban BMPs implemented on Willow Brook.

As part of a BFS effort to establish a nutrient budget for Otsego Lake in the early 1990s, a two-year database on the water quality of Willow Brook was developed. Following this work, the

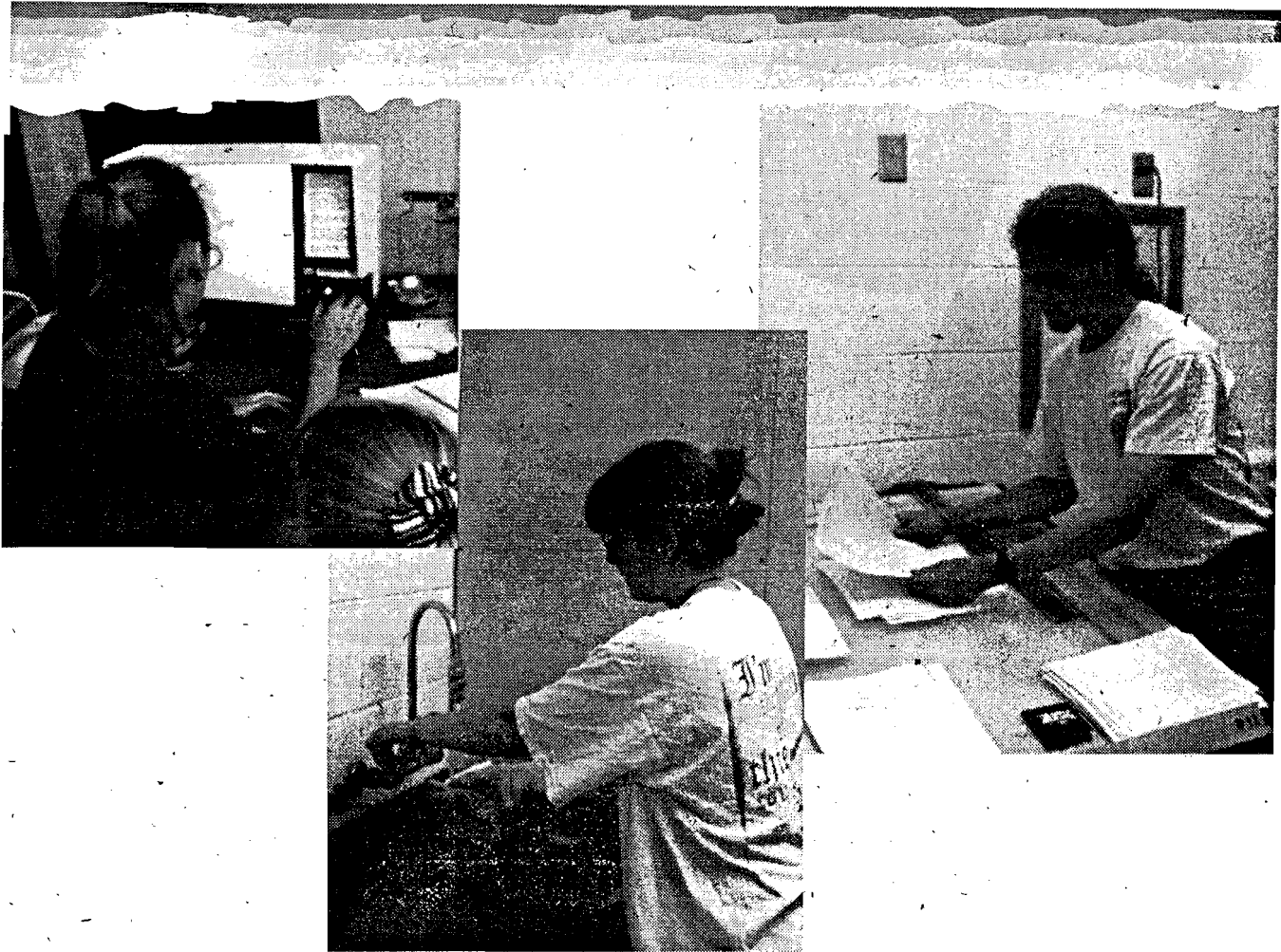
Otsego County Soil and Water Conservation District received \$40,000 in USEPA 604b grant monies to address sediment and phosphorus runoff from the Willow Brook basin. Projects included the dredging of a sediment detention basin on the main trunk of the stream and channel stabilization work along its more urbanized stretches.

Constant flow monitoring and automated sampling equipment will be installed

near the mouth of Willow Brook this fall and all significant runoff events over the next several months will be monitored. By comparing the current situation with that which existed during the early 1990s, we can gauge how effective local efforts have been at improving the quality of water entering Otsego Lake. *

Biocontrol, cont.

Goodyear Swamp Sanctuary this summer. The beetles, placed in cages, seriously impacted loosestrife's growth and flowering. Loosestrife in a control cage, without insects, showed normal growth. The weevils were released from the cages in late August to further their depredations on this noxious exotic. *



Updates, cont.

- Water transparency in Otsego Lake this summer has averaged 2.4 meters. This was much worse than 1993's 3.5 meters for the same time period. In general terms, 1993 was the worst year on record for Otsego Lake water quality. The chronically turbid, algae-laden waters this year are attributed to our phosphorus loading problem. The situation is worsened by the reduction of algae-eating zooplankton by the introduced exotic forage fish, the alewife.
- **Kathy Ernst**, BFS graphic artist, has designed signs to be used with the OCWQCC "Lake Friendly Farmer" program for Otsego and Canadarago Lakes. The program recognizes local

agribusinesses for activities that have positive benefits on water quality in watershed lakes.

- **Bill Harman and Matt Albright** have received a grant from the Madison County Planning Department (NY) to monitor Eurasian Milfoil populations after herbicide treatment in Moriane Lake. They also will be acoustically mapping the Lake.
- **Andy Fetterman**, an MA candidate in earth science, is working at the BFS with karst hydrology in the northern Otsego Lake watershed. He cooperated with **John Halfman**, a Hobart and William Smith College faculty member, to acoustically characterize deep

bottom sediments and glacial till in the Lake. These efforts are associated with characterizing groundwater from the north and determining where it enters the Lake.

- **Bill Harman** has published two papers concerning Otsego Lake macrobenthic communities, one in the July issue of "Lake and Reservoir Management", the other in "The Journal of Freshwater Ecology". The former documents changes in physical and chemical characteristics of Otsego Lake using the benthos as indicators for lake managers. The latter is an organism oriented, ecological report for biologists, using Otsego as an example of trends in freshwater ecology. ☀

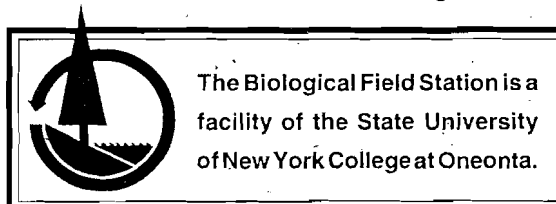
Updates

- The College administration has provided the BFS with additional equipment in order to support Otsego Lake and watershed monitoring and associated activities. It includes: A Hydrolab Datasonde 4, used to analyze on site water quality; a Global Positioning System (GPS) used for finding precise latitude and longitude; several rain gauges; an electric generator; a vacuum pump which increases our ability to study fecal coliform bacteria, chlorophyll, suspended sediments, etc.; several dissecting microscopes; a sterilizer for laboratory equipment; and a high pressure, hot water washing device to assure that our boats are free of exotic organisms as we move from lake to lake during our research activities.
- Lt. Col. **Paul Lord**, USMC (Oneonta class of '74) has applied for entry to the MA in biology program. Paul worked as a BFS intern two summers as an undergraduate. He received an MS in Operations Research in 1982 from the USN Postgraduate School, Monterey. He is taking classes this semester and intends to become involved here modeling some aspect of water quality research.
- We recently purchased two Honda 4 stroke outboard engines, bringing our total number to four. We expect to be using these non-polluting engines exclusively within a few years.
- **Kristi Ives**, summer 1997 Rufus J. Thayer BFS intern, University of Vermont ('97) will stay on through the fall. She is applying for admission to the MA in biology program and expects to work on algal responses to sediment perturbation from powerboat use.
- Field work on Waneta and Lamoka Lakes sponsored by the Schuyler County Water Quality Coordinating Committee has been completed. A final report characterizing the lakes macrobenthic invertebrate fauna is now being prepared.
- **Matt Albright** has been appointed "Staff Assistant" at the BFS. This appointment with the University involves assisting Bill Harman in education, research and administration of the Station. Matt put off completion of his MA degree for six years in order to work with the USEPA and associated grants leading to the "State of Otsego Lake" report. He has worked extensively with local agencies on water quality issues. He developed a hands-on, field oriented science curriculum for Brookwood School and has been deeply involved with the BFS environmental field trip program. His BS in biology is from SUNY Geneseo.
- The OCWQCC has sponsored the production of several signs on Otsego and Canadarago Lakes suggesting a code of behavior for boaters.
- **Dave Warner** has accepted a secondary school science teaching position with BOCES. Dave is a BFS graduate student using acoustic methodologies on Otsego Lake to learn more about alewife population dynamics, in cooperation with **Lars Rudstam** (BFS visiting researcher, '97) from Cornell's BFS on Oneida Lake.

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Fiscal challenges in recent years have constrained the work of the Biological Field Station. Private gift support from individuals, foundations, and corporations is essential and an investment in the Biological Field Stations' continued success and services to the community. For more information, call or write:

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