



Reporter

The Biological Field Station is a facility of the State University of New York College at Oneonta

2009 Summer Research

Faculty involved full-time in research at the BFS this summer include Florian Reyda (BFS faculty researcher) and Nicola McEnroe (BFS faculty research fellowship). They are working, respectively, on helminth parasites of Otsego County fish and carbon cycling in Cranberry Bog

and other local wetlands. Matt Albright, Amanda Barber, Bill Harman, Paul Lord, Tim Pokorny and Holly Waterfield are involved in a diversity of projects including carrying out several physical, chemical and biotic Otsego Lake monitoring programs implementing the Lake Management Plan, development of a Canadarago Lake State of the Lake Report, habitat mapping and surveys

of populations of pearly fresh water bivalves of greatest conservation need in the Susquehanna River drainage in New York State, biocontrol of purple loosestrife in Goodyear Swamp Sanctuary and a wetland near Oneonta, water chestnut eradication in the above-mentioned wetland, evaluation of media for nutrient removal of household sewage effluent and upper Susquehanna River water quality monitoring. They are also involved in acoustic evaluation of Otsego Lake alewife and walleye populations, and in collaboration with Lars Rudstam and Tom Brooking of Cornell University and John Foster and Mark Cornwell of SUNY Cobleskill, additional work on Otsego Lake fisheries and comparison of acoustic data from other inland and Great Lakes. Tom Horvath is making use of BFS resources to monitor Otsego Lake zebra mussel populations. Everyone's

We are now routinely posting Otsego Lake water quality updates on our web page (www.BFS.Oneonta.edu) as well as that of the OCCA: www.OCCAinfo.org.

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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.



Dr. Florian Reyda with Liza Hendricks, Liam Heiland, and Katie Eyring in the upstairs Hop House Lab.

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Dr. Nicola McEnroe and interns using the suite of computer-interfaced microscopes in the Upland Interpretive Center. Interns left to right: Irene Primmer, Shawn Gillespie, Maribeth Rubenstein, Zach Burriss.

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work is facilitated by our sponsored student interns and volunteers; Liza Hendricks (fish parasites), Maribeth Rubenstein (Cranberry Bog carbon biogeochemistry) and Shawn Gillespie (evaluating zooplankton communities in Otsego and Canadarago Lakes and Otsego Lake watershed water quality monitoring) from SUNY Oneonta, Irene Primmer (Moraine Lake plant management, algal communities and production in Otsego and Canadarago Lakes) from Mansfield University, Justin Potter (Otsego Lake warm water fisheries) from SUNY Cobleskill and Carter Bailey (Canadarago Lake and watershed water quality) from SUNY College of Environmental Science and Forestry. Kathryn Eyring (working as a research assistant under an NSF grant based out of the University of Connecticut) is from SUNY

Oneonta. She is describing four new species of tapeworms from Baja California and Borneo. Liam Heiland (Otsego Lake and Susquehanna River biotic monitoring) is from Milford Central School. Students involved in directed research on site include Zach Burriss (Cranberry Bog and Thayer Farm ponds aquatic ecology) and Crystal Wiles (parasites of fish and damselflies) from Oneonta. Student and citizen volunteers include Kathy Ernst (REPORTER layout and graphic design), Michael Bergman (fish parasite survey) and our BFS volunteer dive team; Paul Lord (Divemaster), Brian Benjamin, Bjorn Eilertsen, Lea Ferrara, Ed Lentz, Jim Vogler, Dale Webster and Cyndi Benjamin (tender).

This years research has been sponsored by The Clark Foundation, the Gronewaldt Foundation, the Otsego County Conservation Association, the Lake Moraine Association, Canadarago Lake Improvement Association (via SWCD), NYS

Department of Environmental Conservation, the National Science Foundation, the Peterson Family Trust, the Upper Susquehanna Coalition, Village of Cooperstown, SUNY Cobleskill Fisheries and Wildlife Technology, and citizens concerned about the quality and character of our natural resources. Currently administered gifts, grants and contracts have a value of about \$600,000.

Mount Tom

In the Town of Springfield, within 10 minutes drive of the Thayer Farm, there is a coral reef similar to what you can see growing in the Bahamas today. Called Mt. Tom, the corals and associated organisms forming the reef grew on the bottom of the Devonian sea that covered our area 400,000,000 years ago. The reef, about 8 acres in size, is now being given to the BFS by PACY Land, LLC. The importance of the resource, which is visited annually by academic institutions

from all over the United States, is recognized by the Otsego Land Trust and has been documented by the Springfield Planning Board. It will be kept primitive with the exception of a trail to points of interest. It will be used to forward the research and educational programs of the BFS.

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our summer vacations, and have undiminished interest in natural areas and the environment.”

☛ We have moved out the **Main Laboratory** near Cooperstown until 2010 when renovations of that facility are supposed to be completed. Until then we will be at the Thayer Farm and Greenwoods Conservancy. When completed the Main Lab will house several analytical labs, a library, new culture spaces and wet rooms, space to monitor and repair wireless remote sensing equipment, and much improved facilities for research faculty and

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Irene Primmer and Carter Bailey in the basement Hop House Lab.



student use. It will be used for cleaner, more secure and sophisticated analytical research than the old lab. More field work and the pre-college field programs will take place at the Upper site (Moe Pond area) Greenwoods and the Thayer Farm. During the move we have been hard to reach. Present telephone numbers are: the Hop House and administrative offices 607-282-4188; Upland Interpretive Center 607-547-6218, the Boathouse 607-547-2708; FAX 607-282-4009.

➤ **A new septic system** has been installed at the **Thayer Farm** serving the residence, hop house and boat house. The shared facility has nutrient removal capabilities provided by Wastewater Technologies, Inc., and Knight Treatment Systems. It was partially funded by the Village of Cooperstown Watershed Supervisory Committee via a grant from the NYS Department of Environmental Conservation.



Otsego Lake Zebra Mussel Update

- During the winter months Otsego Lake zebra mussels grew several millimeters and some migrated to new surfaces. When we pulled the BFS ice eaters (that keep our docks free of ice in the winter) this spring, dozens had colonized the underwater power lines. As of 15 June hundreds of mussels averaging about 7mm (1/2 inch) long are on most wooden surfaces adjacent to silt substrates in the lake. By August 1 1000s of spat were settling on all firm surfaces.
- Anyone wishing to protect their potable water supplies from zebra mussels should first read "Control of zebra mussels in residential water systems" by Charles O'Neill, Jr. (New York Sea Grant or see OCCA's web page) to gather information on the general methodologies used to address the problems caused by the mussels. There are generally two concerns with drinking water; keeping intakes clear of adults and controlling the colonization of veligers (planktonic larvae) in internal plumbing. Simply adding copper components to the intake will keep that area free of mussels; however the planktonic eggs and veligers can move through those areas and settle in pipes inside your house. If you're good with your hands and have a sandy bottom or beach you can create your own filter by submerging water intakes in the natural substrate. There are several manufactured filters available for water intakes or in house systems. They vary in cost from about \$300 to over \$1,000 and need to have components cleaned or replaced periodically. The closest producer we are aware of is Zebra Mussel Filter Systems in Romulus, NY (1-800-308-5370). You can search online "zebra mussels water filters" to find others. Local hardware stores are vendors for some products.
- Boats can be protected by keeping them out of the water; on the beach, in a boat hoist or sitting on a trailer when water temperatures are above 10 degrees C (50 Degrees F). We will be making sure that about every two weeks each BFS boat will be removed from the water for about a week to dry out. Or you can jump in the lake and scrape boat bottoms when necessary. Outboard engines and outdrives should be tipped up out of the water to protect the cooling systems. Some put a garbage bag around the lower unit of outboards tied above the water level, then run the engine until it begins to overheat keeping it bagged until the next use. That action will kill everything in the bag and the engine cooling system. Once mussels clog up a cooling system it's practically impossible to remove them. Larvae in bilges can be killed by the periodic application of small amounts of Clorox or table salt (or lots of hot water).
- A good pair of "water shoes" for swimmers will soon become necessary for all but those with the most callused feet. Gloves will make sense for those working in the water. If you discover additional techniques that work for you please let us know so we can let others know.

Updates



Drilling under Rte. 80 for sewer and telecommunication lines between the Boathouse and Hop House.

➤ Renovations at the **Thayer Farm Hop House** are nearing completion. It will house three laboratories, conference and office spaces. When finished the building will provide year around access to research sites where we are evaluating the effects of local agriculture on land cover and its impacts on the character of Otsego Lake. We hope to show that local farming practices represent the best alternative land use to minimize negative cultural impacts on aquatic resources in Susquehanna headwaters in New York, Pennsylvania and West Virginia.

➤ The BFS will be collaborating with the **Village of Cooperstown** and the **Otsego county Soil and Water Conservation District** by monitoring a wetland near Cooperstown's Waste

Water Treatment Plant that is intended to be restored and carry the Village effluent through it, fixing phosphorus and nitrogen compounds and thereby reduce nutrient loading into the Susquehanna.

➤ More than 300 visitors have registered at the **Upland Interpretive Center** since we started keeping records in late 2007. Most of the pre-college groups (they average about 20 students each) are represented by only their leader's signatures. When total numbers are estimated we believe about 1,500 visitors have used the facilities.

➤ **Rick Thomas, MA** in Biology '82. "After an 11 year stint in the aerospace industry as a system engineer for GE Aerospace and Lockheed Martin (Virginia and Pennsylvania), I returned to teaching at

Boyertown Area Senior High School in southeastern PA. I teach AP and Dual Enrollment Environmental Science (for Montgomery County Community College credit). My students and I are involved in several water quality, biodiversity, and land preservation/reclamation projects, and we work closely with the Perkiomen Watershed Conservancy, county conservation district offices and regional non-profits, and Hawk Mountain Sanctuary. My wife **Diane**, also a SUCO graduate '81, Human Ecology / Home Economics, is an administrative assistant in the same school district. She returned to the workplace after raising our two sons, both in their 20's (Keith and Reece). Both of us love exploring wild places during

The work of the Biological Field Station is strengthened and enhanced by private financial support from individuals, foundations, businesses, corporations and civic organizations. In fact, these contributions are necessary for the continued success of the Biological Field Station and all of the services provided to the community. For more information, call or write:

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As an academic program within the State University College at Oneonta, the Biological Field Station receives fund raising services through the College at Oneonta Foundation, a nonprofit charitable organization. All gifts and grants for the BFS are tax deductible. They are managed by the Foundation and used expressly for the purposes for which they were given. Estate planning gifts such as bequests and trusts are also sought and appreciated. More information is available by contacting:

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