

REPORTER

Fall 1995

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BFS Fund Raising Drive

Thanks to **Bunny and Lew Hamilton** for their fund-raising work with the BFS Advisory Council. Since mid-April, when their effort began, to September 15, 25 gifts totaling \$27,820 were received. Our 1995 goal is \$40,000. Appreciation is extended to:

- Dr. and Mrs. Michael A. Bauer
- Mr. and Mrs. A. William Bertsch, Jr.
- Mrs. Dorothy B. Campbell
- The Clark Foundation
- Henry S. F. Cooper
- Carol B. Davis
- Dr. and Mrs. Paul M. Deringer
- Frederick S. Doolittle
- Mr. and Mrs. Gerald Evans
- The Rev. and Mrs. George F. French
- The Gronewaldt Foundation
- Dr. and Mrs. Bruce Harris
- Mr. and Mrs. Bruno Hofmann
- Dr. and Mrs. R. W. Mackie
- Dr. and Mrs. Roger MacMillan
- The MB Group
- Mr. and Mrs. Fredrick L. Rath
- Mr. and Mrs. John Reynolds
- Mr. and Mrs. George B. Snell
- Dr. and Mrs. David S. Svahn
- Mr. and Mrs. Bruno A. Talevi
- Mr. and Mrs. Terence L. Watts
- Dr. Mary Anne Whelan
- Mr. and Mrs. Thomas S. Wright
- Dr. and Mrs. Frank A. Zimba

Thanks

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.

Ducking Responsibility



Zebra Mussels

by Robin Taylor, *Ohio Sea Grant Communications*
(Edited for *The Reporter*)

Some people believe that no matter how careful humans are in cleaning their boats and motors, live wells, and bait buckets, there's still nothing they can do to stop aquatic birds from spreading zebra mussel larvae either upstream or overland to uninfested waters.

Should policy makers impose regulations on boating activities when birds are going to undermine all of their efforts anyway? Or do humans actually contribute more to zebra mussel invasion than water birds, making control possible and public policies and regulations worth the cost, time, and effort?

In their Sea Grant-funded studies of how zebra mussels spread geographically, Dr. Ladd Johnson

and Dr. James Carlton set out to answer this question.¹ They measured the ability of mallard ducks to transport veliger (larvae) and juvenile stages of zebra mussels. Their studies of internal transportation, and those of others using different organisms, showed that not a single mussel survived passage through the birds' gut. As for mallards transporting mussels on their feet or in their feathers, the researchers had ducks swim in zebra mussel-infested lakes (with mussel larvae at the water surface) or in experimental pools with enhanced concentrations of zebra mussels, then walk 2.5 meters (8.2 feet) to swim in a pool of clean water. The ducks, they calculated, transported only one-quarter mussel per duck per trip. That's on a wet duck, walking. "In reality," says Dr. Carlton, "ducks fly from lake to lake, and it's hard to imagine any larval or

juvenile zebra mussel withstanding the wind stress and desiccation of flight. They would simply dry up and blow off. Clearly, boats are the best means of transport."

What's more, when veligers and juveniles are most abundant, is the very time that ducks are settling down in one area to nest and feed in preparation for fall migration. These times, however, are peak times for recreational boaters to move from one lake to another. It's also peak time for aquatic vegetation, which adult zebra mussels attach to, and which also gets caught on boat trailers as boats are hauled from the water. So, what exactly are recreational boaters contributing to zebra mussel transportation?

The researchers found zebra mussel larvae in all of the places where lake water can accumulate in boats, particularly in live well systems. They visited nine public boat ramps, where they examined a total of 49 boat trailers. Depending on the site and time of day, up to nearly a third of the trailers at some sites had vegetation entangled on them, and the plants had adult zebra mussels on them. There weren't many adults (1-8 per trailer), but having personally observed a single meter

of stem length with more than a thousand adult mussels on it, Johnson and Carlton suggest that the potential for a single trailer transferring hundreds, if not thousands, of adults is great.

Rather than simply assume, then, that all hospitable waters are destined to become infested with zebra mussels, the researchers point out that except for inland lakes visited by recreational boaters, most waters that are colonized now are connected to infested watersheds. It illustrates, they say, that everything downstream of an infested area will likely become rapidly colonized, too. But for a pristine watershed to become infested in the first place takes some doing, certainly even beyond the ability of the zebra mussel.

"Clearly, boats are the best means of transport."
— Dr. Carlton

So it's important and useful, the researchers contend, to determine

precisely the means by which new populations are started and to invest time, money, and effort at curtailing that means.

¹Johnson, Ladd E., and James T. Carlton. Post-establishment spread in large-scale invasions: The relative roles of leading natural and human-mediated dispersal mechanisms of the zebra mussel *Dreissena polymorpha*. *Ecology*, in press.

Lake Management

Gena Gallinger, DEC Division of Water, and **Bill Harman**, are meeting with organizations concerned about Otsego Lake to gather local input. This will be coupled with data generated from the EPA/OCCA sponsored Otsego lake Diagnostic/Feasibility study to develop the lake management plan. As of September 11, 1995 they have met with the following groups:

Clark Foundation

Otsego County Conservation Association

Otsego County Planning Department

Otsego County Sportfishing Association

Otsego Lake Boating Association

Otsego Watershed Council/Watershed Supervisory Committee

Otsego 2000

Prevost Land Owners

Motorless Otsego

Delaware-Otsego Audubon Society

Friends of Hyde Hall

Herkimer-Oneida County Planning Department

Herkimer County Soil and Water Conservation District

Lake and Valley Garden Club

Otsego County EMC

Otsego County Soil and Water Conservation District

Otsego County Water Quality Coordinating Committee

Otsego Golf Club

Otsego

Federation of Sportsmen's Clubs

Otsego Public Forum

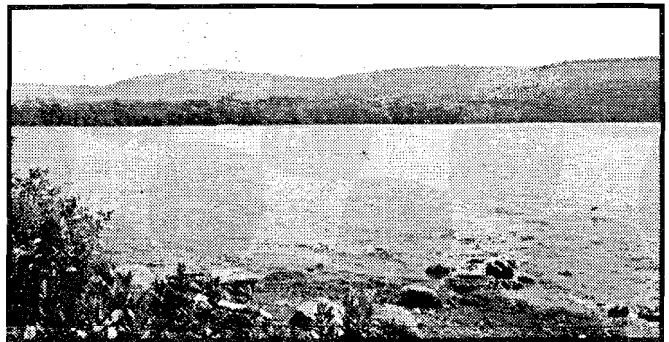
Otsego Sailing Club

Pegg's Bay Association

Supervisors of the Towns of Middlefield, Springfield and Otsego

Village of Cooperstown; Mayor, trustees.

If your organization is not listed and wants to meet with Gena Gallinger and Bill Harman, please contact Gena at 1-518-457-1804.



Walleyes Revisited

Interest has been shown in reintroducing walleyes in Otsego Lake. An inquiry was made to Cornell's field station at Oneida Lake, where walleyes have been studied extensively, to determine if they are native to this watershed. This is a issue in that many biologists are philosophically opposed to stocking non-native fishes. **Tom Brooking** a former intern at the BFS who now works there, wrote that scientists "...don't really know where (walleyes) ...were native...it is generally believed that they are not native to streams flowing into the Atlantic".

However, one reference he sent, Colby, et al., (1979), states; "...there is a residual stock, apparently native, along the Atlantic coast from Pennsylvania to North Carolina." That, of course, would include the Susquehanna. Another, Regier, H.A., et al., (1969), states; "Whether walleyes are indigenous to these rivers (streams flowing into the Atlantic) is uncertain...(because) the earliest accounts of fish distribution postdate the earliest known introductions..."

Updates

Cont. from page 4

We are now scheduling meetings with those listed below. If your organization is not listed and wants to meet, please contact Gena at 1-518-457-1804.

Ad Hoc Homeowners Association

Cook Foundation

Cooperstown Country Club

Cooperstown League of Women Voters

● A road has been completed into the center of our trail system at Greenwoods, providing access for students and faculty researchers. A building is planned to provide shelter for personnel and storage for their equipment.

● **Cristian Salo**, a New York Academy of Science High School Research Trainee, completed a limnological and biological survey of Woodchuck Pond, Greenwoods Conservancy over the summer.

● **Dr. William Butts**, long-time researcher at the BFS, has retired from the Oneonta faculty. He will continue his work at the BFS as an emeritus Professor of Biology. We hope to work with him for many more years.

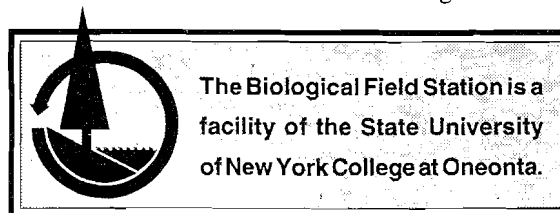
Updates

- Friend Laboratories, Waverly, NY., analyzed Otsego Lake water for gasoline, motor oil, kerosene, fuel oil, benzene, toluene, ethylbenzene, p-xylene/m-xylene and o-xylene that the BFS collected this summer at twelve sites. Nothing was detected.
- **Dr. Edward Mills**, Director of Cornell's Field Station on Oneida Lake has agreed to review the "State of Otsego Lake" report.
- During a violent storm this summer, hundreds of trees on Rum Hill were uprooted or broken off. Thirty two mature white ash, sugar maple and red oak came down along the Overlook Trail.
- On August 10 and 11, 1995, **Ken Heavey** from SUNY ESF, a R.C. MacWatters summer intern at the BFS, **David Warner**, a faculty member from SUNY Cobleskill enrolled in courses at Oneonta, and **Mead McCoy**, a SUNY Oneonta graduate student, attended a continuing education workshop sponsored by the NY Chapter of the American Fisheries Society at the SUNY ESF campus in Syracuse. The workshop was entitled: Age, growth and production of fishes: New science and technology. The participants were introduced to two software packages that allow professionals to more accurately estimate the age of fish using various hard tissues and estimate the potential fish production of a given body of water using growth data in combination with other variables.
- **Rick Pagan** has been working to develop hydrological and nutrient budgets for Cranberry Bog. His work began during the winter of 94' with the construction of a bathymetric map with **Craig Ferluge**.
- Lt. Col. **Paul Lord**, USMC, Oneonta 74', is about to retire. He plans to return to the Biology Dept. as a MA candidate. Paul is interested in computer modeling of environmental stressors.
- About 2 miles of new trails have been developed at Greenwoods. They circumscribe Cranberry Bog, connect the highest and lowest points on the property, traverse meadows, plantations and native hardwoods and pass by eight beaver ponds.
- On September 21, 1995 BFS personnel met with **Kay Sanford** (NYSDEC), and **Janet Zuckerman** and **Tom Lyons** (NYSDPRHP) to discuss BFS data on Otsego Lake and how it pertains to mitigation strategies regarding an Otsego Lake boat launch at the State Park.
- Many people have been complaining about the weeds in Otsego. The Lake's low-water levels (-30 cm, or nearly one foot, as of September 15, 1995) have added to the problem. The introduced Eurasian milfoil is now the most abundant plant species in the lake, dominating in all shallow, silty areas.

Continued on page 3

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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Professor and Director
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Cooperstown, NY 13326
(607) 547-8778



The College at Oneonta Foundation receives and manages gifts for the Biological Field Station. All gifts are used expressly for the purposes for which they are given and they are tax-deductible. Information is available through:

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Netzer Administration Building
SUNY College at Oneonta
Oneonta, NY 13820
(607) 436-2535.