

Biological survey for invasive species in Loon Lake and the surrounding watershed, Steuben County, New York.



Project Leader: Dr. Bruce Gilman
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Canandaigua, New York 14424
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Amount Requested = \$6000.00

Institutional Signatures:

Department Chair

President of the College

Director of Grants

A. PROPOSAL DESCRIPTION

Project summary: The first step in managing invasive species is to survey and document their presence, frequency of occurrence and population abundance. Only limited information of this nature is available for Loon Lake and its watershed, so this project will begin to fill in that gap in knowledge by inventorying the fish and macrophyte communities in the lake, and plants in the surrounding upland landscape. Due to the fall season timeframe for inventory work it is likely that invasive species with an earlier phenology may not be detected, so the final project report should be considered a working document. The limited, available historical documents will be reviewed as additional sources of invasive species information. This project is consistent with the mission of the FL-PRISM.

Scope of Work: An assessment of lake fisheries will be accomplished during two days of boat electro-shocking along the lake shoreline. Work will commence during the afternoon and continue into the evening. Lake macrophyte communities will be examined through two days of hand raking in the deeper waters of the littoral zone and wading in the shallower areas. Voucher specimens of all macrophytes will be collected, pressed and preserved for future educational activities. A three day visual survey of the watershed from municipal roads, farm lanes and otherwise accessible areas will be conducted to determine the extent of invasive plants. All occurrences will be characterized by site description using the New York Natural Heritage Program's Ecological Communities manual (Edinger et al. 2002), by estimating population size, and by pinpointing location with GPS coordinates.

During the time period of the project, a search for existing natural resource information will be conducted and relevant findings will be recorded. The search will include interviews as well as documents in NYS DEC files in the Region 8 office, CSLAP data, Loon Lake Association and Loon Lake Watershed Improvement Alliance website posts, Steuben County Soil and Water Conservation District reports, and Steuben County Water Quality Coordinating Committee information.

Timeframe: All field work will be completed during fall 2014. A preliminary report will be available at the beginning of November 2014 and a poster describing the project will be presented at the Finger Lakes Research Conference later that month. A final report will be completed by the end of February 2015.

Personnel and Collaboration: The project will be completed by Bruce Gilman and John Foust, teaching faculty in the Department of Environmental Conservation and Horticulture at Finger Lakes Community College located in Canandaigua, New York, about 30 miles north of Loon Lake. They have collaborated on similar projects in Honeoye Lake and Owasco Lake during the recent decade. Students in their academic programs will assist with the field work portion of this project.

Project Location: Loon Lake is located in Steuben County, Town of Wayland. The surrounding watershed lands are also located in Steuben County and include portions of the Towns of Wayland, Dansville and Cohocton. The proposed study site is mapped on USGS 7½ minute series topographic quadrangles Wayland, NY and Haskinville, NY.

B. PERSONNEL AND PARTNERS

Project Leader: Dr. Bruce Gilman, Finger Lakes Community College, Canandaigua, NY.

Collaborator: John Foust, Finger Lakes Community College, Canandaigua, NY.

(biographical sketch for project leader and collaborator are attached at end of the proposal)

Partners: Loon Lake Association, Loon Lake Watershed Improvement Alliance

C. LETTERS OF SUPPORT

Requested from: Peter Austermann, NYS DEC Region 8 Fisheries

Darryl Miller, Loon Lake Watershed Improvement Alliance

John Hayden, Loon Lake Watershed Improvement Alliance

D. TIMELINE

September 22, 2014 to February 28, 2015

E. BUDGET AND JUSTIFICATION

Proposed Budget	
Project Title:	Biological Survey for invasive species in Loon Lake and the surrounding watershed, Steuben County, New York
Sponsor/Institution:	Finger Lakes Community College
Principal Investigator:	Dr. Bruce Gilman
Period of Performance for Project:	September 19, 2014 – February 28, 2015
Personnel Costs	
Salary: Bruce Gilman (7 days, \$350/day)	\$2450.00
Fringe on salary (40%)	980.00
Total Salary + Fringe Benefit	\$3430.00
Salary: John Foust (2 days, \$350/day)	\$700.00
Fringe on salary (40%)	280.00
Total Salary + Fringe	\$980.00
Salaries: 3 student interns (2 days each, \$75/day)	\$450.00
Fringe on salaries (none)	none
Total Salaries	\$450.00
Travel: estimated mileage for 6 roundtrips @ \$0.56/mile	\$270.00
Miscellaneous: Boat Rental (\$75/day)	\$150.00
Total Direct Cost	\$5280.00-
Indirect Costs	\$720.00-
Total Request to Sponsor	\$6000.00-

Education and Training

SUNY College of Environmental Science and Forestry	Ph.D.	1995	Plant Ecology
SUNY College of Environmental Science and Forestry	M.S.	1976	Aquatic Ecology
St. John Fisher College	B.S.	1973	Biology

Positions and Employment

2007 – present	Director of Muller Field Station, Canadice, NY
1976 – present	Teaching Faculty, Finger Lakes Community College, Canandaigua, NY
Summer 1975	Wetland Intern, Oneida County Environmental Management Council, Utica, NY
1973 – 1975	Research Assistant, New York State SEAGRANT, Syracuse, NY

Relevant Teaching Responsibilities

CON 103 Environmental Science	CON 203 Conservation Seminar
CON 217 Environmental Planning and Impact Analysis	CON 246 Principles of Limnology

Awards and Honors

- NYS Federation of Lake Associations Lake Tear of the Clouds Award (2008)
- The Nature Conservancy Friend of the Land Award (1995)
- Sussman Graduate Fellowship Award (1991)
- Nature Conservancy Research Award (1986, 1987, 1988)
- Fellow of the Rochester Academy of Science (1985)
- Canandaigua Lake Pure Waters Friend of the Lake Award (1984)

Selected Publications and Presentations

- Gilman, B. and D. Root. 2011. Macrophyte surveys for Hemlock and Canadice Lakes. Finger Lakes Community College Technical Report. Canandaigua, New York. 8pp.
- Dresson, S., P. Mysliwicz, D. Slentz, K. Olvany and B. Gilman. 2011. Dreissenid mussel invasion, colonization and impacts to the nutrient budget of Canandaigua Lake. Proceedings of the Rochester Academy of Science Fall Papers Session.
- Myers, S., S. Cushman and B. Gilman. 2010. Finger Lakes Regional Stream Monitoring Network. Finger Lakes Institute. Geneva, NY. 40pp.
- Gilman, B. and K. Olvany. 2009. Long-term water quality report: health of Canandaigua Lake and its tributary streams. Canandaigua Lake Watershed Council Technical Report. Canandaigua, NY. 90pp.
- Gilman, B., J. Foust and B. Zhu. 2008. Composition, seasonal standing crop biomass and estimated annual productivity of macrophyte communities in Owasco Lake. Pages 89-105. In: Halfman, J. (editor). A Water Quality Study of Owasco Lake. Finger Lakes Institute. Geneva, NY.
- Detweiler, A., J. Foust and B. Gilman. 2007. Fishes of Honeoye Creek. Proceedings of the Rochester Academy of Science Fall Papers Session.
- Gilman, B. and K. Schultz. 2007. From the land to the lake: influence of watershed characteristics in the Honeoye Valley. Proceedings of the Rochester Academy of Science Fall Papers Session.
- Gilman, B. 2006. Twenty years of research in the aquatic plant communities of Honeoye Lake. Abstracts Northeast Natural History Conference IX. NY State Museum Circular 70:30.
- Gilman, B. and J. Foust. 2006. Deepwater macrobenthic survey of Honeoye Lake. Abstracts Northeast Natural History Conference IX. NY State Museum Circular 70:74.
- Gilman, B. (editor). 2004. Biodiversity of the southern Honeoye Valley. Finger Lakes Community College Technical Report. Canandaigua, NY. 76pp.
- Gilman, B.A. 1992. A history of aquatic plant distribution in upstate New York. Federation of Lake Associations, Inc., Cazenovia, NY and Water Resources Board, Finger Lakes Association, Penn Yan, NY. 65pp.
- Gilman, B. 1990. Ecological planning and resource management: a necessary partnership for small lake restoration. In: Leopold, D. and R. Mitchell (editors), Ecosystem management: rare species and significant habitats. New York State Museum Bulletin 471:239-243.

BIOGRAPHICAL SKETCH

NAME Foust, John		POSITION TITLE Associate Professor of Environmental Conservation	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
SUNY College at Brockport	M.S.	2001-2005	Biological Sciences
SUNY Cobleskill	B.T.	1997-1998	Fisheries and Aquaculture
Finger Lakes Community College	A.A.S.	1995-1997	Nat. Res. Conservation

A. Positions and Honors.

Positions and Employment

2007-Present Finger Lakes Community College, Associate Professor of Environmental Conservation
1999-2007 Finger Lakes Community College, Technical Specialist
1999 Finger Lakes Community College, Adjunct Instructor Environmental Conservation Department
1998 Marine Bioservices, Quahog operation

Honors

1998 SUNY Cobleskill Outstanding Graduate

B. Selected publications.

1. Foust JC, Haynes JM. 2007. Failure of walleye recruitment in a lake with little suitable spawning substrate is probably exacerbated by restricted homeranges. *Journal of Freshwater Ecology*. 22(2):297-309.

C. Curriculum Development

2012 Coauthored A.A.S. Fish and Wildlife Technology degree at Finger Lakes Community College
2006. Authored A.A.S. Fisheries Technology degree at Finger Lakes Community College

Course Development

Developed and/or currently teach the following courses:

CON 100 Introduction to Environmental Conservation
CON 102 Introduction to Fish and Wildlife
CON 116 Fisheries Techniques
CON 200 Field Experiences in Conservation
CON 214 Fish Management
CON 218 Fish Culture Techniques
CON 219 Introduction to Aquaculture