

ANNUAL REPORT: June 1, 2013 – May 31, 2014
(i.e., Summer 2013, AY 2013-2014)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

NAME: John M. Farrell

I. INSTRUCTIONAL ACTIVITIES

1. Regular Course Offerings

	<u>Course No.</u>	<u>Title</u>	<u>Credit Hrs.</u>	<u>No. Students</u>	<u>No. of Lab. Sections</u>
SUMMER:	EFB 388	Adirondack Fish Ecology	3	10	
FALL:	EFB 681	Aquatic Restoration Ecology	2	14	
SPRING:	EFB 496	Senior Synthesis AFS	2	11	

NOTE: PLEASE INDICATE WHICH COURSE(S) HAD A SERVICE-LEARNING COMPONENT AND BRIEFLY EXPLAIN THE NATURE OF THIS COMPONENT. For examples of service-learning in courses, see: <http://www.esf.edu/students/service/courses.htm>. Service-learning is a form of structured experiential education in which students engage with the community to be active learners, to enrich their sense of civic responsibility, and to explore practical application for course content. Faculty oversight, reflective thinking, and reciprocity are key components of service-learning.

2. Non-Scheduled Course Offerings (e.g., 496, 899, 999)

	<u>Course No.</u>	<u>Title</u>	<u>Credit Hrs.</u>	<u>No. Students</u>
SUMMER:	EFB 899	Master's Research	3	3
FALL:	ESF 499	Honor's Thesis Project	1	2
	EFB 899	Master's Research	3	5
SPRING:	EFB 420	Internship EFB	1	3
	EFB 498	Research Problems	3	11
	EFB 899	Master's Research	4	11

3. Continuing Education and Extension (short courses, workshops, etc.)

4. Guest Lecture Activities

<u>Course No.</u>	<u>Title</u>	<u>No. of Lectures</u>
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EFB 525
EFB 210

Limnology Practicum
Diversity of Life

1 weekend field trip/lecture
1 lecture

II. STUDENT ADVISING

- A. Number of undergraduates for whom you are the student's official advisor __19__ and unofficial advisor _____
- B. Graduate Students: (list name, degree sought, starting date, month & year; if a degree was completed, please give date and full citation for the thesis or dissertation).

MAJOR PROFESSOR

1. Geof Eckerlin, PhD (began Jan 2009), Viral haemorrhagic Septicaemia Virus Type: Evaluation of fish hosts as a viral reservoir, a community perspective.
2. Mark Leopold, MS (began August 2010) Possible causes of skewed sex ratios of Northern Pike (*Esox lucius* L.) on the St. Lawrence River
3. Ben Amos, MS (began May 2013) Spatial scale and natal influence on spawning site fidelity in Northern Pike (*Esox lucius* L.)
4. Andrew Miano (began May 2013) Influence of invasive round goby egg predation on broadcast spawning fish species in the Great Lakes.
5. John Bateman PhD (starts August 2014) Restoration of Great Lakes Wetlands.

CO-MAJOR PROFESSOR

1. Alison Halpern, PhD (EBT, Co-advised with Dr. Donald Leopold) 5/00, Aquatic nuisance species: ecology and control of the invasive plant *Hydrocharis Morsus-ranae* in Eastern Lake Ontario and St. Lawrence River wetlands.
2. Stewart LaPan, MS (Co-advised with Dr. James Gibbs) started fall 2012, Avifauna and Herpetofauna Response to Coastal Wetland Enhancement in the Upper St. Lawrence River.
3. Kelly Huffman, MS (Co-advised with Dr. Chris Whipps) started fall 2013, Environmental determinants of gender ratio in Northern Pike (*Esox lucius* L.)

MEMBER, STEERING COMMITTEE (other than those listed above)

1. Kapil Mandraker, EFB, PhD (Stewart)
2. Errol Sheid, EFB, MS (McGrath)
3. Ceili Bachman, EFB, MS (Mitchell and Schulz)
4. Matt Regan, EFB, MS (Leopold)
5. James Costello, EFB, MS (Kimmerer) (Defended 5/2014)
6. Alex Looi, EFB, MS (Schulz)
7. Matt Gunderson EFB, MS (Kapusinski)
8. Eric Bauer EFB, MS (Whipps; Defended July 2013)

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

1. Defense Chair, PhD, ERE Yang Wang

III. RESEARCH COMPLETED OR UNDERWAY

A. Departmental Research (unsupported, boot-legged; title - % time spent)

B. 1. Grant-supported Research (source, subject, amount - total award and current year, award period starting and ending dates; list graduate research assistants supported by each grant)

Farrell, J.M., C. Whipps, and K.L. Kapuscinski. 4/1/2013-3/31/2016. St. Lawrence River Fisheries Research and Management. Federal Aid in Sportfish Restoration, NYS Department of Environmental Conservation, \$715,001.

GA's supported – Kelly Huffman; Ben Amos (summer)

Farrell, J. M, D. J. Leopold, M. Mitchell, J. Gibbs, K. Schulz. 9/2011-7/2014, Recovery Act – Coastal Fisheries Habitat Restoration in the St. Lawrence River. NOAA Coastal and Marine Habitat Restoration Project Grants Great Lakes Restoration Initiative, \$397,722.

GA's supported – Stewart LaPan; Ceili Bachman; Matt Regan; Alex Looi

Farrell, J. M. 8/1/12-9/30/15. The St. Lawrence River Fish Habitat Conservation Strategy: Evaluation of Habitat Enhancements and Development of Novel Restoration Approaches. National Fish and Wildlife Foundation, \$610,073.

GA's supported – Andrew Miano

Farrell, J. M. 4/1/2011-6/30/2013. Development and Management of St. Lawrence River Fisheries. Federal Aid in Sportfish Restoration, NYS Department of Environmental Conservation, \$640,963

GA's supported – Mark Leopold

Getchell R., and J. M. Farrell. 2/1/14-1/31/16. The Impact of VHSV on the Population Dynamics of St. Lawrence Muskellunge. Cornell University/NY Sea Grant (\$5,000 to ESF).

Kapuscinski K. L., and J. M. Farrell., 1/1/12-12/31/13. Evaluation of Nearshore Fish Assemblages, Habitat, and the Effects of Herbivorous Rudd (*Scardinius erythrophthalmus*): Determining the Efficacy of Fish Habitat Restoration Efforts in the Buffalo Harbor and Niagara River. Niagara River Greenway Fund, Greenway Ecological Fund Standing Committee \$254,944.

Hanchin, P., B.L. Sloss, L. Miller, C. Wilson, K. L. Kapuscinski, K. Schribner, and J. M. Farrell. Delineation of natural boundaries of muskellunge in the Great Lakes and the effects of supplementation on genetic integrity of native stocks. Great Lakes Fisheries Commission (\$42,721; ESF share \$4,705)

Leopold, D. J. and J. M. Farrell. 7/1/10-6/30/13. Review of Honeywell Onondaga Lake Shoreline Restoration Projects \$23,580.

Ringler, N. H., K. A. Schulz, J. M. Farrell, M. A. Teece, and J. Brunner. 1/1/10-09/30/13. Renovation of Wet Labs

and Cyber-Infrastructure to Enhance Integrated Research and Teaching. National Science Foundation \$1,470,000.

2. Research Proposals pending (include information as in B.1., above).

3. Research Proposals submitted, but rejected (include information as in B.1., above)

IV. PUBLICATIONS (Full bibliographic citation, i.e., do not use "with Jones," or "Jones, et al."; please list only publications published, in press, or actually submitted during this reporting period --- **do not list manuscripts in preparation**).

A. Refereed Publications

- Kapuscinski, K.L., B.L Sloss, and J. M. Farrell. 2013. Genetic population structure of muskellunge in the Great Lakes. *Transactions of the American Fisheries Society* 142:1075-1089
- Murry, B. A., and J. M. Farrell. 2014. Resistance of the size structure of the fish community to ecological perturbations in a large river ecosystem. *Freshwater Biology* 59:155-167.
- Crane, D.C., J. M. Farrell, and K.L. Kapuscinski. 2014. Identifying important micro-habitat characteristics of muskellunge spawning locations in the upper Niagara River. *Journal of Great Lakes Research* 40(2) 325-335.
- Roseman, E.F., P. Thompson, J. M. Farrell, N. Mandrak, C. A. Stepien. (In press) Conservation and management of fisheries and aquatic communities in Great Lakes connecting channels. *Journal of Great Lakes Research*
- Henning, B. F., K.L. Kapuscinski, and J. M. Farrell. (In press). Nearshore fish assemblage structure and habitat relationships in protected and open habitats in the upper St. Lawrence River. *Journal of Great Lakes Research* <http://dx.doi.org/10.1016/j.jglr.2013.11.003>
- Farrell, J. M., H. Brian Underwood, and K.L. Kapuscinski. (In press). Fine scale habitat use by age-1 stocked muskellunge and wild northern pike in an upper St. Lawrence River bay. *Journal of Great Lakes Research*.
- Kapuscinski, K. L, J. M. Farrell, and M. A. Wilkinson. (In press). Trends in the muskellunge (*Esox masquinongy*) population and fishery of the Buffalo Harbor (Lake Erie) and upper Niagara River. *Journal of Great Lakes Research* <http://dx.doi.org/10.1016/j.jglr.2012.11.006>
- Kapuscinski, K. L, and J. M. Farrell. (In press). Habitat factors influencing fish assemblages at muskellunge nursery sites. *Journal of Great Lakes Research* <http://dx.doi.org/10.1016/j.jglr.2012.11.007>.
- Kapuscinski, K. L., J. M. Farrell, M. A. Wilkinson, L. C. Skinner, W. Richter, A. J. Gudlewski, and G. Paterson. (accepted pending revision) Low Concentrations of Contaminants in an Invasive, Omnivorous Cyprinid, the Rudd, in a Great Lakes Area of Concern. *Bulletin of Environmental Contamination & Toxicology*.
- Crane, D. C., J. M. Farrell, D. Einhouse, and J. Lantry. (In revision) Trends in body conditions of native piscivores following round goby invasion in Lakes Erie and Ontario. *Freshwater Biology*
- Crane, D P., L. M. Miller, J. S. Diana, J. M. Casselman, J. M. Farrell, K. L. Kapuscinski, J. K. Nohner. (In revision) Muskellunge and Northern Pike Ecology and Management: Important Issues and Research Needs. *Fisheries*.
- Kapuscinski, K.L., J. M. Farrell, S. Stehman, T. Tschaplinski, D. D. Fernando, and M. A. Teece. (In review) Selective herbivory by an invasive cyprinid, the rudd (*Scardinius erythrophthalmus*). *Freshwater Biology*.

B. Non-refereed Publications

Farrell, J. M., and J. Runner 2014. Muskellunge Monitoring and Management in the Thousand Islands section of the St. Lawrence River. NYS Department of Environmental Conservation 2013 Great Lakes Fishery Commission Lake Ontario Committee Annual Report.

Farrell, J. M., and J. Runner. 2014. Northern Pike Monitoring in the Thousand Islands Section of the St. Lawrence River. NYS Department of Environmental Conservation 2013 Great Lakes Fishery Commission Lake Ontario Committee Annual Report.

C. Papers Presented at Science Meetings (give title, date, occasion, and location)

- Amos, B., and J. M., Farrell. 2014. Spatial Scale and Natal Influence on Spawning Site Fidelity in Northern Pike: Investigation using Otolith Microchemistry Techniques. New York Chapter Meeting of the American Fisheries Society. Geneva NY.
- Amos, B., and J. M., Farrell. 2014. Spatial Scale and Natal Influence on Spawning Site Fidelity in Northern Pike: Investigation using Otolith Microchemistry Techniques. Spotlight on Student Research Poster Presentation. SUNY-ESF, Syracuse NY.
- Bachman C., M. Mitchell, J. M. Farrell and K. A. Schulz. 2013. Freshwater Marshes and Water Level Regulation: Effects on Nutrients and Lower Trophic Levels in Surface Water. Society of Wetland Scientists Annual Meeting, Duluth MN.
- Bachman C., M. Mitchell, J. M. Farrell and K. A. Schulz. 2014. Drowned River Mouth Wetlands and Water Level Regulation: Effects on Water Chemistry and Plankton Communities. Poster Presentation. Joint Aquatic Sciences Meeting, Portland Oregon.
- Bachman C., M. Mitchell, J. M. Farrell and K. A. Schulz. 2014. Drowned River Mouth Wetlands and Water Level Regulation: Effects on Water Chemistry and Plankton Communities. Spotlight on Student Research Poster Presentation. SUNY-ESF, Syracuse NY.
- Crane, D. P., J. M. Farrell, and K. L. Kapuscinski. 2013. Predictive modeling of Muskellunge spawning habitat in US waters of the upper Niagara River. 143rd Annual Meeting of the American Fisheries Society, Little Rock, AR.
- Crane, D. P., J. M. Farrell, D. W. Einhouse, and J. R. Lantry. 2014. Trends in body conditions of native piscivores following round goby invasion in Lakes Erie and Ontario. Minnesota Chapter of the American Fisheries Society Annual Meeting, Mankato, MN.
- DeVilbiss, K. and J. M. Farrell. 2013. Warming waters: a comparison of pike family metabolic responses. National American Fisheries Society 143rd Annual Meeting of the American Fisheries Society, Little Rock, AR.
- Farrell, J.M., 2013. Long-term Studies of Fish Reproduction in a Changing Environment: Will Recruitment Sustain Future Populations? Cornell University Biological Station Seminar Series.
- Farrell, J. M. 2013. An Overview of the Aquatic Research Program on the Upper St. Lawrence River. Seminar for the INRS (National research Institute) Quebec City, Quebec, Canada.
- Farrell, J. M. 2013. Current challenges and threats to Great Lakes muskellunge and northern pike populations. (Invited Session Plenary Speaker) 143rd Annual Meeting of the American Fisheries Society, Little Rock, AR.
- Farrell, J. M. 2014. Long-term Research and Management at the Thousand Islands Biological Station. New York State Fish and Wildlife Management Board Meeting Pulaski NY.
- Farrell, J. M. 2014. Update of St. Lawrence River Fisheries Research and Management. Great Lakes Section Meeting. NYSDEC Training Academy Pulaski NY.
- Gunderson, M.A., Kapuscinski, K.L., Crane, D.P., and J.M. Farrell. Habitat-assemblage modeling of aquatic macrophytes as a guide for enhancement of fish habitat. New York Chapter of the American Fisheries Society (Poster) ****Best Poster Award****
- Huffman, K. C.. Whipps and J. M. Farrell. 2014. Environmental Determinants of Sex Ratio in Northern Pike (*Esox lucius*): Development of a Molecular Sex Identification Tool and Experimentation with Physical and Chemical Variables. New York Chapter Meeting of the American Fisheries Society. Geneva NY.
- Huffman, K. C.. Whipps and J. M. Farrell. 2014. Environmental Determinants of Sex Ratio in Northern Pike (*Esox lucius*): Development of a Molecular Sex Identification Tool and Experimentation with Physical and Chemical Variables. Spotlight on Student Research Poster Presentation. SUNY-ESF, Syracuse NY.

- Kapuscinski, K.L., Crane, D.P., Farrell, J.M., Clapsadl, M.D., and D.W. Einhouse. 2014. Quantifying and comparing energy densities of native and invasive nearshore forage fishes of the Great Lakes. Great Lakes Fishery Commission Board of Technical Experts.
- Kapuscinski, K.L., Crane, D.P., Farrell, J.M., and M.A. Gunderson. Niagara River Research Projects. NYSDEC Great Lakes Section Meeting (25 people in attendance)
- LaPan, S., J. P. Gibbs, and J. M. Farrell 2013. Measuring avian and herptile response to wetland enhancement in the St. Lawrence River basin. 5th World Conference on Ecosystem Restoration, Madison Wisc.
- Miano, A., and J. M. Farrell. 2014. The Influence of Spawning Habitat on Round Goby Egg Predation for Broadcast Spawning Species. New York Chapter Meeting of the American Fisheries Society. Geneva NY.
- Miano, A., and J. M. Farrell. 2014. The Influence of Spawning Habitat on Round Goby Egg Predation for Broadcast Spawning Species. Spotlight on Student Research Poster Presentation. SUNY-ESF, Syracuse NY.
- Russell, J., C. Bachman, J. M. Farrell, M. Mitchell, and K. A. Schulz. 2014. Nutrient Analysis in St. Lawrence River Wetland Sediments. Poster Presentation. Joint Aquatic Sciences Meeting, Portland Oregon.
- Russell, J., C. Bachman, J. M. Farrell, M. Mitchell, and K. A. Schulz. 2014. Nutrient Analysis in St. Lawrence River Wetland Sediments. Spotlight on Student Research Poster Presentation. SUNY-ESF, Syracuse NY.
- Shaw, A. S., B. Brown, and J. M. Farrell. 2014. A comparison of light traps and zooplankton grabs for assessing invertebrate assemblages in muskellunge nursery bays. Spotlight on Student Research Poster Presentation. SUNY-ESF, Syracuse NY.
- Tucci, J. P. B. Brown, and J. M. Farrell. 2014. Using Zooplankton as Indicators of Environmental Quality to Inform Management of Small Lakes of Eastern New York. Spotlight on Student Research Poster Presentation. SUNY-ESF, Syracuse NY.

D. Public Service Presentations (lectures, seminars, etc. to and for the public; give group or occasion, date(s), and attendance)

Farrell, J. M. 2014. Long-term Research and Management at the Thousand Islands Biological Station. New York State Fish and Wildlife Management Board Meeting Pulaski NY.

Farrell, J. M. 2014. Update of St. Lawrence River Fisheries Research and Management. Great Lakes Section Meeting. NYSDEC Training Academy Pulaski NY.

Thousand Islands Land Trust, Kids Camp – Led multiple groups through a field session called “Life in a Pond” - Sampled and identified aquatic life in a seasonal wetland and discussed ecology (30 participants)

Thousand Islands Land Trust, Ichthyologist for a Day – led children ages 5-12 and adults through a series of modules on fish and river ecology on the St. Lawrence River (25 participants)

US EPA & NY SeaGrant Institute. June 2013. Lake Guardian Educator’s Workshop. Led lecture and hands-on modules related to nearshore ecosystems of the Great Lakes along with Clarkson University (15 participants)

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

1. Government Agencies (Federal, State, Local):

2. Industrial and Commercial Groups, etc.

B. Unfunded Service to Governmental Agencies, Public Interest Groups, etc.

Cornell University – member of the Cornell Biological Station Advisory Board – attended CBFS Advisory Committee Meeting and provided recommendations on CBFS development.

Thousand Islands Land Trust Zenda Farms Picnic, Provided live fish and poster displays as part of community event (June 2013; ~250 attendees)

Save The River, Clayton, NY, 2013. Board of Directors, advisory roles on environmental issues, development of teacher training initiative for North Country districts.

Pacific Environment. June 2013. Hydropower Safety Workshop. Led Russian Scientists and managers from Lake Baikal touring Great Lakes visit to TIBS.

Thousand Islands National Park | Parc national des Mille-Îles, Provided assistance with a proposal and information regarding wetlands restoration.

Great Lakes Fisheries Commission. August 2013. Hosted Lake Ontario Committee Meeting at TIBS.

VI. PROFESSIONAL DEVELOPMENT

A. Professional Honors and Awards (for teaching, research, outreach, etc.)

B. 1. Activities in Professional Organizations (offices held, service as chairman, member, participant or consultant)

American Fisheries Society (AFS), NY Chapter AFS, International Association of Great Lakes Researchers, Great Lakes Research Consortium, Society of Wetland Scientists

Board of Directors, Save The River Inc. – Environmental Advocacy organization on the St. Lawrence River.

2. Professional Society Membership

American Fisheries Society (AFS), NY Chapter AFS, International Association of Great Lakes Researchers, Great Lakes Research Consortium, Society of Wetland Scientists

3. Other Professional Activities

a. Editorial activity

<u>Journal (s)</u>	<u>Responsibility</u>
J. of Great Lakes Research	Guest Editor for special issue (handled 7 submissions)

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
Freshwater Biology	2
J. of Great Lakes Research	1
Southeastern Naturalist	1
NA Journal of Fisheries Management	1
<u>Agency</u>	<u>No. of proposals</u>

Other
USGS

1 (performance review)

c. Participation (workshops, symposia, etc.)

Name of workshop, etc.

Date

Place

C. Further Education/Re-training Undertaken, Leaves, Workshops, etc.

Faculty Mentoring Colloquium ESF's Digital Future Gateway Center, SUNY-ESF
Great Lakes Research Consortium Workshop Gateway Center, SUNY-ESF
Riparian Buffers Workshop, USDA Plant Materials Research Center, Big Flats NY

D. Foreign Travel (Where, When, Purpose)

Quebec City, QC Canada – gave invited presentation and served on committee for PhD student from University of Chicoutimi, Quebec.

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

Served on Promotion and Tenure Committee

Mentored an Assistant Professor in EFB

Served with team with Kim Schulz, Neil Ringler, Sue Benoit, Brian Boothroyd John Joyce and Don Leopold on execution of a \$1.4M NSF award to enhance EFB's aquatics program via improvements at CIRTAS and TIBS laboratory facilities and cyber infrastructure. Participated in numerous meetings and site visits and reporting and served as lead for TIBS component of project leading to renovation of laboratory.

Advised two undergraduates for their EFB Honors Thesis Projects.

Served as supervisor for 25 employees working at TIBS over the summer including 5 staff, 9 undergraduates, 7 graduate students.

B. College-level

Served on search committee for Major Gifts Officer position in the ESF Development Office.

Nominated students for several awards

Assisted ESF Development Office with numerous visits for supporters of ESF

Leadership for development at TIBS

C. University-wide, including Research Foundation

Judge for Spotlight on Student Research presentations

Helped broker several research equipment use agreements

VIII. SUMMARY OF SIGNIFICANT ACTIVITIES AND ACCOMPLISHMENTS DURING THIS REPORTING PERIOD, ESPECIALLY THOSE MOST NOTEWORTHY AND RELATIVE TO THE

COLLEGE'S AND DEPARTMENT'S MISSION.

One paragraph on each of the following (**i.e., three paragraphs total**) would be most helpful: this past year, what have you done for our students, department/college, and self professionally? NOTE: The information in this section (along with the supporting specific information elsewhere in this report) should be your strongest case for being considered for a discretionary raise (when available), which I'll continue to award based on your contributions to the department and college this reporting period.

An important contribution made during this reporting period was working closely with undergraduate and graduate students in their development as researchers. I brought in and maintained funding to support to eight graduate students and served as mentor to two EFB undergraduate honors students. I brought on four new graduate students into the program. Students also received significant experience working with my lab group as employees or for course credit both at ESF and at TIBS. Students received training and developed a variety of skillsets in laboratory, field and analytical work through experiences in aquatic ecology of value to their future. I taught students in classes offered in the summer, fall and spring semesters and proposed revisions to the senior synthesis for the AFS major. I gave research and professional advice and guidance to numerous students from a variety of disciplines and institutions.

Assistance with development of EFB and ESF facilities related to improvement of our aquatics programs continues to be a major effort. Along with several faculty, staff and administrators we have worked intensely moving the CIRTAS facility project forward through numerous obstacles and challenges to produce an exceptional facility for research. In addition to that effort the TIBS facility is making great strides including partial completion of the new Cean Researcher Building secured through extramural and private donations including a 75K gift this period while working with the ESF Development Office. We also now have new cyber infrastructure capability with a high speed radio link with wireless access to the entire TIBS facility. Research capability has been greatly enhanced within EFB via both CIRTAS and TIBS progress. Service to EFB includes working with the P&T committee (under Associate Chairs J. Castello and J. Gibbs and with K. Limburg, T. Horton, S. Teale) We have met countless times to pour over criteria, feedback, and various versions and revisions in an attempt to improve guidelines for faculty. This is in addition to ongoing P&T activities including reviews of faculty teaching, dossiers and making recommendations.

Professionally, I provided several invited presentations at institutions and conferences that are advancing work in aquatic ecology and fisheries. I gave seminars at the Cornell Biological Station and at the INRS in Quebec City and had the opportunity to meet with past colleagues and build new collaborations. I also gave a session plenary talk at a symposium at the 143rd American Fisheries Society in Little Rock Arkansas. This led to participation in a multi-authored manuscript submitted to the AFS journal *Fisheries* on status and future research and management needs for northern pike and muskellunge in North America. I continue to manage numerous grants and serve as director of TIBS.

IX. A. FUTURE PLANS, AMBITIONS, AND POTENTIAL CONTRIBUTIONS FOR YOUR OWN PROFESSIONAL DEVELOPMENT AND THE ENHANCEMENT OF THE PROGRAM IN ENVIRONMENTAL AND FOREST BIOLOGY (brief summary)

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2014

a. Course(s) to be offered

EFB 388

b. Proposed research activity

Numerous projects at TIBS and the Great Lakes

c. University, professional society, and public service

Invited talk for Muskies Canada Symposium at Carleton University, Plenary speaker for the Larval Fish Conference at AFS in Quebec City; numerous events at TIBS, continued work finishing multimedia at TIBS and CIRTAS and completion of Cean Researcher Bldg.

2. Fall Semester 2013

a. Course(s) to be offered

EFB 681

b. Proposed research activity

Numerous extramurally funded research projects

c. University, Professional society, and public service

TIBS facility enhancements

3. Spring Semester 2014

a. Course(s) to be offered

EFB 492

b. Proposed research activity

Numerous extramurally funded research projects

c. University, professional society, and public service

TIBS