

ANNUAL REPORT: June 1, 2009 – May 31, 2010
(i.e., Summer 2009, AY 2009-2010)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

NAME: Kimberly L. Schulz

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 202	Ecological Monitoring and Biodiversity Assessment Session A – assisted with project week	3	76	2
	EFB 202	Ecological Monitoring and Biodiversity Assessment Session C – co-taught aquatic section and served on judging panel of projects	3	76	2
FALL:					
	EFB 424	Limnology: Study of Inland Waters	3	30	0
	EFB 624	Limnology: Study of Inland Waters	3	6	0
	EFB 524	Limnology Practicum	2	14	2
	EFB 796	EFB Core Course I	1	33	0
SPRING:					
	EFB 423	Marine Ecology	4	72	4
	EFB 623	Marine Ecology Grad Section	5	6	1
	EFB 796	EFB Core Course II	1	15	0

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	Masters Thesis Research	1	1
	EFF 999	Doctoral Thesis Research	1	1
FALL				
	EFB 498	Research Problems in EFB	2 total	2
	EFB 899	Masters Thesis Research	10 total	3
	EFF 999	Doctoral Thesis Research	1	1
SPRING				
	EFB 498	Research Problems in EFB	4 total	2
	EFB 899	Masters Thesis Research	3 total	2

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

Speaker at Lake Ontario Stakeholders' Workshop in Kingston Ontario, Canada sponsored by the Great Lakes Fisheries Commission, Cornell Biological Field Station, Ontario Ministry of Natural Resources, and N.Y. Sea Grant entitled "The Future of the Lake Ontario Ecosystem: Is there a Crystal Ball?" Invited topic, "Nutrients, Algae, and Zooplankton and Food Quality - new insights on balancing nutrition and ecosystem health in the Lake Ontario Food web." 18 July 2009. Approximately 60 attendees.

Speaker for Naturally New York Program run by Professor Andy Saunders and Annie Schlessinger of the Environmental Interpretation Program in the Department of Environmental and Forest Biology at SUNY ESF. Topic, "The Secret Lives of Lakes and Ponds: The diversity of tiny creatures and why it can matter." 1 April 2010. Approximately 15 attendees.

4. Guest Lecture Activities

<u>Course No.</u>	<u>Title</u>	<u>No. of Lectures</u>
EFB 415	Ecological Biogeochemistry	1

II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student's official advisor 18 and unofficial advisor 5

In addition, advisor to two UMEB students, Pavel Dimens (2009) and Jessica Ortiz (2010), secondary advisor to another UMEB student (Donald Stewart is the primary advisor), Samson Lau (2009), and advisor to Cranberry Fellow David Andrews (2010).

B. Graduate Students: (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. Stephanie Figary, M.S., August 2009-current.
2. Jacob Gillette, Ph.D., January 2006-current.
3. Cheryl Whritenour, M.S. January 2005-May 2010. Successful completion of M.S. degree in April 2010. Thesis title: Ecological Stoichiometry of the Salt Marsh: Si:N and Effects on the Lower Food Web. Cheryl plans to continue as a Ph.D. student.

CO-MAJOR PROFESSOR

1. Daniele Baker, M.S., August 2008-present (co-major professor, M. Mitchell)
2. Brandeis Brown, M.S., January 2007-December 2009 (co-major professor, N. Ringler). Successful completion of M.S. degree in December 2009. Thesis title: "Using field experimentation to evaluate benthic macroinvertebrate recovery in a highly disturbed lake (Onondaga Lake, NY)."
3. Madeline Turnquist, M.S., August 2008-present (co-major professor, M. Schlaepfer)

MEMBER, STEERING COMMITTEE (other than those listed above)

1. James Arrigoni (James Gibbs, major professor)
2. Meredith Atwood (James Gibbs, major professor)
3. Heather Baugh-Wall (Linda Ivany, Syracuse University Earth Sciences Department, major professor)
4. Melanie Carter (Jesse Brunner, major professor)
5. Xiaoxia Chen (Charles Driscoll, Syracuse University Civil Engineering Department, major professor)
6. Michael Connerton (Neil Ringler major professor)
7. Dan Geffell (Neil Ringler, major professor)
8. Alison Halpern (John Farrell and Don Leopold, co-major professors)
9. Jarrod Hughes (John Farrell, major professor); completed MPS summer 2009.
10. Craig Hurteau (James Hassett, Environmental Engineering, major professor); defended M.S. successfully, January 2010.
11. Matthew Isles (Sharon Moran, Environmental Studies, major professor)
12. Deborah Joseph (John Hassett, Chemistry, major professor)
13. David Kalenak (James Hassett, Environmental Engineering, major professor)
14. Phil-Goo Kang (Myron Mitchell, major professor)
15. Kevin Kapuscinski (John Farrell, major professor)
16. Suman Maity (M. Sepulveda, Purdue University, major professor); Ph.D. student at Purdue University – serving as external committee member
17. Joie Matillano (Don Stewart, major professor)
18. Rita Oliveira Monteiro (Karin Limburg, major professor)
19. Catherine Peluso (Thomas Amidon and John Fieschko, co-major professors)
20. Christopher Spiese (David Kieber, Chemistry, major professor); defended Ph.D. successfully March 2010
21. Sara Turner (Karin Limburg, major professor)

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

Chairman:

1. Robyn Leigh Oakes, Chemistry (rescheduled)

Reader/Examiner:

1. Kacie Gehl (Karin Limburg and John Stella, co-major professors) – defended M.S. May 2010.
2. Margaret Pavlac; examiner for second candidacy exam (Greg Boyer, major professor) -- Oct 2009
3. Justine Schmidt, reader for undergraduate honor's thesis -- May 2010.

III. RESEARCH COMPLETED OR UNDERWAY

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

- Steph Figary (M.S. student) is studying the effects of invasive zooplankton in the Finger Lakes. She is a RA during the academic year on the NSF EAGER, and is also funded this summer on a Sussman Fellowship. Incidental supplies are bootlegged from cost recovery funds. Percent of my time ~2%
- Jake Gillette (Ph.D. student) is studying the role of mixotrophy in aquatic systems. Along with Mark Teece and me, Jake has developed an isotope tracer method for quantifying mixotrophy. Originally supported by a NSF grant on which Jake was a RA, currently this research is not supported other than by a Sussman Fellowship in summer 2010; we have been submitting grants (EPA STAR and NSF DIGG) to find additional external funding. Percent of my time ~2%.
- Daniele Baker (M.S. student working with Mitchell and me) is working on nitrogen cycling in Onondaga Lake. Daniele will work this summer on the NSF EAGER, and last year obtained a small ESF Grant in Aid of Research and Edna Bailey Sussman Fellowship that will help defray costs. Percent of my time ~3%.
- Continuing testing and implementing a comprehensive relational database for limnological data (with N. Schulz technical consultant). This is also being combined with database work at NCEAS. Percent of my time ~3%

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)

- National Science Foundation, “Collaborative Research: EAGER – Eco-evolutionary feedback on community assembly,” *PI*: K.L. Schulz, *co-PI*: C.E. Cáceres (U. Illinois); *Amount*: \$300,000 (\$143,667 to SUNY ESF); *Dates*: Sept 2009-Aug 2011. This grant funds Stephanie Figary.
- NYSERDA, “Conversion of dairy and biodiesel waste products to omega-3 fatty acids and lipids for biodiesel production using mixotrophic algae;” *PI*: John Fieschko, *co-PI*: K.L. Schulz; *Amount*: \$76,304; *Dates*: April 2009-March 2011. Jake Gillette funded 25% on this grant summer and fall 2009.
- SUNY ESF Seed Grant Program, “Extending ecological stoichiometry to the salt marsh: Restoring natural Si:N:P ratios may help remediate estuarine food webs;” *PI*: K.L. Schulz, *co-PI*: Cheryl Whritenour; *Amount*: \$8,000; *Dates*: March 2009-March 2010; no graduate student research assistantships are supported on this grant.
- National Science Foundation, “Can Fatty Acids Improve Our Ability to Trace Food Web Processes?” *PI*: K.L. Schulz. *co-PIs*: M.A. Teece, K.E. Limburg and J.M. Farrell. *Amount*: \$541,900 (all at ESF) over three years. March 2005-February 2010. This grant supported Jake Gillette as a research assistant through December

2009.

- Environmental Protection Agency, Central New York District Cooling Project, actual funding level uncertain (\$1 million), *P.I.*: J.Hassett, *co-PIs*: Neil Ringler and K. Schulz (SUNY ESF). My understanding is that this grant will run through December 2009; it supported Cheryl Whritenour as a research assistant.
- Collaborator on Hatch Proposal 2006-07-097. Title: Ecological Indicators and Sustainability of the Lake Ontario Ecosystem: Melding Science and Stakeholder Involvement.. Total of \$23,500 a year (~\$2,500 annually to KLS) for a period of 3 years from CUAES (Hatch research support) and CCE (federal extension). Oct 1, 2006 – Oct 1, 2010. *P.I.* E. Mills (Cornell); Collaborators: L. Rudstam (Cornell), R. O’Gorman (USGS), D.B. MacNeill and D.G. White (NY Sea Grant). No students are supported on this grant.
- SUNY-ESF McIntire-Stennis Research Program, “Restoring small, ephemeral wetlands in forested landscapes of New York State: Initiating a large-scale, long-term collaborative research program based at Heiberg Forest” *PI*: James Gibbs; *coPIs*: John Stella, D.J. Leopold, K. Schulz *Amount*: \$80,000; *Dates*: May 2009-December 2012; no graduate students under my supervision are supported on this grant.
- Project Participant in successful proposal to form a NIMBioS working group, "Food web dynamics and stoichiometric constraints in meta-ecosystems," with *PIs* M. Leibold (UT Austin), R.W. Sterner (U. Minnesota), F. Massol (CEMAGREF, France) and C. Klausmeier (Michigan State) to run in three four-day workshops from 2010-2011 (<http://nimbios.org/>); no graduate students are supported on this grant.

Graduate Student Led Grants:

- National Estuarine Research Reserve Fellowship (Estuarine Reserves Division, Office of Ocean and Coastal Resource Management, National Ocean Service, NOAA), “Salt Marsh Restoration: The Importance of a Better Biofilm,” Cheryl Whritenour and K.L. Schulz; *Amount*: \$60,000; *Dates*: June 2010-May 2009; this grant will support the Ph.D. research of Cheryl Whritenour.
- Garden Club Wetlands Award to Cheryl Whritenour, 2010, \$5,000.
- Edna Bailey Sussman Fellowship to Daniele Baker, summer 2009
- Edna Bailey Sussman Fellowship to Jacob Gillette, summer 2010
- Edna Bailey Sussman Fellowship to Stephanie Figary, summer 2010

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

Ringer, N.H. (PI), *coPIs*: J.L. Brunner, J.M. Farrell, D.J. Leopold, and K.L. Schulz

Source: National Science Foundation

Subject: “Renovation of Wet Labs and Cyber-Infrastructure to Enhance Integrated Research and Teaching in Aquatic Science at SUNY-ESF.”

Amount: \$1,757,801 (awaiting final award letter)

Proposed dates: 10/1/2010-9/20/2012

Farrell, J.M. (with D.J. Leopold, M. Mitchell, J. Gibbs, K.L. Schulz).

Source: NOAA Coastal and Marine Habitat Restoration Project Grants under the American Recovery and Reinvestment Act.

Subject: “Recovery Act – Coastal Fisheries Habitat Restoration in the St. Lawrence River.

Amount: \$249,707 subcontract to ESF of \$2,147,583 Ducks Unlimited (pending)

Proposed dates: 9/2010-8/2012

Farrell, J.M., K.L. Schulz and M. A. Teece

Source: NSF Division of Biological Infrastructure (DBI)

Subject: NSF DBI - Biological Field Stations & Marine Labs A Multipurpose Building to Promote Research and Training Activity at the Thousand Islands Biological Station.

Amount: \$225,093 (pending)

Proposed dates: 2010-2012.

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

Schulz, K.L. (PI), coPIs: G.L. Boyer, J.L. Brunner, J.M. Farrell, C. Whipps

Source: National Science Foundation

Subject: MRI-R2: Acquisition of Instrumentation for Interdisciplinary Research on Natural Toxins and Diseases in Aquatic Food Webs

Amount: \$1,410,704

Plan to resubmit in 2011

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

Smith, J.L., K.L. Schulz, P.V. Zimba and G.L. Boyer. 2010. Possible mechanism for the foodweb transfer of covalently-bound microcystins. *Ecotoxicology and Environmental Safety* 73: 757-761. (**featured paper**)

Limburg, K.L., V.A. Ludzadis, M. Ramsey, K.L. Schulz and C. Mayer. IN PRESS The good, the bad, and the algae: perceiving ecosystem services and disservices generated by zebra and quagga mussels. *Journal of Great Lakes Research*, doi: 10.1016/j.jglr.2009.11.007.

Ji, X. and K.L. Schulz. accepted. Oligotrophication, water clarity and ecological stoichiometry – Using the Oneida Lake long-term data set to test a zooplankton food quality model. Oneida Lake Book (peer reviewed). E. Mills, L. Rudstam, and D. Stewart editors. (they keep saying this will be published within the year).

B. Non-refereed Publications

Schulz, K.L. 2009. Chemically-induced defenses in phytoplankton. In D. Müller-Schwartz (editor) *Hands-On Chemical Ecology Exercises: Simple Field and Laboratory Exercises*. Springer. pp. 85-90.

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

none

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

Speaker at Lake Ontario Stakeholders' Workshop in Kingston Ontario, Canada sponsored by the Great Lakes Fisheries Commission, Cornell Biological Field Station, Ontario Ministry of Natural Resources, and N.Y. Sea Grant

entitled “The Future of the Lake Ontario Ecosystem: Is there a Crystal Ball?” Invited topic, “Nutrients, Algae, and Zooplankton and Food Quality - new insights on balancing nutrition and ecosystem health in the Lake Ontario Food web.” 18 July 2009. Approximately 60 attendees.

Cornell Department of Natural Resources Seminar, “Nutrition and food webs: Diet determination, food quantity, food quality, and phylogenetic constraints.” 8 September 2009. Approximately 40 attendees.

“It’s element-ary, my dear – human alteration of N:P:Si entering aquatic ecosystems and its unexpected food web effects.” SUNY-ESF Alumni Day, Syracuse, NY 3 October 2009. 2 attendees.

Guest Presenter at the Cortland-Onondaga Federation of Kettle Lake Associations, Inc. (COFOKLA). Topic, “Lake Ecology, Eutrophication and Algae” 19 October 2009. Approximately 15-20 attendees.

“Tails of two invaders: A continuing quest to determine the roles of two spiny predatory invertebrates in aquatic food webs” Ithaca College Environmental Science and Biology departmental seminar, 6 November 2009.

Speaker for Naturally New York Program run by Professor Andy Saunders of the Environmental Interpretation Program in the Department of Environmental and Forest Biology at SUNY ESF. Topic, “The Secret Lives of Lakes and Ponds: The diversity of tiny creatures and why it can matter.” 1 April 2010. Approximately 15 attendees.

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

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

NSF panel December 2009

2. Industrial and Commercial Groups, etc.

None

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

- Advised residents at Song Lake, Tully, NY and representative from the Kettle Lakes Association of New York about Cyanobacteria blooms in Song Lake. July 2009
- Hosted high school student, Sarah Fellows, for 3 weeks of volunteer work in my laboratory

VI. PROFESSIONAL DEVELOPMENT

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

None

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

- Member of a subcommittee of the Education Committee of the American Society of Limnology and Oceanography. Participating in developing the ASLO Education website – particularly the image library and helping organize the first ASLO photo contest and calendar

2. Professional Society Membership

American Association for the Advancement of Science
 American Institute of Biological Sciences
 American Society of Limnology and Oceanography
 American Society of Naturalists
 Ecological Society of America
 International Association for Great Lakes Research
 International Association of Theoretical and Applied Limnology
 Phycological Society of America
 Sigma Xi

3. Other Professional Activities

a. Editorial activity

<u>Journal (s)</u>	<u>Responsibility</u>
None	
<u>Other (books, symposia, etc.)</u>	

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
Limnology and Oceanography	1
<u>Agency</u>	<u>No. of proposals</u>
National Science Foundation	18
<u>Other</u>	

c. Participation (workshops, symposia, etc.)

<u>Name of workshop, etc.</u>	<u>Date</u>	<u>Place</u>
Speaker at Kingston Lake Ontario stakeholder’s conference (see public service presentation section for details)		

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

Faculty mentoring colloquium, "Faculty Excellence and Maximum Impact" panel participant Maximum Impact via Teaching, Research or Services" January 2010

D. Foreign Travel (Where, When, Purpose)

Kingston, Ontario, Canada – 18 July 2009; gave talk at Lake Ontario stakeholder's conference

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

- Associate Professor member of EFB Promotion and Tenure Committee
- Faculty mentor for Jacqui Frair, Greg McGee and Jesse Brunner
- EFB Graduate Program Advisory Committee Member 2008-present; initiated Core Course for first year graduate students with John Farrell
- Member of Phyllis Roskin Award Committee
- Aquatic and Fisheries Science BBQ and mixer participant
- Organized symposium for AFS majors and Marine Ecology undergraduates on getting into graduate school and other career options, spring 2010

B. College-level

- Member of the Middles States steering committee
- Coordinating effort to develop CIRTAS – Center for Integrated Research and Teaching in Aquatic Science, to find funding to develop a collaborative aquatic science experimental facility for teaching and research at ESF, and efforts to organize aquatics group in EFB
- Co-ordinate college-wide AquaBreak seminar (formerly AquaLunch) and run seminar with graduate student Jacob Gillette
- EFB representative to the Water Resources Minor
- Faculty advisor to the Nautilus Club (student marine science club)
- Member of ESF Scientific Diving Committee (being developed by Mark Teece)
- Environmental Science advisor

C. University-wide, including Research Foundation

none

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 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, which I'll continue to award based on your contributions to the department and college this reporting period.

Students

This year I devoted the majority of my time to teaching and mentoring students. First, John Farrell and I devoted considerable time and effort on short notice to developing and co-teaching the two new Core Courses in fall and spring after Martin Schlaepfer left suddenly. There were some growing pains, but we really believe that (the second semester course especially) came together well and was valuable for new graduate students (we learned a lot, too). Although some students grumbled during the first term, and we have many suggestions for improvement, the requirement that students work on proposals resulted in several successful grant applications by new students. We provided an outline for future instructors and talked with the GPAC about continuing this class with multiple instructors, in a 4 semester rotation; we both hope this class will become a regular offering and are willing to participate in this rotation and contribute to group teaching materials. Second, I also continued to offer my limnology lecture and newly revised 2 credit Limnology Practicum, in which students learn advanced methods and perform independent projects. Three of the students presented their independent projects from this class in the Student Spotlight on Research, and one has submitted a manuscript for publication -- a great success for a semester-long class. Third, I also revised (especially making the recitation sections more interactive) and offered the biannual Marine Ecology class which was oversubscribed and had to turn away potential students; this class continues to improve, and is generally received well by the students. We led 80 students on a field trip to Cape Cod, and developed websites on "Seafood in Syracuse" that I will put online this summer. In addition I continued to spend considerable effort mentoring numerous undergraduates (including 2 UMEB scholars, 1 Cranberry Scholar and 5 additional students on independent projects, one of which will be submitted as a manuscript in 2010). Finally, I continued to mentor a moderately-large graduate student laboratory group (6 students), and am pleased that both Brandy Brown and Cheryl Whritenour successfully defended their M.S. dissertations and are submitting manuscripts on this work over the summer. Brown is now working full time with John Farrell, and Whritenour won two prestigious national fellowships to continue on to Ph.D. work at SUNY-ESF.

Department/college

This year the availability of recovery act funds finally permitted some of the aquatics group at ESF, organized as CIRTAS (Center for Integrated Research and Teaching in Aquatic Science), to apply for funds to renovate the laboratory spaces in Illick Hall (CIRTAS) and TIBS. I devoted a majority of the summer of 2009 to this effort, working with other co-PIs to organize and write a successful \$1.7 million proposal for renovation and a well-reviewed, but unfunded instrumentation grant that we will resubmit in 2011. The renovation grant also has required a lot of subsequent effort to meet programmatic requirements, but is an amazing opportunity for us to bring aquatic science at ESF to a new level, and I am looking forward to helping lead these efforts over the next few years. In addition I have served on the college-wide Middle States Steering Committee, the Promotion and Tenure Committee in EFB, the Graduate Program Advisory Committee, and was the EFB representative to the Water Resources Minor. I also continued to co-facilitate the college-wide AquaBreak seminar and mentor three early-career faculty members.

Self

This year I focused on grant writing and research more than on manuscript production (3 publications this year). I continue to run a very active research laboratory that successfully pursues a number of ongoing funded research efforts. In addition to the large renovation grant, I received a new NSF research grant for work at the Heiberg Forest, which brings an exciting new direction to my research program. My lab group also used a SUNY ESF seed grant to complete a salt-marsh 'megatransect' along the Eastern U.S. seaboard in summer 2009 (and led to a subsequent NERR fellowship for Whritenour), finished experiments from our fatty acid project, and performed a number of successful field, lab and modeling efforts that we will be publishing over the next year. I also am participating in a working group at the National Institute for Mathematical and Biological Synthesis.

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)

This year we will submit a number of manuscripts on recently completed projects. In addition my-coPI and I plan to submit a grant for continuation of research on ponds at Heiberg Forest (building on the NSF EAGER). Further I will work on the CIRTAS and TIBS renovation project and group organization. We will resubmit our Major Research Instrumentation grant to NSF. Finally, I have been working on a third revision to my Limnology practicum manual and will be including a significant service learning experience in this class.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2009

a. Course(s) to be offered

Participate in aquatics and projects sections of EFB 202 at Cranberry
Mentor UMEB student, Cranberry Fellow, and REU student

b. Proposed research activity

- Sample ponds at Heiberg and regionally for zooplankton population genetics and submit continuation grant
- Continue other funded research
- Assist graduate students with their research projects
- Complete ≥ 4 manuscripts (from NCEAS, NSF and previous NOAA work)

c. University, professional society, and public service

- Advise Song Lake homeowners
- Continue to co-ordinate CIRTAS
- Lead a session and present a paper at the American Society of Limnology and Oceanography

2. Fall Semester 2009

a. Course(s) to be offered

EFB 424/624 Limnology
EFB 525 Limnology Practicum

b. Proposed research activity

- Continuation of funded research projects
- Continuation of graduate and undergraduate research
- Submit at least 1 manuscript

c. University, Professional society, and public service

- Continue on Middle States Steering Committee
- Continue to co-ordinate organization of CIRTAS
- Continue as member on Graduate Program Advisory Committee
- Continue as member of Promotion and Tenure Committee
- Continue AquaBreak seminar
- Continue as Nautilus Club advisor
- Serve as EFB representative to Water Resources Minor
- Continue work for the American Society of Limnology and Oceanography education committee's image subcommittee

3. Spring Semester 2010

a. Course(s) to be offered

- EFB 798 Topics in Aquatic Ecology

b. Proposed research activity

- Resubmit Major Research Instrumentation Grant
- Continuation of funded research projects
- Continuation of graduate and undergraduate research
- Submit at least 1 manuscript
- Attend international aquatics meeting (if funding available)

c. University, professional society, and public service

- Continue on Middle States Steering Committee
- Continue to co-ordinate organization of CIRTAS
- Continue as member on Graduate Program Advisory Committee
- Continue as member of Promotion and Tenure Committee
- Continue AquaBreak seminar
- Continue as Nautilus Club advisor
- Serve as EFB representative to Water Resources Minor
- Continue work for the American Society of Limnology and Oceanography education committee's image subcommittee