

**ANNUAL REPORT: June 1, 2008 – May 31, 2009**  
**(i.e., Summer 2008, AY 2008-2009)**  
**DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY**  
**SUNY-ESF**

**NAME: Martin A. Schlaepfer, Assistant Professor**

**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 496	Field Animal Behavior (with Shields)	2		7 (including 2 Russians)
FALL:	EFB 485	Herpetology	3	54	
SPRING:	EFB 311	Evolution (co-taught with Brunner)	3	177	

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>
FALL:	EFB 495	Undergrad Exp	3	1
	EFB 798	Grad seminar	1-3	4
	EFB 899	Master's Research	1	1
SPRING:	EFB 420	Internship	5	1
	EFB 498	Research Prob	3	1
	EFB 899	Master's Research	2	1

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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**II. STUDENT ADVISING**

A. Number of undergraduates for whom you are the student's official advisor 17 and unofficial advisor ?

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

- Madeline Turnquist (M.S., start Fall 2008)

### CO-MAJOR PROFESSOR

Incoming:

- David Taylor, co-advised with Gibbs, PhD, start summer 2009
- Meredith Atwood, co-advised with Gibbs, M.S. start summer 2009

### MEMBER, STEERING COMMITTEE (other than those listed above)

- Ellen Wisner, outside committee member (PhD candidate with Albert Uy, Syracuse University)
- Katherina Bendz Searing, committee member (PhD candidate with Mark Lomolino, EFB)
- Suzanne Conrad, committee member (M.S. candidate with Valerie Luzadis, FNRM)
- Jason Townsend, committee member (PhD candidate with William Shields; EFB)
- Angela Sirois, committee member (M.S. candidate with James Gibbs, EFB)
  
- William Helenbrook, steering committee (PhD candidate with William Shields, EFB)
- Osman Ahmen, steering committee (M.S. candidate with Charles Kroll, ERFE)

### CHAIRMAN OR READER ON THESIS EXAMS, ETC.

## **III. RESEARCH COMPLETED OR UNDERWAY**

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

- 1) "Response of native tadpole prey to non-native predators". Start-up funds. 40% of research time
- 2) "Conservation value of non-native species". Boot-legged. 20% of research time
- 3) "Lateral line development in tadpoles". Start-up funds 10% of research time
- 4) "Predicting methyl-mercury concentrations in NY Lakes" Seed grant, 20% of research time
- 5) "Assessing Private Landowner Knowledge of and Attitudes Towards Invasive Species in the Adirondack State Park", McIntyre-Stennis, 10% of research time

### 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)

McIntyre-Stennis with Valerie Luzadis, "Assessing Private Landowner Knowledge of and Attitudes Towards Invasive Species in the Adirondack State Park", \$73,507 total, \$1,809 for 2009, start 2009-end 2011, grad support for Suzanne Conrad)

SEED grant "Predicting methyl-mercury concentrations in NY Lakes" (8'000.00). Start 2008-End 2009.

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

SERDP (Dept of Defense). PI: Julian Olden; Co-PIs Dave Lytle and Martin Schlaepfer. "Hydroecology of intermittent and ephemeral streams: Will landscape connectivity sustain aquatic organisms in a changing climate?". 2010-2014 Total request amount: US\$ 1'490'000.00. Amount for Schlaepfer: US\$ 402'632.00

Arizona Heritage Grant, PI: Martin Schlaepfer; Co-PIs Jim Rorabaugh and Dale Turner. "Novel technique to improve detectability of rare frogs in the field". 2010-2011. Total request amount: US\$ 109,767.00 (all for SUNY-ESF)

**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

(\* indicates mentored undergraduate author)

Schlaepfer, M.A., M.C. Runge, and P.W. Sherman. (in press). Evolutionary traps and the importance of behavioral ecology to conservation biology. In *Evolutionary Behavioral Ecology*, (Eds.) Westneat & Fox. Harvard University Press.

\*Shah, A.A., M.J. Ryan, E. Bevilaqua, and M.A. Schlaepfer (in press). Prior experience alters the behavioral response of prey to a non-native predator. *Journal of Herpetology*.

Fox, H. E., P. Kareiva, S. B., J. Hitt, D. Lytle, B. S. Halpern, C. V. Hawkes, J. Lawler, M. Neel, J. D. Olden, M.A. Schlaepfer, K. Smith, and H. Tallis. (in press). Why fly? Institutional changes to reduce high-flying conservationists' footprints. *Frontiers in Ecology and the Environment*.

\*Sosa, J.A., M.J. Ryan and M.A. Schlaepfer (in press). Induced morphological plasticity in native Lowland Leopard Frog larvae (*Rana yavapaiensis*) does not confer a survival advantage against introduced Green Sunfish (*Lepomis cyanellus*). *Journal of Herpetology*

B. Non-refereed Publications

Schlaepfer, M.A., W.D. Helenbrook, K.B. Searing, and K.T. Shoemaker. (accepted) Assisted colonization: evaluating management actions. (Letter). *Trends in Ecology and Evolution*.

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

"Tadpole Defenses and Non-native Sunfish Predators: Does Experience Confer Survival Advantage?", Poster by Amanda Lea and Martin Schlaepfer, International Society for Behavioral Ecology, Ithaca NY 13 August 2008

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

“Population dynamics of lizards and amphibians in fragmented forests.” Tropical forest restoration workshop, 30 July 2008, Las Cruces, Costa Rica

“The behavioral and evolutionary responses of native tadpoles to introduced predators”. Young Investigator Seminar Series, University of Washington, School of Aquatic and Fishery Science. Oct 2 2008 Seattle WA,

“The behavioral and evolutionary responses of native tadpoles to introduced predators”. Asa Gray Student-invited seminar, Utica College, NY 10 November 2008

“The behavioral and evolutionary responses of native tadpoles to introduced predators”. University of Neuchatel, Switzerland 20 November 2008

“The behavioral and evolutionary responses of native tadpoles to introduced predators”. Clarkson University, Potsdam NY 16 January 2009

“Professional choices in the field of conservation biology”. SUNY-ESF Student Society for Conservation Biology, CNY chapter, 4 February 2009

“The behavioral and evolutionary responses of native tadpoles to introduced predators”. Adaptive Peaks Seminar, SUNY-ESF, Syracuse NY 5 March 2009

“The behavioral and evolutionary responses of native tadpoles to introduced predators”. University of Zurich, May 19<sup>th</sup> 2009.

## **V. PUBLIC SERVICE**

### A. Funded Service (include consulting activities)

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

Population dynamics of Jolleyville Plateau Salamanders (Austin Community Foundation (\$104,000; my share: ca. \$5000), Endangered Species Research, Co-PI with Drs. Gluesenkamp and Poteet, 2007-2009)

#### 2. Industrial and Commercial Groups, etc.

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

Member of Advisory Board for the New York State Invasive Species Research Institute (ISRI) 2008-2011, which included full-day meeting with Board and DEC biologists in February, April (x2)

## **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)

2. Professional Society Membership

Ecological Society of America (1998-date)

Society for the Study of Amphibians and Reptiles (1996-date)

Society for Conservation Biology (1996-lifetime member)

3. Other Professional Activities

a. Editorial activity

Journal (s)

Responsibility

Other (books, symposia, etc.)

Mentored a non-English grad student for abstract submission, Society for Conservation Biology 2009

b. Reviewer

Journal(s)

No. of manuscripts

Oecologia

2

Tropical Ecology

1

Conservation Biology

1

Oryx

1

J. Austral Ecology

1

Ecol. Evol. Res.

1

Agency

No. of proposals

Other

Smith postdoctoral fellowship

8

Monograph "Sources, Sinks, Landscapes"

Book chapter reviewer

c. Participation (workshops, symposia, etc.)

Name of workshop, etc.

Date

Place

C. Further Education/Re-training Undertaken, Leaves, Workshops, etc.D. Foreign Travel (Where, When, Purpose)

Las Cruces, Costa Rica, July 26-31, 2008, Tropical Restoration Ecology Workshop

**VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)**A. Department-level

Graduate Program Action Committee (member)  
Cranberry Undergraduate Research Fellowship  
Represented the Conservation Biology Major at the 2009 Spring Open House

B. College-levelC. University-wide, including Research Foundation

**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.**

For Students: My primary contributions to ESF's students came in the form of mentoring and teaching. My proudest accomplishments in mentoring has been getting to know students more personally, understanding their personal aspirations and shunting them in directions that will help them reach their career goals. For example, Tim McCoy expressed interest in getting some research experience to be more competitive for grad school and I pointed him in the direction of the UMEB program, to which he was accepted. John Vanek was my undergrad TA for Herpetology, and I was able to put him in touch with a friend who is a faculty at Chase University, and who offered him a paid research assistant position working on amphibians for the summer. In Fall 2008 I taught Herpetology (53 students) for the first time and in Spring 2009 I co-taught Evolution (177 students). Finally, I anticipate that the three graduate students (Bendz, Shoemaker, Helenbrook) will get a significant professional boost from our manuscript (Bendz et al. *in prep.*) and website ([www.esf.edu/efb/consbiograd/moveit/](http://www.esf.edu/efb/consbiograd/moveit/)) to evaluate the suitability of species for assisted migration. Finally, as of this summer, I am pleased to be the faculty contact for the Society for Conservation Biology student chapter.

For Department/College: My primary contributions to EFB have been to initiate a new course for incoming graduate students. In an earlier survey, graduate students had complained of the department's balkanized structure and being unfamiliar with most faculty and graduate students. The new core course should create a strong sense of cohort that

will last among EFB's graduate students for their entire professional careers. Furthermore, by introducing incoming graduate students to most faculty members, they will become more aware of the department's intellectual and technical resources. The core course will allow graduate students to create networks of peers and mentors that they can tap into for the various needs, thus reducing their dependence on their own advisor. In creating a cohort, one also highlights the work and accomplishment of the best graduate students, thereby raising the bar for all. As a result, I am hopeful that this new Core Course (coordinated with Kim Schultz's core skill course) will go a long way to improving the social cohesion and caliber of our future graduate students. In addition, I was an active member of the Graduate Program Advisory Committee; responsible for the Cranberry Lake Undergraduate Research Fellowship; and I assisted the department/college in raising its profile by helping out at Open Door events and giving five invited seminars at the University of Washington, Las Cruces OTS field station (Costa Rica), Clarkson University, Utica College, and the University of Neuchatel (Switzerland) and University of Zurich (Switzerland).

For Self: This year has been a particularly stimulating and successful year of research for the Schlaepfer lab in Evolutionary Conservation Biology. I am particularly proud of the number (10) and quality (four of the department's top 15 applicants) of graduate student applicants to my lab. I made three offers, two of which accepted (David Taylor for PhD and Meredith Atwood for M.S.). In addition, Madeline Turnquist (current M.S. student) has made great progress in her project to predict methyl-mercury concentrations in NY state lakes. Last year's work has resulted in three peer-reviewed papers, one peer-reviewed book chapter, and a letter in Trends in Ecology and Evolution. I am proud of the fact that two papers have undergraduate students (from the University of Texas) as first authors and plan to continue this model of training promising undergraduate students in independent research. In fact, a promising undergraduate student (Lynne Beaty) has set up a nice experiment to evaluate the effect of water current and predators on lateral line development in tadpoles. This work will likely result in 1-2 papers, and hopefully propel Lynn into the very best graduate schools. The growing number of intelligent and enthusiastic students joining the lab will hopefully continue to make research both fun and productive.

**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 2009

a. Course(s) to be offered

Ecology

Prepare for two new fall grad courses, the Core Course and a course in Applied Evolutionary

b. Proposed research activity

Writing manuscripts and NSF grant; visit with Josh Van Buskirk (tadpole biology, Univ Zurich)  
Predicting methyl-mercury concentrations in NY Lakes (with Madeline Turnquist)

c. University, professional society, and public service

2. Fall Semester 2009

a. Course(s) to be offered

EFB 796 Applied Evolutionary Ecology  
EFB 796 Core Course for Incoming Graduate Students

b. Proposed research activity

Write write write.

c. University, Professional society, and public service

3. Spring Semester 2010

a. Course(s) to be offered

EFB 311 Evolution

b. Proposed research activity

Field work in Arizona on native tadpole's response to non-native predators.

c. University, professional society, and public service