

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

NAME: Stacy McNulty

**I. INSTRUCTIONAL ACTIVITIES**

1. Regular Course Offerings

Course No.	Title	Credit Hrs.	No. Students	No. of Lab. Sections
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SUMMER: none

FALL: none

SPRING:

**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. EFB courses currently listed with service-learning components include: 416/6/1, 486, 518, 521, 532, 446/646.

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

Course No.	Title	Credit Hrs.	No. Students
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3. Continuing Education and Extension (short courses, workshops, etc.)

9/12/2009	Town of Newcomb		Teddy Roosevelt Days Ecology Hike
9/30/2009	American Wildlife Conservation Foundation meeting, HWF		earthworm/salamander research

4/29/2010 ESF Take your Kids to Work Day, earthworms  
Syracuse

4. Guest Lecture Activities

<u>Course No.</u>	<u>Title</u>	<u>No. of Lectures</u>
EFB496	CLBS Wildlife Course (J. Frair)	1
EFB497	UMEB Colloquium 2009 and 2010 (R. Kimmerer)	2
FTC219	Wildlife/Ecology (J. Savage)	1
ES ?	International students (M. Hosmer-Briggs)	1

**Service Learning:** EFB497 (UMEB) has a strong stewardship component where students embark on an education or conservation-related program which they develop and carry out. In 2009, 10 UMEB students had an Adirondack ecology day at Beaver Lake Nature Center.

**II. STUDENT ADVISING**

- A. Number of undergraduates for whom you are the student's official advisor   0   and unofficial advisor   0
- 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

- Kevin Jablonski, MS, August 2007
- Caitlin Snyder, MS, January 2009
- Courtney LaMere, MS, August 2009

CO-MAJOR PROFESSOR

- Sarah Wilkinson, MS, January 2010, co-advisor

MEMBER, STEERING COMMITTEE (other than those listed above)

- Anna Harrison, MS Stella
- Frank DeSantis, MS Porter
- Matthew Smith, MS Porter, completed Spring 2010
- Jon Cale, MS Castello

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

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

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

1. Adirondack Long-Term Environmental Monitoring Program (ALTEMP) – a variety of ecological projects occurring at Huntington Wildlife Forest (ESF Newcomb Campus)  
30% time
2. Adirondack Biodiversity Project (ATBI, All-taxa Biodiversity Inventory)  
5% time
3. Climate change and phenology in the Adirondacks – lake ice and other signals of changing climate  
2% time
4. Amphibian population trends and habitat associations in a) vernal pools and b) forested uplands/seeps  
5% 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)

Hai, P.B., S. McNulty, and W. F. Porter. National Science Foundation Field Stations and Marine Labs. \$154,700, \$154,700. 9/2008-8/2010.

Kimmerer, R. and S. McNulty. National Science Foundation Undergraduate Mentoring in Environmental Biology Program. *Integrating Science and Stewardship in the Adirondacks*. \$591,925, \$150,830. 6/1/06 - 5/31/11. Jacqueline Bilello and Meredith Turnquist.

McNulty, S., M. Patinelli-Dubay, and R. Kimmerer. The Ethics of Land Use, Land Stewardship and the Culture of Research: an Interdisciplinary Approach – an NSF UMEB Ethics Supplemental Grant Proposal. National Science Foundation Undergraduate Mentoring in Environmental Biology Program. \$3,600, \$3,600; 6/1/06 – 5/31/11.

Porter, W., S. McNulty and A. Dechen. New York State Department of Environmental Conservation, *A Risk Assessment of a Chronic Wasting Disease Outbreak in New York*, \$1,008,190, \$162,755, 8/1/05-12/31/08, extended to 2010. Amy Dechen, Matthew Smith and David Williams.

S. McNulty, W. Porter, and C. Beier. New York State Department of Environmental Conservation, *Application of GIS to Resource Inventory for Unit Management Planning*, \$626,431, \$115,000, 6/1/03 – 8/5/10. Steve Signell, Senior Research Support Specialist.

McNulty, S., J. Castello, and S. Teale. The influence of American beech thickets on biodiversity in the northern hardwood forest. Northeastern States Research Cooperative, 10/1/09 – 9/30/10: \$34,785, \$34,785. Jon Cale.

Patrick, D.A. and S.A. McNulty. Assessing biodiversity, forest condition and the effects of management in the Northern Forest: protocol development and field trial in Adirondack Park. Northeastern States Research Cooperative, 10/1/09 – 9/30/10. \$15,000, \$15,000.

McNulty, S.A. and K.E. Limburg. Source to Sink: Hudson River Watershed Education and Research Meeting. SUNY Conversation in the Disciplines. \$4,935, \$4,935. 9/1-10/31/10.

Snyder, C. Nonnative earthworm impacts on woodland salamanders and their native prey: Implications for Adirondack forest health. SUNY Potsdam Walker Fellowship. 5/15/10-5/31/11. \$5,880, \$5,880. Caitlin Snyder.

McNulty, S. and C. Snyder. Status of nonnative earthworms in Adirondack Park, NY. American Wildlife Conservation Fund. May 2009-August 2009. \$1,000, \$1,000. Caitlin Snyder.

LaMere, C. Effect of Variable Mast Production on American Black Bear Reproduction and Bear-Human Conflict in the Central Adirondack Mountains. Sussman Internship with New York Department of Environmental Conservation. 5/17-8/20-2010. \$5,880, \$5,880. Courtney LaMere.

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

McNulty, S. and C. Beier. Adirondack Regional Information Access System for Byway Planners. US Department of Transportation Scenic Byways Program. \$167,758, \$167,758. September 1, 2010 – September 1, 2012.

McNulty, S. Effect of Variable Mast Production on American Black Bear Reproduction and Bear-Human Conflict in the Central Adirondack Mountains. \$60,607, \$60,607. 8/2010 – 8/2011. Courtney LaMere.

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

Spada, D., S. McNulty, D. Patrick and P. Hai. Detecting and Monitoring Climate Change Effects on Wetlands and Water Quality in the Adirondack Park, NYS, USA. US Environmental Protection Agency Wetland Program Development. \$865,849, \$349,025. 9/1/09 – 8/31/12. Two graduate students.

McNulty, S. and C. Beier. 2010 CAP Category 7 Trans-Port: a partnership to develop a unified, portable transportation network for the New York State Forest Preserve. US Geological Survey National Spatial Data Infrastructure Cooperative Agreements Program. \$75,000, \$75,000. 3/1/10 – 2/28/11. Part of one graduate student.

**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

Stager, J.C., S. McNulty, C. Beier, and J. Chiarenzelli. 2009. Historical patterns and effects of changes in Adirondack climates since the early 20th century. *Adirondack Journal of Environmental Studies* 15:14-24.

Brunner, J.L., K.E. Barnett, C. Gosier, S.A. McNulty, M. Rubbo, and M.B. Kolozsvary. In submission. Ranaviruses in vernal pool amphibian die-offs in New York State. Herpetological Review.

Jablonski, K., S. McNulty, and M. Schlesinger. In submission. A digital mapping method for avian field studies. Journal of Field Ornithology.

Jensen, P.G., C.L. Demers, S.A. McNulty, W. Jakubas, and M.M. Humphries. In submission. Harvest Dynamics of American Martens and Fishers Relative to Forest Tree Seed Crops and Prey Abundance” Journal of Wildlife Management.

B. Non-refereed Publications

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

\* Lang, C. Beaver lodge location in relation to aquatic lily plant density in the Adirondack Park, NY. Spotlight on Research 2010, April 13, 2010, Syracuse, NY.

\* Ma., J., S.A. McNulty, and C.M. Beier. Songbird richness and abundance across a gradient of terrestrial calcium availability in the Adirondack Park, New York. Spotlight on Research 2010, April 13, 2010, Syracuse, NY.

Signell, S.A., S.A. McNulty, and C.M. Beier. Adirondack Park Regional GIS Project (APR-GIS): Creation of a web-accessible spatial database for the Adirondacks. Adirondack Research Consortium, May 20, 2010, Lake Placid, NY.

\* Undergraduate lead presenter

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

**V. PUBLIC SERVICE**

A. Funded Service (include consulting activities)

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

none

2. Industrial and Commercial Groups, etc.

none

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

Adirondack Biodiversity Project (All-Taxa Biodiversity Project) – an expert-driven, citizen science-based project to inventory all life in the Adirondack region and excite residents of and visitors to Adirondack Park

## VI. PROFESSIONAL DEVELOPMENT

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

Organization of Biological Field Stations Human Diversity Award 2009 – to the Adirondack Ecological Center and Cranberry Lake Biological Station for the Undergraduate Mentoring in Environmental Biology program, *Science and Stewardship in the Adirondacks* (Kimmerer and McNulty, PIs).

The Wildlife Society's Spatial Ecology and Telemetry Working Group presented a certificate of appreciation for long service as editor of *Remotely Wild* newsletter and of the TWS listserv.

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

Adirondack Research Consortium Board Member (2009-2012)  
Co-planner, ARC 2010 conference

### 2. Professional Society Membership

Adirondack GIS User's Group  
Ecological Society of America  
Society of Conservation Biology  
The Wildlife Society

### 3. Other Professional Activities

#### a. Editorial activity

Journal (s)  
none

Responsibility

Other (books, symposia, etc.)

#### b. Reviewer

Journal(s)

No. of manuscripts

Journal of Wildlife Management

2

Agency

No. of proposals

Other

#### c. Participation (workshops, symposia, etc.)

Name of workshop, etc.  
none

Date

Place

C. Further Education/Re-training Undertaken, Leaves, Workshops, etc.  
none

D. Foreign Travel (Where, When, Purpose)

Costa Rica, September 2009, attend Organization of Biological Field Stations annual meeting

## VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

Editor of AEC newsletter, the *Spruce Moose*

Organizer, Huntington Lecture Series

B. College-level

Committee for Public Service (COPSCO)

Council for Geospatial Modeling and Analysis (CGMA)

C. 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.

**Students:** Mentoring of students was and is a key and expanding part of my duties and one from which I derive great pleasure. Over the past year my graduate students and I engaged in exciting collaborative work with faculty at ESF and with outside partners. I believe relationships built between graduate students and representatives of agencies and organizations will help our students be better-prepared for their future careers; a specific example is helping two students write successful Sussman Internships with NY Natural Heritage Program and the Adirondack Park Invasive Plant Program. The UMEB undergraduate program (with Robin Kimmerer) is in its fourth year; we received an extension for at least another two years from NSF. The first cohorts of UMEB graduates have moved into careers in science and community leadership (for example, one former student is working on a Master's degree in mycology and another in inner-city youth development). I keep in touch with the students via Facebook and other communication to maintain their bond to EFB and AEC and to let them know they continue to be important to ESF as alumni. The value of the UMEB program for students was recognized internationally through the OBFS Human Diversity Award. This honor permitted me to represent UMEB to other field stations, many of whom asked for our proposal and details about the program.

**Department/College:** Two areas where my work has contributed to the mission of the department and college: visibility and collaboration deserve special mention.

- A new collaboration about which I am most excited is the Source to Sink: Hudson Watershed Education and Research Meeting, co-hosted by myself and Karin Limburg and the Environmental Consortium of Hudson Valley Colleges & Universities (EC). The SUNY-funded meeting is for researchers, students and practitioners to share information about research and educational opportunities. Attendees, most of whom are from the Hudson Valley or Estuary, will visit Hudson headwater facilities at AEC and Northern Forest Institute and strengthen links between EC members. While the meeting will be in October, already the planning has resulted in EC considering an Upper Hudson/Headwaters representative seat on their board and greater representation of Adirondack research and courses. While many ESF faculty have studied aspects of the Hudson, this meeting should lead to a greater role of the college in watershed planning and outreach, further establishing ESF as a leader of science and educational outreach.
- Another expanding content area coming to fruition is spatial data sharing and querying via the Adirondack Regional Information Assessment System. ARIAS, a regional spatially-enabled database on the web, ARIAS supports land planning, tourism planning, modeling and other efforts to understand the Northern Forest (though it's not limited to any one region). This system is online and accepting datasets from various sources such as socioeconomic data, recreation use, and water chemistry. The key feature is linkage of previously disparate datasets so a user can explore maps and run dynamic queries. It is based entirely on open-source software (read: free) and presents a new model for data sharing across large regions and multiple partners. It has significant potential for CGMA, ESF's forest properties, and anyone at ESF interested in sharing or accessing datasets.

**Self:** This past year, I put a lot of energy into my graduate students, and they rewarded me with their insight and energy. I spent a great deal of time learning ESF's graduate student application process and the steps students go through once enrolled so I could better serve students. It was also the first year I spent significant time reviewing graduate applications, which gave me a better sense of how resources are allocated at the departmental level and of identifying characteristics of students who will excel at ESF. Working with graduate students is one of the motivations for me to decide to pursue a doctoral degree myself (see below).

#### **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)**

The departure of Bill Porter as Adirondack Ecological Center means changes ahead for me and all staff at AEC as well as the EFB department. I look forward to the opportunity to help lead AEC in new directions and strengthen ties with faculty in EFB and other ESF departments such that AEC is utilized to its fullest. I will (gradually) embark on a doctoral program in ecology starting in Fall 2010. I will pursue advanced study of field biology – and how we learn from and interact with the natural environment. As co-leader of the Adirondack Biodiversity Project, I am excited to bring to fruition this summer the first biological survey of Follensby Pond (site of the Philosophers' Camp) and partnering with The Nature Conservancy to provide access to taxonomic experts. ESF students will be able to work side-by-side with scientists to sample this culturally-significant place.

#### **B. PROJECTED ACTIVITIES FOR NEXT YEAR**

1. Summer 2010



a. Course(s) to be offered

b. Proposed research activity

- Adirondack Biodiversity Project – secure funding and conduct BioBlitzes
  - Conduct sampling and project management (NSRC Vital Signs project)
- Black Bear Ecology/Beechnuts/Beech Bark Disease
- Boreal bird detection and habitat association – finalize research, defend student
- ALTEMP projects (various, including: terrestrial salamanders, vernal pool amphibian reproduction and survival, songbird survey, phenology, seed survey, beaver colony survey)
- Advise UMEB student research
- Climate change/Phenological data summary, including Northeast Regional Mast Survey and Northeastern Phenology Network (with Dovciak, Stella, Beier, others)
- Summarize and report on several ongoing research projects, including Beech Bark Disease/beechnut production and amphibian population trends/habitat use

c. University, professional society, and public service  
potentially offer a co-taught course (with Beier and others)

Co-coordinate ATBI; contribute to Org. of Biological Field Stations, National Phenology Network, Northeast Regional Mast Survey, Northeastern Vernal Pool Working Group, Adirondack Research Consortium among others

## 2. Fall Semester 2010

a. Course(s) to be offered

b. Proposed research activity

- Human and ecological community sustainability in the Adirondacks – Hudson Watershed meeting coordination and identification of research avenues
- Submit grant for NSF URM or REU to extend/expand undergraduate research opportunities (with Kimmerer, others)
- ALTEMP projects (various, including phenology, terrestrial salamanders, beaver colony activity, seed survey)

c. University, Professional society, and public service

continue from Summer

## 3. Spring Semester 2011

a. Course(s) to be offered  
Winter Mammalian Ecology

b. Proposed research activity  
continue from Fall semester

c. University, professional society, and public service  
continue from Fall semester