ANNUAL REPORT: June 1, 2010 – May 31, 2011
(i.e., Summer 2010, AY 2010-2011)
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
SUMMER:	None				
FALL:	None				
SPRING:	EFB484	Winter Mammalian Ecology	3	12	0
	EFB684	Winter Mammalian Ecology	3	3	0

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.

EFB497 (Undergraduate Mentoring in Environmental Biology seminar; spring and fall) has a strong stewardship component where students embark on an education or conservation-related program which they conceive, develop and carry out under guidance from Dr. Robin Kimmerer and myself. In 2010-11, 10 UMEB students delivered four sets of programs for 2nd-grade MLK (Syracuse City) School students, providing lesson plans and content-rich activities relating to independent field research undertaken in summer 2010.

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

Course No.	Title	Credit Hrs.	No. Students
EFB899	Master's Thesis Research	1-8	5
EFB498	Research Prob/EFB	3	1

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

4. Guest Lecture Activities

Course No.	Title	No. of Lectures
EFB496	CLBS Wildlife Course	1
EFB497	UMEB Colloquium 2010 & 2011	2
FTC219	Wildlife/Ecology	1
FOR232	Natural Resources Ecology	1

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

- Caitlin Snyder, MS, January 2009
- Courtney LaMere, MS, August 2009
- Scott Sveiven, MS, Fall 2010
- Shannon Buckley, MS, January 2011

CO-MAJOR PROFESSOR

- Kevin Jablonski, MS, August 2007 (with Porter)
- Sarah Wilkinson, MS, January 2010 (with Underwood)

MEMBER, STEERING COMMITTEE (other than those listed above)

- Anna Harrison, MS Stella, completed Spring 2011
- Frank DeSantis, MS Porter
- Jon Cale, MS Castello
- Ashley Simpson, MS Nyland

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

none

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); 20% 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

5.Rusty Blackbird Nesting Success, Predator Diversity and Forest Management: Impacts of a Proposed Ecological Trap; 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)

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 - 5/31/12. Madeline Turnquist, Meredith Kane.

McNulty, S., M. Patinelli-Dubay, and R. Kimmerer. National Science Foundation Undergraduate Mentoring in Environmental Biology Program. *The Ethics of Land Use, Land Stewardship and the Culture of Research: an Interdisciplinary Approach* – an NSF UMEB Ethics Supplemental Grant Proposal. $3,600, $3,600; 6/1/06 – 5/31/12.

McNulty, S. and C. Beier. New York State Department of Environmental Conservation, *Application of GIS to Resource Inventory for Unit Management Planning*, $756,000, $129,566 6/1/03 – 8/5/11. Steve Signell, Senior Research Support Specialist, plus one graduate research assistanceship.

McNulty, S. Federal Aid via New York Department of Environmental Conservation. Effect of Variable Mast Production on American Black Bear Reproduction and Bear-Human Conflict in the Central Adirondack Mountains. $60,607, $60,607. 8/20/10-8/19/11. Courtney LaMere.

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

McNulty, S., J. Castello, and S. Teale. Northeastern States Research Cooperative. The influence of American beech thickets on biodiversity in the northern hardwood forest. $34,785, $34,785. 10/1/09 – 9/30/11. Jon Cale.

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

McNulty, S. SUNY Potsdam Walker Fellowship. Nonnative earthworm impacts on woodland salamanders and their native prey: Implications for Adirondack forest health. $3,945, $3,945. 5/15/10-5/31/11. Caitlin Snyder (completed).

Hai, P.B., S. McNulty, and W. F. Porter. National Science Foundation Field Stations and Marine Labs. Expanding High-speed Internet Capacity at the Huntington Wildlife Forest. $154,700, $154,700. 9/2008-8/2010 (completed).

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

Spada, D., S. McNulty, C. Beier, P. Hai, D. Patrick, and T. Howard. Building a Monitoring Framework for Detecting Climate Change Effects on Wetlands in the Adirondack Park. EPA Wetland Program Development Grant. Year 1: $865,848, $227,000 (ESF portion $81,000). January 1, 2012 – December 31,2015.

Nyland, R.D. and S. A. McNulty, R. S. Davis, E. Bevilacqua and Paul B. Hai. American Beech Management to Enhance Northeastern Forest Health and Use. USFS Northeastern Area State and Private Forestry. $ 177,926; $41,000; submitted through NYS DEC, July 1, 2011 - June 30, 2014.

Patrick, D., J. Kretser, and S. McNulty. Adirondack Park Community BioBlitz in Saranac Lake, New York. Disney Worldwide Conservation Fund. $25,000. September 1, 2011 – September 1, 2012.

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

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

Nyland, R.D. and S.A. McNulty. Northeastern States Research Cooperative Theme 4: Biodiversity and Protected Area Management. Effects of Small Beech on Plant Community Diversity Beneath Northern Hardwood Stands. $148,223, $77,358. October 1, 2011 - September 30, 2013 .

McNulty, S. Northeastern States Research Cooperative Theme 4: Biodiversity and Protected Area Management. Nesting Success, Predator Diversity and Forest Management: Impacts of a Proposed Ecological Trap on the Rusty Blackbird in the Northern Forest. $137,320, $59,683. October 1, 2011 - September 30, 2014.

McNulty, S. and T. Hodgman. ESF Seed Grant. Will an Ecological Trap Prevent Recovery of the Rusty Blackbird in Northeastern North America? $7,864, $7,864. May 1, 2011 – September 1, 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

Beier, C.M., S.A. McNulty, J.A. Stella, and M. Dovciak. In review. Local climatic drivers of changes in ice phenology and duration on high-elevation lakes in the Adirondack Mountains, New York. Climatic Change.

Brunner, J.L., K.E. Barnett, C. Gosier, S.A. McNulty, M. Rubbo, and M.B. Kolozsvary. 2011. Ranaviruses in vernal pool amphibian die-offs in New York State. Herpetological Review 42(1), 76–79.

Jablonski, K. E., S. McNulty, and M. Schlesinger. 2010. A digital mapping method for avian field studies. Wilson Journal of Ornithology 122:772–776.

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

B. Non-refereed Publications

Spring Chorus: Vernal Pools and their Inhabitants. Adirondack Almanack, April 18, 2011. http://www.adirondackalmanack.com/2011/04/wetlands-vernal-pools-and-their_19.html

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

Effect of Variable Mast Production on Human-Black Bear Conflicts in the Adirondack Park of New York. LaMere, C. and S. McNulty. 20th Eastern Black Bear Workshop, Hendersonville, NC, May 1-4, 2011.

ARIAS – A geospatial relational database for the Adirondack region. Signell, S., S. McNulty, and C. Beier. Adirondack Research Consortium, Lake Placid, NY May 18, 2011.

Habitat Associations of Adirondack Lowland Boreal Birds. Jablonski, K. and S. McNulty. Northeast Natural History Conference 2011, Albany, NY April 7-8, 2011.

Beech Thickets Impact Northern Hardwood Forest Biodiversity. Cale, J.A., S. A. McNulty, S.A. Teale and J.D. Castello. Northeast Natural History Conference 2011, Albany, NY April 7-8, 2011.

Effect of Variable Mast Production on Human-Black Bear Conflicts in the Adirondack Park of New York. LaMere, C. and S. McNulty. Northeast Natural History Conference 2011, Albany, NY April 7-8, 2011.

Terrestrial Salamander Diet Along a Calcium Gradient in the Adirondack Park, NY. Snyder, C.M., S.A. McNulty, M.K. Fierke, C.M. Beier, and R.D. Briggs. Spotlight on Student Research. SUNY College of Environmental Science and Forestry, Syracuse, NY. 12 April 2011.

Terrestrial Salamander Diet Along a Calcium Gradient in the Adirondack Park, NY. Snyder, C.M., S.A. McNulty, M.K. Fierke, C.M. Beier, and R.D. Briggs. 1st Annual Life Sciences Symposium. Syracuse University, NY. 11 April 2011.

Terrestrial Salamander Diet Along a Calcium Gradient in the Adirondack Park, NY. Snyder, C.M., S.A. McNulty, M.K. Fierke, C.M. Beier, and R.D. Briggs. Northeast Natural History Conference. New York State Museum, Albany, NY. 8 April 2011.

Terrestrial Salamander Diet Along a Calcium Gradient in the Adirondack Park, NY. Snyder, C.M and S. McNulty. 18th Annual Conference on the Adirondacks. Adirondack Research Consortium, Lake Placid, NY. 18 May 2011.

An Analysis of the Effects of Upland Habitat on Wood Frog (Lithobates sylvatica) and Spotted Salamander (Ambystoma maculatum) Reproduction in Vernal Pools. Katie McKissick*, National Conference on Undergraduate Research, Ithaca, NY March 31-April 1, 2011. * Undergraduate lead presenter

An Analysis of the Effects of Upland Habitat on Wood Frog (Lithobates sylvatica) and Spotted Salamander (Ambystoma maculatum) Reproduction in Vernal Pools. Katie McKissick*, National Conference on Undergraduate Research, Ithaca, NY March 31-April 1, 2011. * Undergraduate lead presenter

Terrestrial Salamander Diet Along a Calcium Gradient in the Adirondack Park, NY. Snyder, C.M. and S.A. McNulty. NY Society of American Foresters conference, Syracuse, NY. 27 January 2011.

Beech thickets impact northern hardwood forest biodiversity. Cale, J.A. and S. A. McNulty. Society of American Foresters Conference, Syracuse, NY January 20, 2011.

Beech Dynamics after Shelterwood Seed Cutting in Huntington Wildlife Forest. Ani Haykuni, Ralph D. Nyland, Mike Gooden, and Stacy McNulty. Society of American Foresters Conference, Albequerque, NM, November 2010.

Beech thickets impact northern hardwood forest biodiversity. Cale, J.A., S. A. McNulty, S.A. Teale and J.D. Castello. Society of American Foresters annual conference, October 29, 2010 Albuquerque, NM. [won 3rd place Best Student Poster Award]

Source to Sink: Hudson River Watershed Research and Education Meeting. Stacy McNulty, Karin Limburg, and Lucy Johnson. Environmental Consortium of Hudson Valley Colleges & Universities Annual Conference, October 15-16, 2010, Rockland Community College, Suffern, NY.

Real-Time Access to Remote Data in the Adirondack Mountains. McHale, P.J., M. J. Mitchell, D. H. Lyons, T. Nowak, and S. McNulty. OBFS 2010 Annual Meeting, University of Michigan Biological Station, Pellston, MI, September 22-26, 2010.

The influence of landscape factors on long-term beaver site occupancy. Anna M. Harrison, John C. Stella, and Stacy McNulty. 95th Ecological Society of America Annual Meeting, August 3, 2010, Pittsburgh, PA.

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

8/20/2010	The Wild Center ATBI public event celebrating BioBlitz		500
9/12/2010	Teddy Roosevelt Days Ecology Hike		20
9/18/2010	Girl Scouts explore Rich Lake by canoe		22
2/12/2011	Adirondack Interpretive Center	community dialog	25
4/12/2011	Adirondack Interpretive Center	Leapfrog! ATBI citizen science	25
5/7/2011	Adirondack Interpretive Center	Women in Science	8

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

Northeastern Partners in Amphibian and Reptile Conservation – co-lead vernal pool working group; edit documents such as regional comparison of vernal pool regulations on NEPARC website

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)

Chair, Human Diversity Committee, Organization of Biological Field Stations

Board Member, Adirondack Research Consortium

Panel Moderator and Presenter, Hudson River Research Collaboration. Adirondack Research Consortium, May 18, 2011, Lake Placid, NY.

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)	Responsibility
None	

Other (books, symposia, etc.)

NEPARC Editorial Board

b. Reviewer

Journal(s)	No. of manuscripts
Journal of Wildlife Management	1
Landscape Ecology	1
Wildlife Society Bulletin	1

Agency	No. of proposals

Other

Vermont Breeding Bird Atlas – Northern Parula Species Account

c. Participation (workshops, symposia, etc.)

Name of workshop, etc.	Date	Place

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

Two seminars: EFB797 Conservation Biogeography and EFB797 Research Study Design/Problems in Biology

D. Foreign Travel (Where, When, Purpose)

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

Associate Director, Adirondack Ecological Center

Organizer, Huntington Lecture Series

Editor, Spruce Moose newsletter

B. College-level

Committee for Research (COR)

Council for Geospatial Modeling and Analysis (CGMA)

C. University-wide, including Research Foundation

Submitted multiple grants and maintained existing contracts through the RF.

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 became lead instructor for Winter Mammalian Ecology. I sought to retain core content and objectives while strengthening linkages with related courses such as Mammalogy, Biogeography and Wildlife Ecology and Management. I identified cross-cutting concepts via discussions with EFB faculty and also updated modules to include cutting-edge research (e.g., bear physiological changes; bats and White Nose Syndrome). I created a rubric for evaluating student oral presentations and establishing clear expectations for grading. Student performance and feedback suggests the course engages critical reasoning, synthesis and presentation skills. It was a high compliment when two graduating seniors offered to volunteer next spring to help with the class. I continued to mentor undergraduates in the UMEB program and was gratified to see so many win awards at conferences, share their knowledge and experience with underserved students via stewardship projects, and enter graduate school for further study or begin their careers. Encouragement of my advisees/grad students to share research findings paid off with 16 student-led oral and poster presentations at professional conferences and a grad-student lead author publication.

Department/College:

In July I became Associate Director of the AEC and have been pleased to serve the college in this capacity. Some key responsibilities I assumed included:

- Implementing policies on data management, budgetary controls, and computer resources
- Managing housing and dining operations and accounting, assisted by Zoe Jeffery, AEC Business Manager
- Promoting collaboration among ESF faculty and facilitating research (including a presentation to EFB)
- Increasing visibility of ESF in regional, national, and international circles via web, video, and print media

My research contributions included 400K in external research funds this year; I served as PI on 6 grants and as Co-PI on 3 more grants, several of which support EFB graduate students. These include APR-GIS, a consortium designed to improve access to and analysis of geospatial information, now in its seventh year. The foundational ARIAS database engineered by Steve Signell and partners is poised to make College data available for use in courses and research. I also co-organized the *Source to Sink: Hudson Watershed Education and Research Meeting* with Dr. Karin Limburg and co-hosted by the Environmental Consortium of Hudson Valley Colleges & Universities (EC). The SUNY Conversation in the Disciplines team selected our proposal as an exemplary Conversation. ESF's field facilities in the upper Hudson headwaters and scientific expertise in watershed-scale ecological and social systems were highlighted by many ESF faculty. Future plans include a journal, meetings, and grant proposals, all of which will facilitate engagement in academic pursuits along the Hudson wildland-urban gradient.

Self/Professional:

I continued to develop my doctoral interests by taking two ESF seminars in the past year for credit (Conservation Biogeography and Study Design & Analysis in Field Biology). I made progress in focusing on a set of questions; the conversations with colleagues were stimulating and I remain motivated to pursue a PhD. As a Committee on Research member, I reviewed McIntire-Stennis proposals and coordinated external review of Seed Grant proposals. The experience increased my familiarity with research in other departments beyond EFB and FNRM as well as the competitive grant process which should aid future proposal generation. Finally, I was pleased to help host a group of Italian park managers and university faculty who intend to establish a doctoral degree exchange program with ESF and I look forward to assisting with development.

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)

I am pursuing two lines of research. One is community ecology, both basic research and interactions of species and their environment (e.g., Rusty Blackbird and predation/landscape factors influencing nest success and lack of

population recovery). The other is management-oriented (e.g., black bear food ecology, population trends, and human-bear conflicts).

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2011

a. Course(s) to be offered

b. Proposed research activity

- Black Bear Ecology/Beechnuts/Beech Bark Disease
- Boreal bird detection and habitat association – focused on Rusty Blackbird
- Support collaborative research including acquisition of LiDAR, CFI forest change on HWF, geospatial and other datasets
- ALTEMP projects (various, including: terrestrial salamanders, vernal pool amphibian reproduction and survival, songbird survey, phenology, seed 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
- Adirondack Biodiversity Project – secure funding and plan for 2012 BioBlitz
    - Conduct sampling and project management (NSRC Vital Signs project)

c. University, professional society, and public service

Coordinate linkages between research and education via NFI/AIC; 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 2011

a. Course(s) to be offered

b. Proposed research activity

- Continue from summer
- 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, including representation of ESF at Organization of Biological Field Stations meeting

3. Spring Semester 2012

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