

ANNUAL REPORT: June 1, 2014 – May 31, 2015
(i.e., Summer 2014, AY 2014-2015)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

NAME: Shannon L. 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:					
FALL:	EFB 390	Wildlife Ecology & Management	4	82	5
	EFB 797	Adaptive Peaks Grad Seminar	1	11	N/A
SPRING:	EFB 482	Ornithology	4	58	3
	EFB 796	Ornithology (graduate student level)	4	1	NA
	EFB 797	Adaptive Peaks Grad Seminar	1	9	N/A

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>
EFB 498	Independent Research	Wildlife Ecology & Management	3	1
EFB 495	Undergrad Exper. in College Teaching		3	7

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

4. Guest Lecture Activities

EFB 202	CLBS 1 lecture
EFB 210	Diversity of Life (Spring) 2 lectures

<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 22 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

R. Bronson Curry, M. S. EFB Ecology. Start Date January 2015.

CO-MAJOR PROFESSOR

Andrea P. Thomen, MS EFB Conservation Biology Start date August 2012. Completed M.S. Dec 2014. Co-Advisor S. Ryan. Thesis: EVALUATING AVIAN ASSEMBLAGES IN DOMINICAN CACAO FARMS: IMPLICATIONS FOR MANAGEMENT AND CONSERVATION.

Michael R. Whalen, PhD EFB Conservation Biology, Start date May 2015. Co-Advisor M. Dovciak.

MEMBER, STEERING COMMITTEE (other than those listed above)

Melissa A. Althouse, MS EFB Wildlife Ecology and Management

Samouel J Beguin, MS EFB Conservation Biology

Maureen Durkin, PhD EFB Wildlife Ecology & Management

Alison Kocek, PhD EFB Wildlife Ecology & Management

Amanda L. Pachomski, MS EFB Fish & Wildlife Biology & Management

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

III. RESEARCH COMPLETED OR UNDERWAY

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

- Assessing potential causes and identifying geographic locations of woodland loss for conservation planning of the endangered Golden-cheeked Warbler. <1%
- Modelling species co-occurrence for 2 endangered songbirds in Texas. <1%
- Investigating/quantifying impacts of noise disturbance on endangered golden-cheeked warbler. <1%
- Investigating/quantifying impacts of woodland understory disturbance or removal on endangered golden-cheeked warbler. <1%

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)

U.S. National Park Service Coastal Plain Bat Monitoring. Comprehensive bat presence-absence surveys and bat habitat use assessment at Cape Cod and Fire Island National Seashore.

Dates: Sept 2014-Dec 2015. Fund: \$82,293. Currently partial support for Bronson Curry; will support incoming M.S. student Jessica Fletcher (who will be starting Fall 2015).

U.S. National Park Service Continuing Assessment of populations and white-nosed syndrome at Cape Cod National Seashore.

Dates: Jan 2016- Dec 2016. Funds: \$76,200. Planned for partial support for Bronson Curry & incoming M.S. student Jessica Fletcher.

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

Dept of Environmental Protection, NYC. Nesting Bird Density and Reproductive Success and Breeding Habitat Quality at the Fountain Avenue Landfill, Brooklyn

Dates: TBD. We are currently working with DEP to determine dates and funds. Requested: \$351, 450. Co-PIs: Jonathan Cohen; Susan Elbin, NYC Audubon.

U.S. Fish and Wildlife Service Ecological Services White-Nose Syndrome Research. Understanding spatial dynamics of habitat use and migration at the edge of range: implications for Pd transmission, vulnerability and conservation.

Dates: Jan 2016- Dec 2018. Requested \$286,280

Southwestern Energy. Habitat use and movements of Northern long-eared and Eastern small-footed bats in the Marcellus Shale Region. In ongoing negotiation for timeline & budget.

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

Gulf Coast and Prairies LCC. A spatially explicit model for Northern Bobwhite habitat use, vulnerability to land use change, and opportunity costs. Dates May 2015-May 2016. Requested: \$15,000

McIntire-Stennis Research Program. 2014-15. Preproposal. Assessing habitat quality for songbirds on nonindustrial private forestland [NIPF] in a parcelized landscape. Co-PI: René H. Germain.

NSRC Theme Four: Biodiversity and protected area management Pre-Proposal. 2015. Assessing habitat quality for songbirds in a response to increasing density of human impacts on nonindustrial private forestland [NIPF] in a parcelized landscape. Co-PI: René H. Germain. Funds requested: \$129,415.

Species at Risk Research Fund for Ontario. A Fine-grained Occupancy Model for Eastern Whip-to Provide a Conservation Planning Tool for its Core Breeding Range. Requested: \$32,180. Co-PIs: Andrew Campomizzi, Zoe LeBrun, BECO [Bird Ecology and Conservation Ontario].

Eppley Foundation. Prairie warbler field research and habitat modeling for conservation. Co-PIs: Andrew Campomizzi, Zoe LeBrun, BECO [Bird Ecology and Conservation Ontario].
Dates Sept 2015-Sept 2016. Requested: \$25,000

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

Campomizzi, A. J., B. A. Collier, T. M. McFarland, **S. L. Farrell**, M. L. Morrison, and R. Neal Wilkins. Monitoring songbird occupancy-habitat relationships in a stable vegetation assemblage. *Journal of Wildlife Management: In review Mar 2015*.

Farrell, S. L., B. A. Collier, A. J. Campomizzi, M. L. Morrison, and R. Neal Wilkins. Co-occurrence of two endangered songbirds: implications for management choices. *Journal of Applied Ecology: In review May 2015*.

Marshall, M., **S. L. Farrell**, A. M. Long, M. L. Morrison, R. Neal Wilkins. Nest success and singing behavior of an endangered songbird exposed to military training activities *Avian Ecology and Conservation: submitted April 2015*

Marshall, M., **S. L. Farrell**, A. M. Long, M. L. Morrison, R. Neal Wilkins. Assessing impacts of military training activity on nest success and singing behavior of an endangered songbirds. *Journal of Wildlife Management: In review May 2015*.

Thomen, A. P., S. J. Ryan, J. B. Cohen, **S. L. Farrell**, S. C. Latta. Social-Ecological Implications for Bird-friendly Management in Dominican Cacao Landscapes. *Human Ecology: In review April 2015*.

B. Non-refereed Publications

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

Farrell, S. L., and J. Frair. October 2014. Shale energy technology and spatial distribution in North America. Invited presentation for Symposium: Understanding the effects of shale energy development on wildlife in North America. The Wildlife Society Annual Conference, Pittsburgh, PA, USA

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

Farrell, S. L. 2014. Avian Ecology: notes from the field. Onondaga Audubon Society, NY. ≈ 25-30 attendees.
Also other related activities (told to include but not clear on where else this goes):

- Interviewed and quoted for Syracuse.com article on Turkey Vultures July 2014
- Video interview on winter bird feeding for Going green segment. Feb 2015.
- Interviewed for interviewed for a story on WTVH/WSTM TV about mute swans in Manlius. May 2015

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

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

Lesser Prairie Chicken conservation planning: Lead on science committee drafting of CCAA/HCP and Habitat Exchange. Partially funded; funding from multiple entities including USFWS, Environmental Defense Fund, and Oil and Gas Industry partners.

2. Industrial and Commercial Groups, etc.

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

- Working with TNC Tug Hill personnel to assist with development of grant proposal, to develop collaborative forest management plan and wildlife monitoring (working also with Greg McGee and Ralph Nyland).
- CNY Ruffed Grouse Society. Habitat management project planning, Jan 2015- present.
- Society of American Foresters (working with national Allegheny, New York, and New England units).
 - Summer 2014: Analysis of effects of proposed listing of the northern long-eared bat (NLEB) as federally Endangered on forestry, and drafting of comment letter to USFWS.
 - March 2015: Analysis of effects of threatened listing of northern long-eared bat (NLEB) and proposed 4-d rule implementation for forestry, and drafting of comment letter to USFWS.

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)

- Member of Special Recognition and Honorary Membership Committee, The Wildlife Society National Chapter
- Member of Early Career Professionals working group, The Wildlife Society National Chapter
 - Planned symposium for early career professionals for 2015 Annual Meeting.
- Service on Shale Development Technical Committee, The Wildlife Society National Chapter

2. Professional Society Membership

The Wildlife Society: National Chapter

TWS Northeast Region Chapter

TWS NY State Chapter

TWS Southwest Region Chapter

TWS Texas Chapter

American Ornithologists' Union and Cooper Ornithological Society 2005 – present.

3. Other Professional Activities

a. Editorial activity

Journal (s)

Responsibility

Other (books, symposia, etc.)

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
Avian Conservation and Ecology	2
Integrative Zoology	2
Animal Conservation.	2
Adirondack Journal of Environmental Studies	1

Agency

No. of proposals

Other

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)

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

- CLBS committee
- Undergrad honors thesis advising: Brendan Popp, Kim Savides, Allison Smith. Provided substantial guidance and served as 2nd reader for Andrew Stillman, Brian Busby, Russell Winter.
- Dept awards:
 - Baldassarre Award, coordinator 2014-2015
 - Chamberlain Award, coordinator 2014-2015
 - Roy Glahn Award, coordinator 2014-2015
 - Burgess Award, committee member Spring 2014
- Open House/ Accepted Student Reception June 6
- Coordinated birding for the Lake Onondaga Bioblitz in Sept
- Participated in Hammersley Bioblitz summer 2014

B. College-level

- IQAS committee; and a side project of this committee included College-Wide Gen Ed Assessment for Middle States.
- Fink Fellowship Committee Fall 2013-present.

- Asked to serve on strategic planning Undergraduate Experience Committee
- Birding Club faculty advisor
- CSTEP Mentor
- Worked with Frank Moses (while he was employed at ESF), development office, to get small grant from Audubon society for construction of Chimney Swift Tower for placement on campus and further fund raising campaign to fund signage and undergraduate research associated with tower. We were awarded funding to build tower (~\$1500) but fundraising campaign and construction and placement have been temporarily delayed but plans to move forward are in progress.

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.

Students:

Helping students get exposure to wildlife professionals and access opportunities to find and prepare for internships, seasonal jobs, and grad school opportunities has been a guiding focus this semester. I taught EFB 390 for the 1st time this Fall and piloted a well-received effort that will now be a regular part of the course. Roughly once per week, I brought in Wildlife Professionals from around the country from a wide array of jobs from state and federal agencies to non-profits, NGOs, and industry, both live and via web streaming, to give brief introductions to what their job is like, the best and most challenging aspects, how they prepared, and what they are looking for in new hires, and take student questions. I implemented a culminating class project: teams had abridged Oxford-style debates on a variety of contemporary wildlife management challenges that were to consider the ecological, social, ethical, legal, and economic implications. Many who were assigned to argue perspectives that were not their own indicated they enjoyed this activity and had newfound understanding of alternate viewpoints. In Ornithology this spring, I provided a forum on our blackboard page for new summer technician jobs & internships (in birds or other wildlife), and had several open office forums for working on resumes and cover letters, and prepping for interviews. Teaching Ornithology for the 2nd time, I also focused on enhancing the lab portion of the class to provide key identification and field skills to help students prepare for summer field jobs and internships. I'm currently working with several students to develop a website/ blog-type forum for students to share their field and internship experiences, from working with NY DEC to tracking moose in Montana or capturing owls in Arizona to help other students find paths that fit their interests. Additionally, to meet special student accommodations this Fall for EFB 390, I acquired the tools and skills to record class lectures (screen captures and voice over) and I'm currently working to edit these and create new video tools to add to course websites which are currently under construction this summer. This year Gordon Paterson and I (co-leads for Adaptive Peaks in Fall & Spring) worked on lining up a wide variety well-known, high impact speakers, and working to improve publicity and awareness of the seminar series to improve participation and attendance by grad and undergrad students and faculty and did see substantial improvements in attendance

Department/College:

This year, my College Service work has been particularly challenging and interesting and has felt like I've had the opportunity to do more than just serve on committees but participate in committees that were working on projects to make meaningful contributions the college. As a member of the IQAS committee, I've had the opportunity to work on several of the significant efforts the committee has been tasked with including working on identifying and assessing a new course evaluation system that works better for both students and faculty than our current system. Our largest task on IQAS this year was planning, executing, and reporting out on a College-wide Gen-Ed Assessment, for which no solid previous framework or plan existed. After substantial time and effort we conducted this pilot assessment and most importantly used it to develop plans for future improvement in both the assessment process and to the overall college-wide Gen Ed goals and implementation. I was asked to serve on the Undergraduate Experience Committee for the strategic planning process this winter and spring and I was glad to have an opportunity to play a role in this. The small committee worked hard to compile the ideas generated by the ESF community during the initial stages of the strategic planning process, some of the lessons learned during the Gen Ed assessment, consider what we currently do well and

generate a proposed set of priorities and aims to make the most of our strengths and find places for improvement and for setting us apart as a college. I have been serving on the Fink Fellowship committee since Fall 2013, but this past year we did more than just reviewing a pool of applications, mainly overhauling the application, criteria, and priorities for what kinds of applications the committee if focused on funding, to make the application process more clear and straightforward, and allow students to discern whether their proposal fits with the newly-clarified priorities of this particular award.

Self:

I am now almost 2 years in to building my lab, my research program, and my niche here. My first graduate student, who began in January 2015, is conducting our first season of field sampling on Cape Cod and Fire Island National Seashores along with my second soon-to-be graduate student who will be starting in the Fall. Getting this NPS- funded project planned and launched has been the focus of my spring semester, along with my first foray into advising a graduate student, including joining with Jonathan Cohen's lab for joint lab meetings. I have continued to focus on developing relationships with prospective collaborators and funders, in particular with the Society of American Foresters (i.e. helping with assessment of effects of listing of northern long-eared bats as threatened), and CNY Ruffed Grouse Society to develop opportunities for student research on ruffed grouse habitat. This year I got my lab website launched, with several additional components in development for EFB 390, EFB 482 to document our field and lab adventures and the aforementioned site for student field experiences- with some help from interested students. My continued work on lesser prairie chicken conservation planning has allowed me to continue to develop connections with partners including Environmental Defense Fund, Farm Bureau, USFWS, several major energy companies, and state, regional, and leaders for USFWS Southeast region. Our final draft - a Habitat Conservation Plan, along with implementation documents for the science & operations for a brand new habitat crediting system approach- was recently submitted to USFWS and the EIS is in progress, and we expect the plan to appear in the federal register this summer for public comment. Developing a unique expertise in bridging the science into the development of innovative policy instruments for natural resource policy should lay the groundwork for interesting future opportunities; it has already connected me with opportunities in development to work on conservation planning for the greater sage grouse, spot-tailed earless lizard, and additional work on the golden-cheeked warbler, and with the intent to keep working to leverage these into at least one future funded graduate student project and some undergraduate opportunities in the future. I have continued to work with colleagues at Texas A&M University and now Bird Ecology and Conservation Ontario.

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)

Overall, I plan to continue to build my lab and research program as well as teaching repertoire. I plan to:

1. Focus on funding opportunities to conduct research and support graduate student research on songbirds in the northeast, including the northern forest regions in particular and bats.
2. Develop several new manuscripts from existing data & analyses in progress.
3. Draft outline for chapter in Ornithology text book.
4. Continue to work with multi-stakeholder partnerships in development of innovative conservation planning for lesser prairie chicken and other species, with the intent to develop these relationships and associated project opportunities for potential graduate student or undergraduate research funding (e.g., to test effectiveness of management implementation on LEPC).
5. Work with Jonathan Cohen and James Gibbs to finish developing a graduate- level course on endangered species conservation- ecological theory, policy, practice- which is currently in progress.
6. Develop framework for implementing long-term avian monitoring plan for CLBS to pilot in summer 2016. Recruit a grad student to build out long-term monitoring plan and independent research project on CLBS.
7. Develop field course for CLBS summer 2016 on Avian Ecology techniques for undergrads, to link with long-term monitoring data collection to provide much-needed training in field sampling and research techniques in avian ecology.
8. Reconstruct the lab portion of EFB 390 to expand beyond reading/discussion.
9. Make adjustments to implementation of Adaptive Peaks.
10. Development of web resources for EFB 482, EFB 390, and undergrad field experiences.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2015

a. Course(s) to be offered

- Teaching 1 day (statistics) for CLBS 202 first session; also giving seminar at CLBS 1 day.

b. Proposed research activity

- Implementation of sampling for bat habitat use, mist-netting, radio-tracking, and roost use assessment at Cape Cod and Fire Island National Seashore.
- Continue ongoing work:
 - Data compiling, analysis, and manuscript drafting for several collaborative works in progress:
 - Shale gas impacts.
 - Using land conversion risks and opportunity costs to assess conservation priorities for golden-cheeked warbler.
- Grant proposals in development:
 - USFWS white-nose research
 - USFWS Candidate Conservation Action Funds
 - USFWS Recovery Implementation Fund
- Attending New York Waterfowl & Wetlands Network 2015 Inaugural Meeting 28-29 July 2015 to connect with waterfowl community and seek collaboration opportunities.

c. University, professional society, and public service

- Accepted student reception 5 June
- Giving public talk at Huntington 30 July
- Ornithology text book chapter outline 1 July
- Symposium planning for Early Career Professional workshop for annual meeting of TWS in Fall
- Assist with planning implementation of chimney swift tower project.
- Identify prospective speakers for Adaptive Peaks Fall 2015 and initiate planning for first several speaker dates.

2. Fall Semester 2015

a. Course(s) to be offered

- EFB 797 Adaptive Peaks Grad Seminar
- EFB 390 Wildlife Ecology and Management
- EFB 495 Undergrad Exper. in College Teaching (for 390)
- Possible Endangered Species course (currently in development; Cohen had tentative timeline for Fall start but it may require more time for development).

b. Proposed research activity

- Field research for Fall migration bat sampling at Cape Cod
- Identify graduate student for Jan start on avian monitoring at CLBS.
- Pilot analyses (for pre-proposal to NSF based on pilot work) on co-occurrence and/or niche modelling to investigate hypotheses related to co-occurrence and niche partitioning among generalists and specialists in different habitat types.
- Revised proposal to McIntire-Stennis & NSRC.

c. University, Professional society, and public service

- IQAS Committee
- Fink Fellowship Committee
- Advisor ESF birding club

- Fink Fellowship Committee review of applicants (next meeting expected in June)
- Assisting with Early Career profession symposium at Annual meeting of The Wildlife Society

3. Spring Semester 2016

a. Course(s) to be offered

- EFB 482 Ornithology
- EFB 796 Ornithology (graduate student level)
- EFB 495 Undergrad Exper. in College Teaching
- EFB 797 Adaptive Peaks Grad Seminar

b. Proposed research activity

- Design for summer 2016 bat sampling
- Continuing pilot analyses of co-occurrence and/or niche modelling to investigate hypotheses related to co-occurrence and niche partitioning among generalists and specialists in different habitat types.
- Pilot planning for avian monitoring at CLBS

c. University, professional society, and public service

- IQAS Committee
- Fink Fellowship Committee
- Advisor ESF birding club