

ANNUAL REPORT: June 1, 2013 – May 31, 2014
(i.e., Summer 2013, AY 2013-2014)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

NAME: Jacqueline L. Frair

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:	none				
FALL:	EFB 650	Landscape Ecology	3	23	1
	(co-taught with Colin Beier and Guillaume Bastille-Rousseau)				
SPRING:	EFB 491	Applied Wildlife Science	3	33	2
	EFB 495	Undergrad Exp in Teaching	3	5	2

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 796	Applied Wildlife Science	3	4
	EFB 796	Teaching Applied Wildlife Science	1	2
	EFB 797	Linear Mixed Models in R	1	8

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 25 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

Lilian Bonjorne de Almeida, Ph.D., Aug 2015 start
Lisanne Petrecca, Ph.D., Jan 2015 start
Allison Devlin, Ph.D., Aug 2010 start, May 2013 passed prelim
Robin Holevinski, Ph.D., Aug 2007 start, Apr 2010 passed prelim
Sam Peterson, M.S., Jan 2016 start
Kelly Powers, M.S. Jan 2016 start
Chee Pheng Low, M.S., Jan 2015 start
Terra Rentz, M.S., Jan 2014 start
Andrew MacDuff, M.S., Aug 2009 start

CO-MAJOR PROFESSOR

Michelle Peach, Ph.D., Aug 2009 start, Apr 2011 passed prelim, withdrew in 2012 but reinstated in 2014 (co-advise with Jonathan Cohen)

MEMBER, STEERING COMMITTEE (other than those listed above)

Leanna Matthews (Parks, Syracuse University), Ph.D.
Paltsyn, Mikhail (Gibbs), Ph.D., candidacy exam Aug 2014
Joe Folta (Underwood), Ph.D.
Maureen Durkin (Cohen), M.S.
Mike Fishman (Gibbs), M.S.

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

III. RESEARCH COMPLETED OR UNDERWAY

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

- Central East Slopes Elk and Wolf Study (ongoing collaboration, unsupported, 2% AY)

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)

Grants as Lead PI

- NY State Department of Environmental Conservation, “Wildlife research and management support”, \$3,359,864 total 2013-2018, \$589,912 during 2015-16. PI: J. Frair. Provides support to 7 different research projects (PI’s Dovciak, Schummer, Cohen, Whipps and Frair). Grants directly supporting J. Frair listed below:
 - “Monitoring and modeling moose populations in NY”, PI: J. Frair. \$627,107 total (2014-18), \$190,396 for 2015-16. Supported Dr. Paul Schuette, Roosevelt Post-Doctoral Scholar, and Sam Peterson, M.S. student.
 - “Indices to track ecological impact of white-tailed deer”, PIs: M. Dovciak, J. Frair. \$311,500 total (2013-2015), \$129,782 for 2015-16. Supports Dr. Mark Lesser, post-doctoral researcher.
 - “Statistical support for wildlife management and research”, PI: J. Frair. \$713,509 total (2014-2018), \$184,741 for 2015-16. Supports two professional positions located at Albany DEC office – Daniel Quinn and James Kelly.
 - “Other program support for wildlife management and research”, PI: J. Frair. \$150,003 total (2014-2018), \$44,466 for 2015-16. Provides salary for graduate student Terra Rentz.

- US Army Corps of Engineers, “Research for carnivore management on Fort Drum”, \$146,288 total, \$92,288 during 2015-16. PIs: J. Frair, M. Teece.
- US Forest Service (Joint Venture Research Agreement), “Identifying wolf movement corridors in the Great Lakes region using a landscape genetics approach”, now \$294,299 total (2012-2017), \$65,000 during 2015-16. PI: J. Frair.

Grants as co-PI

- USDA Northern States Research Cooperative, “Resistance to white-nosed syndrome in bat populations of the Northern Forest: exploring the critical disease-genotype-microbiome link”, \$103,746 total (2014-2016), \$10,867 during 2015-16. PIs: P. Marquardt, L. Berkman, J. Frair, D. Donner, and D. Linder. Supported post-doctoral researcher Leah Berkman and 2 lab technicians (Ben Prom and Matt Meisenheimer).

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

- Amendment to US Forest Service (Joint Venture Research Agreement), “Identifying wolf movement corridors in the Great Lakes region using a landscape genetics approach”, \$65,000 requested for 2016-17. PI: J. Frair.

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

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

Bastille-Rousseau, G., Yackulic, C., Frair, J., Cabrera, F., and Blake, S. (In press) Walking with giants: allometric and temporal scaling of movement characteristics in Galapagos tortoises. *Journal of Animal Ecology*.

Bastille-Rousseau, G., Potts, J., Yackulic, C., Frair, J., Ellington, E.H., and Blake, S. (in press) Characterizing movement strategies of Galapagos giant tortoises using a Bayesian mixture distribution model and net squared displacement. *Movement Ecology*.

Berkman, L.K., Frair, J.L., Marquardt, P., Donner, D.M., Kilgo, J.C. and Whipps, C.M. (in review) Spatial analysis of genetic pattern in eastern coyotes (*Canis latrans*): evidence of a persistent contact zone between colonizing fronts in New York State. *Ecology and Evolution*.

B. Non-refereed Publications

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

What is the difference between conservation biology and wildlife ecology? Ignite TWS, The Wildlife Society Annual Conference, Winnipeg, Manitoba (Oct 2015)

The conservation broker: bridging the gap between academic research and wildlife management. Biology Seminar Series, University of Maine, Orono, ME (Nov 2015)

Documenting moose population size and distribution across public and private lands in the Adirondacks. Presented by P. Schuette (post-doc in the Frair lab)

—North American moose conference and workshop, Granby, CO (Apr 2015)

—Northeast Fish and Wildlife Conference, Newport, Rhode Island (Apr 2015)

Status of Adirondack Moose: Early returns from aerial surveys and animal captures. J. Frair, P. Schuette, K. Schuler, B. Tabor and E. Reed. The Wildlife Society annual conference, Winnipeg, Manitoba (Oct 2015).

Deer impacts on forest regeneration at spatial scales relevant to management decisions. Presented by M. Lesser (post-doc in the Dovciak and Frair labs). The Northeast Fish and Wildlife Conference, Newport, Rhode Island (Apr 2015).

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

Top Dog? Evaluating the ecological role of coyotes in the eastern United States. Webinar: <https://vimeo.com/145465495>. Northeastern States Research Cooperative (Nov 2015).

Status of moose in New York. Presented by S. Peterson.

– Oneida County Sportsmans Federation, New York Mills, NY (Apr 2016) – 80 people

– American Wildlife Conservation Foundation, Dewitt, NY (Jun 2016) – 15 people

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

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

2. Industrial and Commercial Groups, etc.

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

NY State Fish and Wildlife Management Advisory Board, SUNY ESF Science Advisor

o Two-day meetings Sep 2015 and Mar 2016.

VI. PROFESSIONAL DEVELOPMENT

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

Wings across the Americas, Research Collaboration Award – US Forest Service 2016

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

2. Professional Society Membership

The Wildlife Society, member

2004-present

- College/University Wildlife Education Working Group, member 2011-present
- Marcellus Shale Ad Hoc Working Group, member 2011-present
- Society for Conservation Biology, lifetime member** 2006 - present
- Ecological Society of America, lifetime member** 2006 - present

3. Other Professional Activities

a. Editorial activity

<u>Journal (s)</u>	<u>Responsibility</u>
Journal of Applied Ecology	Associate Editor
<u>Other (books, symposia, etc.)</u>	

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
Journal of Applied Ecology	14
PlosOne	1
<u>Agency</u>	
<u>No. of proposals</u>	
<u>Other</u>	

c. Participation (workshops, symposia, etc.)

<u>Name of workshop, etc.</u>	<u>Date</u>	<u>Place</u>
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C. Further Education/Re-training Undertaken, Leaves, Workshops, etc.

D. Foreign Travel (Where, When, Purpose)

Winnipeg, Manitoba, October 2015, The Wildlife Society Annual Conference
 Churchill, Manitoba, October 2015, Churchill Northern Studies Centre – polar bear learning trip

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

- Associate Director, Roosevelt Wild Life Station
 - Published RWLS annual report
 - Worked with the ESF College Foundation to raise funds for Boone and Crockett Club endowment, \$685,000 to date, \$309,000 this year.
 - Assisted with other fundraising and outreach efforts.
- Roosevelt Wildlife Collection
 - Supervised curator, Ron Giegerich.
- Curriculum Coordinator for Wildlife Science major
 - Revised and delivered second exit exam
 - Revised Transfer Articulation Guidelines for Ranger School transfer students

B. College-level

- Science Advisor to NY State Fish and Wildlife Management Advisory Board (President's representative)

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 (**i.e., three paragraphs total**) 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 (when available), which I'll continue to award based on your contributions to the department and college this reporting period.

This year I focused a bit more on student mentoring – both at the graduate and undergraduate level. With grad students, this year we hosted a monthly lab meeting (combined with the Cohen and Farrell labs) at my house – a potluck dinner followed by a student presenting some aspect of their thesis or dissertation. This has proven quite successful in keeping many of the wildlife graduate students in contact, cross-fertilizing ideas, and leading to new research collaborations. I also co-taught Landscape Ecology with Colin Beier and Guillaume Bastille-Rousseau, and tried to help graduate students from several different programs across campus work spatial ecology into their thesis/dissertation work effectively. With undergraduates, I engaged more students than ever (13 this year) in assisting to deliver my core wildlife science class and in my research program – from helping guide field sampling for student term projects to tracking moose productivity in the Adirondack Park. I think it is very important to help foster leadership among undergraduate students, cultivate their communication and teamwork skills, and help them gain important resume-building experience. These students prove to be the greatest mentors to their peers, and enrich the student learning experience enormously.

At the department/college level this year I focused on securing the endowment needed to add a new wildlife faculty line to the department. Working closely with the College Foundation and Camp Fire Club of America, we have secured \$685,000 towards our initial \$1 million goal (which we will hopefully reach this year!). I've also been in negotiations with the NYS DEC regarding the continuation of our 5-year research MOU, laying the ground work this year for the next several years of research partnership. And I continue to work on several Roosevelt Wild Life Station initiatives.

I was also honored this past year with a research collaboration award from the USFS for my part in a large collaborative project assessing potential resistance to white-nose syndrome in bats in the central US.

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 2013

a. Course(s) to be offered

b. Proposed research activity

- Begin sampling needed to estimate the nutritional carrying capacity of the Adirondack Park for moose, working with graduate student Sam Peterson
- Complete pilot study on river otter population status in central and western NY, working with graduate student Kelly Powers
- Submit effectiveness surveys to state agencies, working with graduate student Terra Rentz
- Study red fox – coyote interactions on Fort Drum using camera traps and hair snares
- Work on getting completed thesis papers in publication
- Work on finalizing research proposals for 2 new graduate students, and help complete the dissertation for a third

c. University, professional society, and public service

Continue fundraising for wildlife professor endowment, and continue working on other RWLS initiatives

2. Fall Semester 2013

a. Course(s) to be offered

EFB 796 Quantitative Methods and Models in R, co-taught with John Stella (3 credits)
EFB 797 Foraging and movement ecology (1 credit)

b. Proposed research activity

- Hire post-doc on the moose project, coordinate winter moose surveys, finish vegetation sampling.
- Analyze historical bridge surveys for otter and design winter sampling plan.
- Analyze field data from lion, river otter, red fox-coyote, breeding bird, and other ongoing studies

c. University, Professional society, and public service

Continue fundraising for wildlife professor endowment, and continue working on other RWLS initiatives

3. Spring Semester 2014

a. Course(s) to be offered

EFB 491 Applied Wildlife Science (3 credits)
Maymester course: EFB 496 Wildlife Field Techniques (3 credits)

b. Proposed research activity

- Conduct winter bridge surveys for otter
- Conduct winter aerial surveys for moose

- Analyze field data from lion, river otter, red fox-coyote, breeding bird, moose and other ongoing studies

c. University, professional society, and public service

Continue fundraising for wildlife professor endowment, and continue working on other RWLS initiatives