

ANNUAL REPORT: June 1, 2016 – May 31, 2017
(i.e., Summer 2016, AY 2016-2017)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

*****PLEASE DO NOT INSERT TABLES FOR ANY CATEGORIES*****

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 (Maymester 17):	EFB 496	Wildlife Field Techniques	3	19	1
FALL:	EFB 796	Quantitative Methods and Models in R (co-taught with John Stella)	3	9	1
SPRING:	EFB 491	Applied Wildlife Science	3	38	2
	EFB 796	Applied Wildlife Science	3	1	1

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 298	Research Internship	1	1
	EFB 420	Professional Internship	3-5	3
	EFB 495	College Teaching Experience	3	5
	EFB 496	Study Abroad	16	1
	EFB 797	Seminar: Foraging Ecology	1	15
	EFB 899	MS Thesis Research	1-4	4
	EFB 999	Doctoral Thesis Research	1-4	3

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 29 and unofficial advisor 10
- 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, Aug 2015 start
Lisanne Petrecca, Ph.D., Jan 2015 start, Apr 2017 passed prelim
Allison Devlin, Ph.D., Aug 2010 start, May 2013 passed prelim

Kelly Powers, M.S., Jan 2016 start
Sam Peterson, 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 (Cohen co-advisor), Ph.D., Aug 2009 start, Apr 2011 passed prelim, withdrew in 2012 but reinstated in 2014.

MEMBER, STEERING COMMITTEE (other than those listed above)

Elizabeth Macdonald (Parks, Syracuse University), Ph.D., proposal defended May 2017
Jessica Fletcher, M.S., defended May 2017
Joe Folta (Underwood), Ph.D.
Leanna Matthews (Parks, Syracuse University), Ph.D., defended April 2017
Mike Fishman (Gibbs), M.S., defended February 2017
Mikhail Paltsyn (Gibbs), Ph.D.
Maureen Durkin (Cohen), M.S., defended November 2016
Maureen Durkin (Cohen/Underwood), Ph.D.
Nicholas Piedmonte (Fierke), M.S., defended April 2017

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

Abigail Larkin (Beier), Ph.D., defended January 2017

III. RESEARCH COMPLETED OR UNDERWAY

- A. Departmental Research (unsupported, boot-legged; title - % time spent)
- 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 for 2013-2018, \$593,583 for 2016-17. PI: J. Frair. Provides support to 8 different

- research projects (PI's Dovciak, Cohen, Whipps and Frair), and I manage each as a sub-award under the main grant. Grants directly supporting J. Frair listed below:
- "Status of river otter in reintroduction area", PI: J. Frair. \$180,229 total (2015-2018), \$74,850 for 2016-17. Supports Kelly Powers (M.S. student).
 - "Monitoring and modeling moose populations in NY", PI: J. Frair. \$627,107 total (2014-18), \$210,516 for 2016-17. Supports Dr. Rachel Wheat (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), \$0 for 2016-17 but carryover supporting sub-contract with Cornell University.
 - "Statistical support for wildlife management and research", PI: J. Frair. \$713,509 total (2014-2018), \$149,574 for 2016-17. Supports two professional positions located at Albany DEC office – Dr. David Kramer and Daniel Quinn.
 - "Other program support for wildlife management and research", PI: J. Frair. \$150,003 total (2014-2018), \$48,453 for 2016-17. Supports Terra Rentz (M.S. student).
 - US Army Corps of Engineers, "Research for carnivore management on Fort Drum", \$73,649 total 2015-2017, \$28,946 for 2016-17. PI: J. Frair
 - US Forest Service (Joint Venture Research Agreement), "Identifying wolf and bat movement corridors in the Great Lakes region using a landscape genetics approach", now \$294,299 total (2012-2017) following modifications of agreement in June 2014 and 2016. \$48,328 for 2016-17. PI: J. Frair.
 - NY State Department of Environmental Conservation, "Internships for Fish, Wildlife, and Marine Resource Management", \$173,808 total (2014-2019). Managed originally by James Gibbs and now by J. Frair.

Grants as co-PI

- U.S.D.A. McIntire-Stennis Program, "Mapping the distributions of forest mammals across NY State: Phase I", \$55,496 total (2016-2019). PIs: Shannon Farrell, J. Frair, and Angela Fuller.
2. Research Proposals pending (include information as in B.1., above).
 - NY State Department of Environmental Conservation, "Amendment to "Wildlife research and management support", \$311,924 total (2017-18). PI: J. Frair.
 - U.S. Forest Service, "Linking landscape genetics with activity patterns of bats", \$50,000 (2017-18). 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

Peach, M., Cohen, J., and Frair, J. (in press) Single-visit dynamic occupancy models: an approach to account for imperfect detection with Atlas data. *Journal of Applied Ecology*.

Bastille-Rouseau, G., Yackulic, C.B., Frair, J.L., Crebrea, F., Rousseau, L.-P., Wikelski, M., Keummeth, F. and Blake, S. (2017) Animal movement in the absence of predation: environmental drivers of movement strategies in a partial migration system. *Oikos* online early (doi:

10.1111/oik.03928).

Tortato, F., Devlin, A., Hoogensteijn, R., May, J., Frair, J., Crawshaw, P., Izzo, T. and Quigley, H. (2017) Infanticide in a jaguar (*Panthera onca*) population – does the provision of livestock carcasses increase the risk? *Acta Ethologica*, 20(1):69-73.

Petracca, L. and Frair, J. (2017) When methodological flaws limit inference: A response to Caruso et al. (2016). *Oryx*, 51(2):208.

Fuda, R.K., Ryan, S.J., Cohen, J.B., Hartter, J., and Frair, J.L. (2016) Assessing impacts to primary productivity at the park edge in Murchison Falls Conservation Area, Uganda. *Ecosphere* 7:e01486.

Bastille-Rousseau, G., Yackulic, C., Frair, J., Cabrera, F., and Blake, S. (2016) Allometric and temporal scaling of movement characteristics in Galapagos tortoises. *Journal of Animal Ecology* 85:1171-1181.

Bastille-Rousseau, G., Potts, J., Yackulic, C., Frair, J., Ellington, E.H., and Blake, S. (2016) Flexible characterization of animal movement pattern using net squared displacement and a latent state model. *Movement Ecology*, 4:15. **R package available at:** <https://github.com/BastilleRousseau/lsmnsd>

B. Non-refereed Publications

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

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

Top dog? The ecological role of the coyote in northeastern forests. Dale L. Travid Public Lecture Series, SUNY ESF, Syracuse, NY, March 2017, audience ~400 people.

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

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

2. Industrial and Commercial Groups, etc.

Industrial Economics, Ltd. – consulted on environmental impact analysis research.

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

International Council for Game and Wildlife Conservation, Applied Sciences Division – appointed Deputy Director in April 2017

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)

The Wildlife Society

— College and University Wildlife Education Working Group (member, 2011-present)

2. Professional Society Membership

The Wildlife Society (2004 – present)

Ecological Society of America (2006 – present)

Society for Conservation Biology (2006 – present)

3. Other Professional Activities

a. Editorial activity

Journal (s)

Journal of Applied Ecology

Responsibility

Associate Editor

Other (books, symposia, etc.)

b. Reviewer

Journal(s)

Journal of Applied Ecology

No. of manuscripts

14

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.

National Academies Summer Institute on Undergraduate Education in Science – University of Connecticut (4 days, June 2016)

D. Foreign Travel (Where, When, Purpose)

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

- Associate Director, Roosevelt Wild Life Station
 - Drafted annual report for the station.

- Working with the ESF College Foundation, the Camp Fire Club of America and the NY State DEC, I was instrumental in securing a \$1 million endowment to fund a named professorship in wildlife conservation at ESF. Search to fill professorship to begin August 2017.
- Delivered second externally-sponsored RWLS field course at the Lucky Star Ranch.
- Assisted with other fundraising and outreach efforts.
- Roosevelt Wildlife Collection
 - Supervised curator, Ron Giegerich.
- Curriculum Coordinator for Wildlife Science major
 - Worked with Jonathan Cohen and Shannon Farrell to revised and deliver the third annual exit exam to graduating seniors.
 - Worked with Jonathan Cohen, Shannon Farrell, and James Gibbs to evaluated faculty and course needs in the Wildlife Science and Conservation Biology program. Submitted a proposal to the administration to meet current needs and support future program growth through a series of programmatic changes and the addition of one new faculty member.

B. College-level

- Served on search committee for Major Gifts manager in the ESF College Foundation, summer/fall 2016.

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.

For our students, this year I offered a wildlife field techniques course during the Maymester at the beautiful Lucky Star Ranch – giving 19 students intensive field training in wildlife research and management techniques. I also began integrating more active learning into my classes, practicing skills developed during the scientific education training I completed last summer. Whereas I am new to the many active learning methods, I find the process very enriching for both students and myself and I look forward to continuing to hone these skills and methods over time.

For the department and college, this year I helped close the endowment efforts that will establish to first ever Camp Fire Professor of Wildlife Conservation at ESF with tremendous help from the ESF College Foundation, Provost Luzadis, Don Leopold and James Gibbs. I also compiled the first-ever Roosevelt Wild Life Station annual report – a color brochure to document the many outstanding conservation and education efforts being undertaken by our talented faculty

For myself professionally, I engaged more fully in two key research programs in NY State – assessing the status of river otter across the state and identifying the factors limiting moose in the Adirondack Park. Last summer I analyzed historic survey data for otter from western NY, and based on that analysis I designed a nearly statewide survey for river otter (from western NY through Long Island) and worked with the DEC to complete that survey Dec-Feb this past winter. Those survey data are now in my hands for analysis this summer – something I truly look forward to diving into! These surveys, in addition to the work my graduate student Kelly Powers is conducting, will be foundational to the developing river otter management plan for the state.

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)

My focus in the coming year will be on the wildlife science program at ESF – from hiring the Camp Fire Professor of Wildlife Conservation to reshaping our curriculum to be more closely aligned to the certification standards set by The Wildlife Society. Realignment of the curriculum with TWS standards is important for two reasons – the students desire it (as we have been able to gauge via our exit exams) and changes in financial aid make it increasingly difficult for student to complete academic minors and other certification programs that are additional to the major areas of study. Moreover, based on student feedback I'll be working on integrating my Wildlife Field Techniques course with my Applied Wildlife Science course so as to deliver technical, field skills training into the academic year program. I also anticipate the completion of several graduate students this year.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2017

a. Course(s) to be offered

I offered the Maymester 2017 course, but I included that previously as part of the 2016-17 academic year.

b. Proposed research activity

- River otter in NY – field surveys, data analysis and manuscript preparation (Kelly Powers)
- Moose in NY – field surveys, data analysis (Sam Peterson, Rachel Wheat)
- Lions in Zimbabwe – data analysis and manuscript preparation (Lisanne Petracca)
- Mountain lion in Brazil – data analysis (Lilian Bonjorne de Almeida)
- Bats in Wisconsin – field work, data analysis (Joel Flory)
- Songbirds in NE US – data analysis and manuscript submission (Michelle Peach)
- Work with DEC to refine and submit next 5-year research MOU for Federal Aid approval.

c. University, professional society, and public service

International Council for Game and Wildlife Conservation – executive cabinet meeting Munich, Germany (June 2017)

2. Fall Semester 2017

a. Course(s) to be offered

EFB 650 Landscape Ecology (co-taught with Colin Beier)

b. Proposed research activity

- Begin work on the Mammal Atlas with Shannon Farrell and Angela Fuller.
- Wrap up new 5-year research MOU to begin April 2018.

c. University, Professional society, and public service

- Serve as chair of search committee for the Camp Fire Professor of Wildlife Conservation
- Complete second full assessment of the Wildlife Science major and institute curricular changes based on the assessment.

3. Spring Semester 2018

a. Course(s) to be offered

EFB 491 Applied Wildlife Science – several new labs that integrate field techniques into the mix.

b. Proposed research activity

Wrap up first 5-year MOU with the DEC and establish next year budget plan for new projects.

c. University, professional society, and public service

International Council for Game and Wildlife Conservation – full member meeting (Europe)