

ANNUAL REPORT: June 1, 2012 – May 31, 2013
(i.e., Summer 2011, AY 2011-2012)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

NAME: Jonathan Cohen

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 493	Wildlife Habitats and Populations	4	31	2
	EFB 693	Wildlife Habitats and Populations	4	8	2
	EFB 797	Grant Writing in Fish. & Wildl.	1	14	
	EFB 797	Adaptive Peaks	1	13	
SPRING:	EFB 797	Adaptive Peaks	1	26	

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)

<u>Course No.</u>	<u>Title</u>	<u>Credit Hrs.</u>	<u>No. Students</u>
EFB 298	Rsrch Internship	1	7
EFB 496	Parameter Est&MDL	4	2
EFB 796	Parameter Est&MDL	4	7
EFB 798	Rsrch Prob	1	4
EFB 498	Research Problem	3	1

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 16 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

Maureen Durkin, M.S., August 2011
Laurel Nowak-Boyd, M.S. August 2011
Alison Kocek, M.S. January 2012
Michelle Avis, M.S. August 2012
Anand Chaudhary, M.S., August 2011

CO-MAJOR PROFESSOR**MEMBER, STEERING COMMITTEE** (other than those listed above)

Shannon Buckley (EFB, M.S., defended)
Jill Mandel (EFB, M.S.)
John Hartigan (EFB, M.S.)
Lewis Grove (EFB, Ph. D.)
Katharine DeVilbiss (EFB, M.S., defended)
Brent Johnson (EFB, M.S., defended)
Alison Devlin (EFB, Ph.D.)
Carissa Alza (EFB, M.S.)
Joseph Folta (EFB, Ph.D.)
Timothy McCoy (EFB, M.S.)
Stewart Lapan (EFB, M.S.)
Silvia Saldivar (EFB, M.S.)
Becky Fuda (EFB, Ph.D.)
Andrea Thomen (EFB, M.S.)

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

Sara Hansen (EFB, M. S., examiner, defended)
Andy MacDuff (EFB, M.S., examiner)
Tingting Ying (EST, M.S., chairman, defended)
Meghan Kirschgener (EFB, Ph.D., defended)
Jennifer Yantachka (EFB, M.S., defended)
Ana Patricia Calderon (EFB, M.S., defended)

III. RESEARCH COMPLETED OR UNDERWAY

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

Stopover Ecology of Red Knots in Virginia – 1%

Stopover Ecology of Piping Plovers in South Carolina – 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)

Cohen, J.B. Population Viability Analysis of Florida Snowy Plovers – U.S. Fish and Wildlife Service, \$20,000 2011. 1/2011 – 12/2014, supporting Maureen Durkin

Cohen, J.B. Piping Plover Movements and Flight Heights During the Breeding Season – U.S. Fish and Wildlife Service, \$295,000 2011, 1/2011 – 8/2014, supporting Michelle Avis

Cohen, J.B. Piping Plover Movements and Flight Heights During the Breeding Season, supplemental – N.J. Division of Wildlife, \$50,000 2012, 3/2012 – 8/2013, supporting Michelle Avis

Cohen, J.B. and S. Elbin. Effect of Salt Marsh Changes on Breeding Birds, With Emphasis on the Saltmarsh Sparrow – NYDEC, \$120,000 2012, 4/1/2012-3/31/2015, supporting Alison Kocek

Cohen, J.B. Monitoring Techniques for Ring-Necked Pheasants – NYDEC, \$50,803 2012, 4/2012 – 8/2015, supporting Laurel Nowak-Boyd

Cohen, J.B. Community Composition and Mercury and Chromium Levels of Onondaga Lake Waste Bed Birds – US Fish and Wildlife Service, \$34,851 2012, 6/2012 – 12/2013, supporting Anand Chaudhary

Cohen, J.B. Wildlife Road Mortality at Gulf Islands National Seashore – National Park Service, \$30,000 2013, 5/15/13 – 12/15/13, supporting Maureen Durkin

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

Cohen, J.B., S.J. Ryan, and C. Whipps. Factors Limiting New England Cottontail Populations in New York – NYDEC, \$860,000, 8/2013 – 7/2017 (accepted for funding)

S.M. Karpanty, J. B. Cohen, K. Parsons, and E. Jedrey. Fall Migratory Staging of Roseate Terns in Massachusetts: Distribution, Abundance, and the Effects of Human Activities – National Park Service. \$330,039, 1/14 – 12/17 (accepted for funding, \$91,892 to be managed by Cohen).

Cohen, J.B. Population-level effects on Snowy Plovers of road mortality at Gulf Islands National Seashore. \$276,080, 1/14 – 5/17.

Olsen, B.J., J.B. Cohen, C. Elphick, T.P. Hodgman, E. King, A. Kovach, and W.G. Shriver. Response of the tidal marsh bird community to Hurricane Sandy – U.S. Fish and Wildlife Service. \$710,000, 5/14 – 4/16. \$115,904 to be managed by Cohen.

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

Karpanty, S.M., J.B. Cohen, and J.D. Fraser. Phenological mismatch between Red Knots and their bivalve prey. Pre-proposal, National Science Foundation Long Term Ecological Research.

Cohen, J.B. and S.J. Ryan. Predator communities in remnant New England cottontail habitat. McIntire-Stennis pre-proposal

Cohen, J.B. and S.M. Karpanty. Wintering shorebirds on Florida military installations. Department of Defense. Pre-proposal.

Fraser, J.D., S.M. Karpanty, J.B. Cohen, and D.H. Catlin. Population dynamics drivers for red knots and other shorebirds nesting in xeric habitats on King William Island, Nunavut, Canada, with implications for the effects of climate change. National Science Foundation. Population and Community Ecology.

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

Fraser JD, Karpanty SM, **Cohen JB**, Truitt BR. The red knot decline: is there a lemming connection? Canadian Journal of Zoology 91:13-16.

B. Non-refereed Publications

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

2013 – Avis, M.L., J.B. Cohen. Flight behaviors of breeding piping plovers: implications for risk of collision with wind turbines and other human structures. Talk. 69th Annual Meeting of The Northeast Association of Fish and Wildlife Agencies, Saratoga Springs, FL

2013 – Kocek, A.R., J.B. Cohen, S. Elbin. Characteristics of salt marshes in New York City preferred by nesting saltmarsh sparrows (*Ammodramus caudacutus*). Poster. 69th Annual Meeting of The Northeast Association of Fish and Wildlife Agencies, Saratoga Springs, FL

2013 – Chaudhary, A., J.B. Cohen. Avian population density and blood mercury in Onondaga Lake Waste Beds, Onondaga County, New York. Talk. 69th Annual Meeting of The Northeast Association of Fish and Wildlife Agencies, Saratoga Springs, FL

2013 – Nowak-Boyd, L., J.B. Cohen. Developing monitoring methods for ring-necked pheasants in western New York: preliminary results of occupancy modeling. 69th Annual Meeting of The Northeast Association of Fish and Wildlife Agencies, Saratoga Springs, FL

2012 – Avis, M.L., J.B. Cohen. Flight behaviors of breeding piping plovers: implications for risk of collision with wind turbines and other human structures. Poster. 2nd Biennial Bird Conservation in the Northeast Conference, Plymouth, MD.

2012 – Kocek, A.R., J.B. Cohen, S. Elbin. Characteristics of salt marshes in New York City preferred by nesting saltmarsh sparrows (*Ammodramus caudacutus*). Poster. 2nd Biennial Bird Conservation in the Northeast Conference,

Plymouth, MD.

2012 – Chaudhary, A., J.B. Cohen. Avian population density and blood mercury in Onondaga Lake Waste Beds, Onondaga County, New York. Poster. 19th Annual Meeting of The Wildlife Society. Portland, OR.

2012 – Nowak-Boyd, L., J.B. Cohen. Developing monitoring methods for ring-necked pheasants in New York. 19th Annual Meeting of The Wildlife Society. Portland, OR.

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

2013 – Avis, M.L., J.B. Cohen. Piping plover movements, flight heights, and avoidance of obstructions during the breeding season: implications for risk of collision with turbines and other human structures. The Goldenrod Foundation, Advisory Board meeting, Plymouth, MA. 25 attendees

2012 – Avis, M.L., J.B. Cohen. Piping plover movements, flight heights, and avoidance of obstructions during the breeding season: implications for risk of collision with turbines and other human structures. MassWildlife Piping Plover Cooperator Meeting, Cape Cod, MA. 75 attendees

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.

Advisory board for the Goldenrod Foundation (private nonprofit)

Advisor to the U.S. Shorebird Conservation Plan (US Fish and Wildlife Service)

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 Waterbird Society, Chair of Conservation Committee

The Waterbird Society, Elected Councilor

The Wildlife Society, Symposium-selection subcommittee, program committee, 20th Annual Meeting

2. Professional Society Membership

The Wildlife Society
 The Waterbird Society
 American Ornithologists Union
 Association of Field Ornithologists
 Wilson Ornithological Society
 American Association for the Advancement of Science
 Sigma Xi

3. Other Professional Activities

a. Editorial activity

<u>Journal (s)</u>	<u>Responsibility</u>
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Other (books, symposia, etc.)

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
Journal of Field Ornithology	1
Waterbirds	2
Bird Conservation International	1

<u>Agency</u>	<u>No. of proposals</u>
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Other

c. Participation (workshops, symposia, etc.)

<u>Name of workshop, etc.</u>	<u>Date</u>	<u>Place</u>
Adaptive Resource Management Workshop	6/2012	Ithaca, NY

<u>C. Further Education/Re-training Undertaken, Leaves, Workshops, etc.</u>	<u>Date</u>	<u>Place</u>
Advising seminar	1/2013	Drumlins

D. Foreign Travel (Where, When, Purpose)

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

Faculty advisor for student chapter of The Wildlife Society
 CLBS and TIBS Undergraduate Fellowship Committee Chair
 CCAC

GPAC
EFB Open House
Burgess Award Review
Dence Award Review

B. College-level

Committee on Research
Reviewer for Sussman Internship Applications

C. University-wide, including Research Foundation

In 2012 I started to make my senior capstone class much more my own. In preparation for larger revisions of the class, in the summer of 2012 I attended a workshop on adaptive resource management at Cornell University. The workshop inspired me to buy one of the major texts on bio-economics, and I wrote several new lectures and three new labs to give students practical experience with optimizing costs and benefits for harvest management, and Bayesian updating for multi-model inference. I also added more advanced content for the graduate students in the class and incorporated them more closely into the curriculum. As a result they were able to participate in field exercises, and worked directly with the undergraduates including assuming leadership roles. I taught the grant-writing seminar again, this time attracting 14 enrollees from EFB, including students studying wildlife, fish, plants, and biology education. In the spring semester, I added new content to the capture-mark-recapture part of the course I co-teach with Sadie Ryan, and I added a lab section to bring the class up to 4 credits. I had my first undergraduates and MPS students in the class and they did well. I began advising two undergraduate honors projects, one looking at responses of endangered markhor goats to predator cues at the Rosamond Gifford Zoo, and the other looking at piping plover habitat selection on Long Island. I have gotten to know many graduate students through committee work, having served on 19 committees in one form or another besides those of my own 5 students.

My graduate students completed their first field seasons and in the case of one of them, her second field season. They all did an excellent job in the field, and helping them learn to analyze complex datasets for the first time was a major focus for my fall semester. This spring, I received a grant for Maureen Durkin to support a GRA in the fall that has a chance of becoming a fully funded Ph.D. for her, if she decides to continue here after finishing her M.S. I am currently managing \$600,000 in grants and have \$1.19 million more pending that appear to be close to an award, and some others that may or may not bear fruit. My students continue to receive small grants, including travel awards, a Maurice Alexander award for Alison Koczek, a Betty Moore Chamberlaine award for Laurel Nowak-Boyd, and a Frances Peacock scholarship (national competition) and a Goldenrod Foundation equipment grant for Michelle Avis. All of my students have now presented either a poster or a talk at a national or regional conference and have been accepted for talks at national conferences for later this year. I am also using my research projects to provide paid training and experience to three EFB recent-graduates (classes of 2012 and 2013) and one current EFB undergraduate.

I finished my second term on the Committee on Research. During that time I reviewed dozens of proposals for the McIntire Stennis and ESF Seed Grant programs. I also served for another term on the Sussman Review Committee, for which I reviewed approximately 30 proposals. At the Department level I continued to work on the Curriculum Advisory Committee and went to my first GPAC meeting. I continued to volunteer at open houses and accepted student events, to speak with young students about the nature of the wildlife major. I finished my first year as advisor to The Wildlife Society Student Chapter, which I found very rewarding as I got to know some of our most involved and enthusiastic students, and I was proud at their regional and national successes in the wildlife quiz bowl. I attended monthly executive meetings to help provide advice on event planning, budget management, and other matters and attended several of the general meetings. This semester I also served on my first faculty search committee, and discovered that selecting a colleague is one of the most difficult decisions that professors can make!

For my own professional development, I collaborated on two NSF pre-proposals with my old colleagues at Virginia Tech, as I continue to learn how to develop proposals for competitive requests. Interacting with successful

faculty in EFB, especially through my proposal-writing seminar, has been very helpful in crafting my understanding about how to craft competitive proposals, although I have not yet met with my own success. I reviewed manuscripts for three journals and continued to serve as chair of the Waterbird Society Conservation Committee, for which I oversaw the submission of public comments on federal policy and submission of advocacy letters. I stood for the elected office of Councilor for the Waterbird Society for the second time, and this time I was successful. This represents an exciting opportunity for me to help determine policy for this international research society.

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)

A continued aim is to revise EFB 493/693. Although it is starting to become much more my own class, I have identified several areas for improvement and the biggest challenge remains balancing the needs of the undergraduates and graduates in the class. I have had several discussions with the rest of the curriculum faculty about how to better integrate all of our classes into a cohesive curriculum. We have also discussed with forestry faculty how we might serve the overlapping needs of undergraduates in our respective departments. I plan on introducing seminars, that may turn into fuller courses in ensuing years, this fall and next spring to provide advanced quantitative training for EFB graduate students. My hope is these courses will serve the many disciplines in our department, beyond wildlife majors.

I have several collaborations and pending grant proposals with outside Universities that hopefully will result in further support for graduate students here. My first Ph.D. student will be matriculating in the fall for a DEC-funded project on New England cottontails, and I am greatly looking forward to working with her and to my first project to not focus on birds. January will see the start of another M.S. project, focused on human disturbance to roseate terns on Cape Cod, Massachusetts. A main research focus in the coming year will be to help my students turn their work into their first publications.

For other professional development activities, I will be accompanying three of my students to Germany in the fall for the Waterbird Society Annual meeting, where we will all be presenting and where I will attend my first executive meeting as Councilor. My other students also will be presenting at annual meetings around the country in the summer and fall.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2012

a. Course(s) to be offered

b. Proposed research activity

M.S. research conducted by A. Chaudhury, M. Durkin, A. Kocek, L. Nowak-Boyd, M. Avis

c. University, professional society, and public service

Waterbird Society Committee activities

2. Fall Semester 2013

a. Course(s) to be offered

EFB 493/693: Wildlife Habitat and Populations

EFB 797: Grant and Proposal Writing

EFB 797: Introduction to WinBUGS for Ecologists

b. Proposed research activity

M.S. research conducted by A. Chaudhury, M. Durkin, A. Kocek, L. Nowak-Boyd, M. Avis
Start of New England cottontail Ph.D. project
Personal research/data analysis on Red Knot and Piping Plover migration ecology

c. University, Professional society, and public service

Research Committee, SUNY-ESF
Advisor, student chapter of TWS
Advisory board for Goldenrod Foundation and U.S. Shorebird Conservation Plan
Chair of Conservation Committee, the Waterbird Society
Council Activities, Waterbird Society
Continue to serve as reviewer for various journals

3. Spring Semester 2013

a. Course(s) to be offered

EFB 797 (2 credits) Bayesian population analysis using WinBUGS

b. Proposed research activity

Continuation of Fall projects
Start of Roseate Tern M.S. project

c. University, professional society, and public service

Similar to Fall, in addition: Sussman Internship reviewer