

ANNUAL REPORT: June 1, 2013 – May 31, 2014
(i.e., Summer 2013, AY 2013-2014)
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	38	2
	EFB 693	Wildlife Habitats and Populations	4	6	2
	EFB 797	WinBUGS for Ecologists	1-2	14	
	EFB 797	Adaptive Peaks	1	15	
SPRING:	EFB 796	WinBUGS for Population Ecol.	1-2	7	

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 496	Wildlife Habitats and Pop. Class Project	1	32
	EFB 499	Honors Thesis Research	2-3	2
	EFB 796	Wildlife Habitats and Pop. Class Project	1	3
	EFB 420	Prof Internship	3	2
	EFB 498	Independent Research	3	2

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 23 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; Ph. D. January 2014

Laurel Nowak-Boyd, M.S. 5/2/14, "Estimating occupancy and abundance of ring-necked pheasants (*Phasianus colchicus*) in Western New York State"

Anand Chaudhary, M.S., 5/9/14, "Avian community composition, blood mercury and chromium in Onondaga Lake Waste Beds, Onondaga County, New York"

Alison Kocek, M.S. January 2012

Michelle Avis, M.S. August 2012

Amanda Cheeseman, Ph.D. August 2013

Melissa Althouse, M.S., January 2014

CO-MAJOR PROFESSOR

MEMBER, STEERING COMMITTEE (other than those listed above)

Jill Mandel (EFB, M.S., defended)

John Hartigan (EFB, M.S.)

Alison Devlin (EFB, Ph.D.)

Carissa Alza (EFB, M.S., defended)

Joseph Folta (EFB, Ph.D.)

Timothy McCoy (EFB, M.S.)

Stewart Lapan (EFB, M.S.)

Silvia Saldivar (EFB, M.S.)

Becky Fuda (EFB, M.S.)

Andrea Thomen (EFB, M.S.)

Emily Gavard (EFB, M.S.)

Kayla Davis (Virginia Tech, M.S.)

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

Andy MacDuff (EFB, M.S., examiner)

Michele Hierholzer (EST, M.S., chairman, 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%

Stopover movements of Red Knots between Virginia and Delaware Bay – 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., S.J. Ryan, and C. Whipps. Factors Limiting New England Cottontail Populations in New York – NYDEC, \$860,000, 8/2013 – 7/2017, supporting Amanda Cheeseman and Emily Gavard

Cohen, J.B. Population-level effects on Snowy Plovers of road mortality at Gulf Islands National Seashore – National Fish and Wildlife Foundation via National Audubon, \$274,225, 1/14 – 12/16, supporting Maureen Durkin

Elphick, C., B. Olsen, G. Shriver, J. B. Cohen, and A. Kovach. Response of the tidal marsh bird community to Hurricane Sandy – U.S. Fish and Wildlife Service. \$1,573,950 (\$149,668 managed by Cohen). 5/2013-5/2016.

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

Cohen, J.B. Piping Plover Movements and Flight Heights During the Breeding Season – U.S. Fish and Wildlife Service, \$295,000 2011, 1/2011 – 8/2015, 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 – 8/2014, 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 Koczek

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

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. 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

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

Cohen, J.B. Decision support population modeling for recovery of the piping plover at Edwin B. Forsythe National Wildlife Refuge – U.S. Fish and Wildlife Service. \$260,208 (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), to support Melissa Althouse

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 – National Fish and Wildlife Foundation. \$828,453 5/14 – 4/16. \$163,737 to be managed by Cohen.

Orazio, C., Echols, K., Cohen, J.B. Persistent organohalogen pollutants and toxic elements in eggs of piping plovers (*Charadrius melodus*) as an indicator of exposure to Hurricane Sandy storm-dispersed contaminants in piping plovers from New Jersey Coastal Areas.- National Fish and Wildlife Foundation \$110,281.

Cohen, J.B. Quantifying the Short-term Impacts of Hurricane Sandy on Tidal-marsh Birds and their Habitats, Category II: Rapid Response – New York Sea Grant. Pre-proposal.

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

Farrel, S. and J.B. Cohen. Least tern populations on the Florida Panhandle: risk of road mortality. U.S. Fish and Wildlife Service. \$143,268.

Elbin, S., Cohen, J.B., Hartig, E., Larson, M. Implementing debris removal as part of tidal marsh restoration strategies to enhance salt marsh sparrow communities in an urban park. Wildlife Conservation Society. Pre-proposal.

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

Cohen JB, Durkin MM, Zrdavkovic M. 2014. Human disturbance of snowy plovers (*Charadrius nivosus*) in northwest Florida during the breeding season. Florida Field Naturalist 42: 1-14.

B. Non-refereed Publications

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

2014 –Kocek, A.R., J.B. Cohen, and S.E. Elbin. Factors affecting saltmarsh sparrow nesting success in New York City. 70th annual Northeast Fish and Wildlife Conference. Portland, ME.

2014 – Cohen, J.B. and C. Davis. A prototype decision support tool for use of exclosures on nests of the Atlantic Coast piping plover. Least Tern and Piping Plover workshop, National Conservation Training Center, Shepherdstown, WV.

2013 – Durkin, M., J. B. Cohen, M. Zdravkovic. Impacts of anthropogenic disturbance on snowy plover reproduction and behavior in Northwest Florida. Joint meeting of American Ornithologists' Union and Cooper Ornithological Society. Chicago, IL.

2013 – Durkin, M., J. B. Cohen. Comparing trail cameras vs. continuous video systems for Snowy Plover nest monitoring. Poster. Waterbird Society 37th Annual Meeting/International Wader Study Group Conference. Wilhelmshaven, Germany.

2013 – Durkin, M., J. B. Cohen. Comparing trail cameras vs. continuous video systems for Snowy Plover nest monitoring. Poster. Joint meeting of American Ornithologists' Union and Cooper Ornithological Society. Chicago, IL.

2013 – Chaudhary, A., J. B. Cohen. Avian blood mercury and chromium in Onondaga Lake Waste Beds, Onondaga County, New York. Annual Conference of the Wildlife Society. Milwaukee, WI.

2013 – Nowak-Boyd, L., J. B. Cohen. Factors affecting occupancy rates of ring-necked pheasants in New York. Annual Conference of the Wildlife Society. Milwaukee, WI.

2013 – Kocek, A., J. B. Cohen. Salt marsh characteristics preferred by saltmarsh sparrows in New York City: Effect of disturbance on nesting presence. Joint meeting of American Ornithologists' Union and Cooper Ornithological Society. Chicago, IL.

2013 – Kocek, A., J. B. Cohen. Response of saltmarsh sparrows to a highly urbanized environment: Factors affecting nesting presence in New York City. Waterbird Society 37th Annual Meeting/International Wader Study Group Conference. Wilhelmshaven, Germany.

2013 – Avis, M.L., J.B. Cohen. Flight behavior of breeding piping plovers: implications for risk of collision with turbines and other human structures. Waterbird Society 37th Annual Meeting/International Wader Study Group Conference. Wilhelmshaven, Germany.

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

2014 – Cohen, J.B., Nowak-Boyd LJ. Ring-necked pheasant occupancy and abundance in Western New York. New York Fish and Wildlife Advisory Board meeting, Pulaski, NY. 20 attendees

2014 – Cohen, J.B., Cheeseman, A., Gavard, E., Ryan, S.J., Whipps, C.M. New England cottontail. New York Fish and Wildlife Advisory Board meeting, Pulaski, NY. 20 attendees

2014 – Cohen, J.B., Cheeseman, A., Gavard, E., Ryan, S.J., Whipps, C.M. New England cottontail. New York Forest Owner's Association meeting, Syracuse, NY. 40 attendees

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. 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)

BioBlitz at Clark Reservation State Park for New York DEC, May 2014
 Mentor to 1 student, Authentic Science Research Program, Byram Hills High School, Armonk, NY

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
 Society for Conservation Biology. 2nd North American Congress for Conservation Biology, Symposium reviewer

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

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
Animal Conservation	1
Waterbirds	2
Biological Conservation	1

<u>Agency</u>	<u>No. of proposals</u>
Earthwatch Institute	1
US Geological Survey	1
National Fish and Wildlife Foundation	1

Other

c. Participation (workshops, symposia, etc.)

<u>Name of workshop, etc.</u>	<u>Date</u>	<u>Place</u>
Structured decision making for Atlantic Coast piping plover	12/2013	Shepherdstown, WV
Spatial capture/recapture	2/2014	Laurel, MD

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

Mentoring seminar	1/2014	Gateway Center
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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
CCAC
GPAC
EFB Open House
EFB accepted student reception
Burgess Award Review
Dence Award Review

B. College-level

Committee on Curriculum
Reviewer for Sussman Internship Applications

C. University-wide, including Research Foundation

This past year I felt like Wildlife Habitats and Populations was really becoming my own. As a result I think I had the best connection with the students that I've had in 3 years of teaching the course. I was caught by surprise when the class applauded at the end of my last lecture! I offered an extra independent study credit for the heavy out-of-class workload that has always been involved with the class project, and that seems to have greatly reduced the feelings among the students that the workload exceeded the credit load. I still will be searching for ways to keep the class current, and to that end I attended a workshop in December on structured decision making and I gained several insights that I intend to incorporate into the class. I also taught a course in Bayesian statistics for graduate students, which had an enrollment of 14 including 3 Syracuse University students. I have not gotten interest from other ESF departments' students, although I may teach that course every other Fall given other quantitative offerings. In the Spring, I led a discussion/presentation style class on Bayesian methods for estimating population parameters, and we went on a field trip to a workshop on spatial capture methods. I had several undergrads work with me on independent research, and one of my honors student advisees completed his thesis and presented a poster at a regional meeting.

The most exciting part of this past year was the graduation of my first two M.S. students. Now I have seen what it takes to help students get through defense preparation and thesis completion, and I learned a lot that I think will help me advise students better in the future. I also had my first peer-reviewed publication with one of my graduate students, as the Florida Field Naturalist published the results of the pilot study we did as a precursor to her graduate

research. My lab grew to 7 students in the past year, including the two who graduated. We have a diversity of projects, all aimed at solving conservation problems for wildlife agencies and organizations. However, the focal theme of our lab is understanding limiting factors for wild vertebrate populations. I had my first Ph.D. student join me, and she is now in the field collecting data, as well as one more M.S. student. Further, two of my M.S. students will be continuing with me as Ph.D. students, as we have received research funding for them for two more years of field work.

Both will still defend their M.S. theses, in the coming Fall. In all, I was managing \$1.8 million in grants, and was part of another \$1.4 million in a collaborative grant, and I anticipate another \$360,000 in the coming summer and fall to support an M.S. student and my lab's first post-doctoral scientist who will be working on a population model for Atlantic Coast piping plovers. My students presented at numerous state, regional, and international conferences and one M.S. student received first runner-up for best paper at The Waterbird Society annual meeting in Germany. My graduate students also had continued success in getting small travel and equipment grants, ranging from \$100 to \$8,000.

I began my first term on the Committee on Curriculum. During that time I reviewed several course and curriculum proposals and served as the EFB liaison with EFB and the departmental CCAC. I also served for another term on the Sussman Review Committee, for which I reviewed approximately 30 proposals. At the Department level I served as acting curriculum coordinator for the wildlife major during Dr. Frair's sabbatical, and led a major-level meeting on the curriculum assessment process, where we decided to develop an exit exam for the major. I continued to work on the CCAC and became co-chair of GPAC with Dr. Fierke, and we had lively discussions on the future work of the committee. 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 second year as advisor to The Wildlife Society Student Chapter, where I focused on helping them to meet "Chapter of the Year Criteria." The chapter continued to win state and regional quiz bowls.

For my own professional development, I collaborated on a WCF pre-proposal with my colleagues at NYC Audubon and NYC Parks, continuing to gain practice in crafting proposals for competitive requests. I also succeeded in attaining competitive grants from National Fish and Wildlife Foundation, both collaboratively and independently. I reviewed manuscripts for three journals and had my first opportunity to review competitive proposals outside the University Committee on Research. I continued to serve as chair of the Waterbird Society Conservation Committee, and to serve as a voting Councilor for the Society. I also reviewed symposium abstracts for the 2014 North America Conservation Biology Congress of the Society for Conservation Biology.

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 plan on bringing some things I learned at workshops this past year to EFB 493. The core wildlife faculty has met to discuss the cohesiveness of the core sequence and we will be making cohesiveness a consideration with our material and its presentation, culminating in an exit exam at the end of 493. The exam is intended to work with the current assessment process. I will be leading a seminar on classic papers in population ecology with a term paper, because having focused on modern quantitative techniques in my teaching for grads, I would like to now provide some experience in critically evaluating literature, integrating theory into our writing and hypothesis generation, and defending a point of view in a written assignment.

For research, I anticipate my first post-doc and I am hoping they will serve a mentoring role in my lab. I have a couple of grants pending, and am going to be collaborating with now-adjunct Michael Schummer on a black duck project to start in Fall 2015. We will be funded by DEC, but are putting together a competitive proposal for the American Black Duck joint venture. . My new M.S. student will also have her first field season.

For other professional development activities, at the end of the summer, I will be traveling to Tokyo, Japan with some of my grad students, and we will be presenting talks and posters at the International Ornithological Conference. We will also go to the Waterbird Society Meeting in La Paz, Mexico and I will continue my duties as Councilor for that society.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2014

a. Course(s) to be offered

b. Proposed research activity

M.S. research conducted by M. Avis, M. Althouse

Ph.D. research conducted by A. Cheeseman, M. Durkin, A. Kocek

c. University, professional society, and public service

Waterbird Society Council and Committee activities

2. Fall Semester 2014

a. Course(s) to be offered

EFB 493/693: Wildlife Habitat and Populations

EFB 797: Readings in Population Ecology

b. Proposed research activity

M.S. research conducted by M. Avis, M. Althouse

Ph.D. research conducted by A. Cheeseman, M. Durkin, A. Kocek

Commence working with post-doc on piping plover population modeling

Develop American black duck research project with DEC and Black Duck Joint Venture.

Personal research/data analysis on Red Knot and Piping Plover migration ecology

c. University, Professional society, and public service

Curriculum 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 2015

a. Course(s) to be offered

EFB 796 (4 credits) Population parameter estimation

b. Proposed research activity

Continuation of Fall projects, finalize proposal for American black duck project

c. University, professional society, and public service

Similar to Fall, in addition: Sussman Internship reviewer