

ANNUAL REPORT: June 1, 2015 – May 31, 2016
(i.e., Summer 2015, AY 2015-2016)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

NAME: Dylan Parry

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:	EFB-202	Ecological Monitoring -CLBS	3	80	(Entomology – 4 sections)
FALL:	EFB-132	Freshman Seminar (Cons. Bio)	1	40	
	EFB-797	Insects / Climate Change	1	10	
	FSC-462/662	Forensic Entomology	3	21	(3 ESF enrolled through SU)
SPRING:	EFB-502	Ecol. And Mgmt. of Invasive Species	3	31	

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		Res/Internship	1	1
EFB 496		Forensic Entomology	3	3 (in addition to 3 ESF students above)
EFB 498		Independent Research	3	1
EFB 420		Internship	9	3
EFB 899		MS Research	9	3
EFB-999		PhD Research	9	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>
EFB -132	Freshman Core Course	1 (Con Bio Overview)

II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student's official advisor 27 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

Dave Nesbitt (MPS, May, 2014)
Neil Schoppmann (MS, August 2013)
Wendy Leuenberger (MS May 2014)
Aaron Brown (MS May 2014)
Rea Mandarino (PhD Fall 2015)
Chelsea Jahant-Miller (Phd Fall 2015)

CO-MAJOR PROFESSOR

Kara Phelps (MS), Jan. 2014 w/Ruth Yanai (GPES)

MEMBER, STEERING COMMITTEE (other than those listed above)

Chris Foelker (PhD) (Graduated December 2015)
Nicole Henger (MS – FNRM and Maxwell)
Logan Osterhoudt (MPS)
Alison Halpern (PhD)
Mariano Arias (PhD)

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

Honghao Haung (BPE)

III. RESEARCH COMPLETED OR UNDERWAY

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

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

Forest tent caterpillar dynamics and long-term effects on forests. This research has been partially supported in some years, and bootlegged in other years. I have developed a long-term monitoring grid so as to better understand the temporal changes in abundance of this insect. Since its population cycles are approximately decadal, this represents a very long time commitment, far longer than any grant will support, and thus will continue to be bootlegged, perhaps for the duration of my career. This will be the 11th consecutive year of monitoring; I spend approximately 5% of my annual research time on this project. Other researchers are beginning to recognize the potential utility of this long-term data (e.g., I am currently collaborating on a pilot project with Kyle Haynes, University of Virginia).

Adaptive change in gypsy moth and range expansion. I am extending some of the gypsy moth research that was originally funded by McIntire-Stennis while developing proposals to further support this research. Partial support has come from a USDA-Forest Service grant to me and to collaborator K.L. Grayson (University of Richmond) and some new McIntire-Stennis funding.

Developing sampling methodology for Barrens Buck Moth (with Brian Underwood and Neil Gifford (Albany pine Bush). This research was the heart of former graduate student Georgia Keene's thesis. Barrens buck moth is one of the best indicator organisms for quality scrub-oak / pitch pines barrens but has proven difficult to census effectively. (10% of annual research time). Georgia Keene's research has led to the APB adopting a new sampling method that will be used annually, replacing the APB's traditional approach.

- 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)

2015-2017. D. Parry Respite From A Rogue: Northern Hardwood Forests As A Refuge For Giant Silk Moths Threatened By Non-Target Biological Control. Northeast States Research Cooperative. 122,496. (*Supports PhD Rea Mandarino*)

2015-2017. D. Parry, P.C. Tobin and B.A. Aukema. Rapid, Recent Poleward Expansion at Northern Range Limits of a Major Invasive Species. \$56,400. (*Partially supports PhD Chelsea Jahant-Miller*).

2015-2016 D.Parry and N. Schoppmann. Initial Inventory of the Moths of Plum Island. NY NHP \$6400 (*Summer support for N. Schoppmann*)

2015-2016 D. Parry and K. Wallin. Quantifying the Response of Forest Insect Communities and Their Natural Enemies to Simulated Ice Storm Damage. ESF Seed Grant \$7750. (*Summer Support W. Leuenberger*)

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

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

NSRC Preproposal (Fall 2016) Parry, Wallin, and Rustad

The American Chestnut Foundation (Summer 2015) (Parry and Brown)

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

Tobin, P.C., Hunt, L., Kremers, K.T. and **Parry, D.** 2016. All quiet on the western front? Using phenological inference to detect the presence of a latent gypsy moth invasion in Northern Minnesota. *Biological Invasions. In Press*

Foelker, C.J., Standley, C.R., **Parry, D.** and Fierke, M.K., 2016. Complex ecological relationships among an assemblage of indigenous hymenopteran parasitoids, the exotic European woodwasp (*Sirex noctilio*; Hymenoptera: Siricidae), and a native congener. *The Canadian Entomologist*, pp.1-11. Foelker and Standley are recent EFB graduate students)

Foelker, C.J., Standley, C.R., Fierke, M.K., **Parry, D.** and Whipps, C.M., 2016. Host tissue identification for cryptic hymenopteran parasitoids associated with *Sirex noctilio*. *Agricultural and Forest Entomology*, 18: 91-94.

Grayson, K.L., **Parry, D.**, Faske, T.M., Hamilton, A., Tobin, P.C., Agosta, S.J. and Johnson, D.M., 2015. Performance of Wild and Laboratory-Reared Gypsy Moth (Lepidoptera: Erebidae): A Comparison between Foliage and Artificial Diet. *Environmental entomology*, 44: 864-873.

B. Non-refereed Publications

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

Invited Oral

D. Parry, G.R. Keene, A.J. Brown, C.A. Maynard, and W.A. Powell. Restoration of a heritage tree: Quantifying non-target effects of transgenic blight resistant American chestnut (*Castanea dentata* (Marshall)) on a seasonal guild of lepidopteran folivores. North American Forest Insect Work Conference. Washington, D.C. 5/30/16-6/2/16

Grayson, K.L. Thompson, L.M., Faske, T.L., Parry, D., Tobin, P.C. Can gypsy moth stand the heat: performance at the southern invasion front. North American Forest Insect Work Conference. Washington, D.C. 5/30/16-6/2/16

Other Submissions

Performance of gypsy moth at supraoptimal temperatures at the southern invasion front. K.L. Grayson, L.M. Thompson, T. Faske, D. Parry, P.C. Tobin, D.R. Gray, D.M. Johnson. Ecological Society of America. Baltimore, Aug. 9-14, 2015.

Graduate Student Posters and Talks

Leuenberger, W., K. Wallin, and D. Parry. 2015. Response of forest insects and their natural enemies to simulated ice storms in a northern hardwood forest. Hubbard Brook Ecosystem Study 52nd Annual Cooperators' Meeting. Woodstock, NH. July 8-9.

Leuenberger, W., K. Wallin, and D. Parry. 2016. Response of forest insects and their natural enemies to simulated ice storms in a northern hardwood forest. New York Society of American Foresters Annual Meeting. Syracuse, NY. January 29.

Leuenberger, W., K. Wallin, and D. Parry. 2015. Response of forest insects and their natural enemies to simulated ice storms in a northern hardwood forest. 2015 Long-Term Ecological Research All Scientists Meeting. Estes Park, CO. August 30-September 2.

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

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 Invasive Species Advisory Council

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, New York State Invasive Species Advisory Council (Not sure whether this should be listed here or as unfunded governmental service (or in both). It does have a designated legislative charter and is composed of professionals.

Member, New York Forest Health Advisory Group. Share information, collaborate and coordinate activities of academic and government agencies involving major threats to the health of New York's forests.

2. Professional Society Membership

Entomological Society of America

Entomological Society of Canada

Ecological Society of America

3. Other Professional Activities

a. Editorial activity

<u>Journal (s)</u>	<u>Responsibility</u>
The Canadian Entomologist	Subject Editor (Forest Entomology / Insect Ecology)

Other (books, symposia, etc.)

Lead Organizer for Invited Symposia at the 2016 International Congress of Entomology (largest entomological meeting on Earth, held every 4 years). Climate Change and Invasion in Temperate and Boreal Forests. Invited international speakers (USA, Canada, France, Great Britain, Chile, Australia, NZ, Belgium), drafted the symposia overview, solicited, organized, and edited abstracts.

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
Canadian Entomologist	4 (as editor)
Canadian Journal of Forest Research	1
Forestry	1
PLOS	1
<u>Agency</u>	<u>No. of proposals</u>

Other

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)

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

Director – Graduate Program in Environmental Science (Beginning January 2016)

Coordinator - Conservation Biology Major (165 students) (until January 2016)

CCAC – committee member (Until January 2016)

GPAC – committee member

Leroy C. Stegeman Award in Invertebrate Ecology – Chair and award presenter
Outstanding PhD Award committee - member

B. College-level

Director – Graduate Program in Environmental Science (Beginning January 2016)

C. University-wide, including Research Foundation

D. Post-doctoral Research Associate Mentoring (list name(s) of post-docs and period of employment)

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.

Students:

Undergraduate. I continued as the coordinator of the undergraduate major in Conservation Biology (~ 165 students) until January 2016 when my three year term was up. I teach demanding rigorous classes and refuse to use multiple-choice despite the significant time spent grading written answers. In spring 2016, I again taught EFB-502, continuing to add new components to this course to keep it fresh and current in this rapidly developing field and I turned over more than 20% of the lecture material this year. Although the FTE's are low, these are the kinds of courses that set ESF apart from competing institutions and give students value for their dollar and are one of our best marketing tools for getting students to come here. As I have done for 11 yrs, I taught the Entomology component of EFB-202 at Cranberry Lake. I am one of only a handful of EFB faculty that consistently instruct in our flagship undergraduate experience.

Graduate. I taught one graduate seminar in 2015-2016 (10 students). I also served on GPAC and oversaw the Stegeman Award, again providing a well-deserving student with an award and some supplemental funds for research. My MS student Wendy Leuenberger received a Sussmann Foundation Award and got the additional \$2000 top up for exceptional merit.

Department and College: As Coordinator, In addition to the myriads of petitions and assessment requirements, I promoted the College and the Conservation Biology Major at accepted student recognition events and open houses, fielded questions from prospective students and parents, and wrote letters to top potential recruits. I represent the College's interests and perspective as a member on the NY State Invasive Species Advisory Committee, an assemblage of governmental, non-profit, private sector, and academic organizations who function to advise NY State on invasive species issues and help to craft legislation that effectively combats targeted species or pathways. We were able to play a large role in developing and changing the forth-coming 'clean-boat' bill that the governor signed into law, the inaugural state wide Invasive Species Awareness Week, and the forthcoming 'Three-Tier List' of prohibited and restricted species. In January 2016 I assumed the role of Director of the Graduate Program in Environmental Science, a significant leadership responsibility.

Self: I am collaborating with multiple investigators (particularly Derek Johnson and Kristine Grayson at VCU and Patrick Tobin with the University of Washington) looking at the effects of climatic shifts on invasive insects. I have recently partnered with Kimberly Wallin (UVM) and initiated research at Hubbard Brook Experimental Forest. We are cooperators on a large NSF funded project with Lindsey Rustad and John Campbell (US Forest Service) to emulate ice storms in northern hardwood forests. By mechanically applying water to the forest canopy in winter, we have been able to realistically mimic the accretion of ice and subsequent damage. Our role is to examine the trophic response of insects and their natural enemies. My graduate program has grown with 2 new PhD's joining the lab in fall 2015. Organized a major symposia for the world's largest international entomological meeting (see above).

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 biggest focus over the next year will be a continued effort to broaden and my program at ESF. Our climate change / invasive insect work is beginning to bear some fruit – our research group (VCU, ESF, Forest Service). With collaborators, I have three manuscripts near submission – I'd like to get these out for review this summer.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2016

a. Course(s) to be offered

EFB-202, Entomology Section, July 4-7

b. Proposed research activity

-USDA BRAG – large scale bioassays of the experimental chestnuts with several insect species.

-Continue “Project Ice Storm”, a multi partner collaboration at Hubbard Brook Experimental Forest to look at the short and long term effects of ice storms on forest structure and function.

Write and submit NSF Proposal (Plant-Biotic Interactions) (Already done for 6-6-16 deadline)

c. University, professional society, and public service

Editorial work Entomological Society of Canada

NY Invasive Species Advisory Council (two Albany meetings, 2 teleconference, and a joint meeting with the ISC in July)

2. Fall Semester 2016

a. Course(s) to be offered

EFB-132 Freshman Seminar for Conservation Biology Students

EFB 504 Plant Herbivore Interactions

b. Proposed research activity

Gypsy moth / climate change

c. University, Professional society, and public service

-Director, GPES

-CCAC

-GPAC

-NY Invasive Species Advisory Council

-Subject Editor The Canadian Entomologist

3. Spring Semester 2017

- a. Course(s) to be offered
 - EFB 502 Ecology and Management of Invasive Species
 - EFB-797 Revisiting Elton's Invasion Ecology
- b. Proposed research activity
 - USDA BRAG proposal

- c. University, professional society, and public service
 - Director GPES
 - CCAC
 - GPAC
 - NY Invasive Species Advisory Council