

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

NAME: **Martin Dovčiak**

I. INSTRUCTIONAL ACTIVITIES

1. Regular Course Offerings

	Course No.	Title	Credit Hrs.	No. Students	No. of Lab. Sections
FALL:	EFB 435	Flowering Plts: Div, Evol, Syst.	3	12	1
	EFB 635 (grad)	Flowering Plts: Div, Evol, Syst.	3	7	1
SPRING:	EFB 445	Plant Ecology & Global Change	3	28	-
	EFB 645 (grad)	Plant Ecology & Global Change	3	10	-

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)

Course No.	Title	Credit Hrs.	No. Students
EFB 298	Research Internship/Env. Biol.	3	1
EFB 420	Prof. Internship/Env. Biol.	6	2
EFB 798	Research Problems/EFB	23	6
EFB 899	Masters Thesis Research	2	1
EFB 999	Doctoral Thesis Research	17	3

Comment [MD1]: Is this total credit hours summed across all students in a particular category? This is how I filled this in since various students tend to register for various credits.

3. Continuing Education and Extension (short courses, workshops, etc.)—None.

4. Guest Lecture Activities

Course No.	Title	No. of Lectures
EFB 210	Diversity of Life I	3
EFB 326	Diversity of Plants	1

II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student's official advisor 19 and unofficial advisor 0

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

Completed students:

- Juan Carlos Alvarez-Yepiz, Ph.D., May 11, 2014 (Outstanding Ph.D. Student Award, May 10, 2014).
(Dissertation title: Mechanisms of Persistence in a Rare Cycad in Northwestern Mexico)

In Progress:

- Jay Ward Wason, III., Ph.D., since August 2011 (Ph.D. Candidate since April 2, 2014).
- Stephen Langdon, M.S., since August 2010.

CO-MAJOR PROFESSOR

Completed students:

- Juliana Quant, M.S., May 11, 2014 (with D. Leopold).
(Thesis title: Forest Communities along soil, acid, deposition, and climate gradients of the Appalachian Trail)
- Nataliia Shynkarenko, MPS in Applied Ecology, December 2014 (with J. Gibbs).
- Olga Shevtsova, MPS in Applied Ecology, December 2014 (with J. Gibbs).
- Anna Ganzia, MPS in Applied Ecology, December 2014 (with J. Gibbs).

In Progress:

- Monica B. Berdugo Moreno, Ph.D., since August 2012 (with R. Kimmerer)

MEMBER, STEERING COMMITTEE (other than those listed above)

Completed students (i.e., defenses passed in April 2014):

- Patrick Raney (Ph.D., D. Leopold)
- Bettyjo Jivoff (M.S., D. Leopold)
- Frances Jean More Delaney (M.S., D. Leopold)
- Thomas Ray Brumbelow (M.S., D. Leopold)
- Laurel Nowak-Boyd (M.S., J. Cohen)

In Progress:

- Jon Cale (Ph.D., J. Castello)
- Andrew Siefert (Ph.D., Syracuse University, M. Ritchie)
- Mason Heberling (Ph.D., Syracuse University, J. Fridley)
- Scott Sveiven (M.S., D. Leopold)
- James Johnson (M.S., D. Leopold)
- Miguel Garmendia (M.S., G. McGee)
- Quincey Blanchard Oliver (M.S., FNRM, C. Nowak)
- Eli Arnow (M.S., S. Diemont)
- Eugene Law (M.S., S. Diemont)

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

- Solomon Mungure (Ph.D. defense, chair)
- Luka Negoita (Ph.D. candidacy exam, chair, Syracuse University)

III. RESEARCH COMPLETED OR UNDERWAY

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

- National Park Service. "Appalachian Trail MEGA-Transect Study". G. Lawrence, D.A. Burns, K.C. Rice, SW Bailey, R. Minocha, M. Dovčiak, D. Leopold, S. Sullivan, K.C. Weathers, A.C. Ellsworth. \$747,242; 5/2010-12/2013 (\$49,310 supported J. Quant, but current year budget to SUNY/ESF is \$0). 5% 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)

- NYS DEC. "Evaluating deer impacts on forests of New York State". M. Dovčiak (PI), J. Frair, J. Hurst \$214,870. 4/2014-4/2016 (M. Lesser, supported post-doctoral associate).
- Electric Power Research Institute. "Cost effectiveness of cleaning techniques for controlling human-based transport of invasive exotic plants on electric transmission line rights-of-way across New York". C. Nowak (PI) and M. Dovčiak (Co-PI). \$414,551 (award to M. Dovčiak: \$176,184), 8/2012-8/2015 (J. Quant, C. Peck, supported MS students).
- Northeastern States Research Cooperative. "Global change fingerprints in montane boreal forests: Implications for biodiversity and management of the northeastern protected areas". M. Dovčiak (PI), C. Beier, G. Lawrence, J. Battles. \$89,497. 8/2012-8/2014 (J. Wason, supported PhD student).
- SUNY ESF Seed Grant Program. "Effects of mosses on the chemistry of tree seedlings and their impacts on forest regeneration" M. Dovčiak (PI), R. Kimmerer, C. Driscoll. \$6,800. 4/2014-6/2015 (M. Berdugo, PhD student, supplementary support for field and laboratory work).

2. Research Proposals pending (include information as in B.1., above)—None.

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

- NSF DEB, Population and Community Ecology Cluster. "Preliminary Proposal: How do interacting global change drivers affect plant invasions?" M. Dovčiak (PI). Submitted in January 23, 2014 (~80%, or 348 out of 457 proposals were rejected; Reviews suggest a good potential for a future resubmission).

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

Published or in press:

- Dovčiak M, Brown J. 2014. Secondary edge effects in regenerating forest landscapes: vegetation and microclimate patterns and their implications for management and conservation. *New Forests* DOI: 10.1007/s11056-014-9419-7 (in press).
- Álvarez-Yépiz JC, Búrquez A, Dovčiak M. 2014. Ontogenetic shifts in plant-plant interactions in a rare cycad within angiosperm communities. *Oecologia*, DOI:10.1007/s00442-014-2929-3 (in press).
- Halpern CB, Dovčiak M, Urgenson LS, Evans SA. 2014. Substrates mediate responses of forest bryophytes to a gradient in overstory retention. *Canadian Journal of Forest Research*, DOI: 10.1139/cjfr-2014-0059 (in press).
- Dovčiak M, Osborne PA, Patrick DA, Gibbs JP. 2013. Conservation potential of prescribed fire for maintaining habitats and populations of an endangered rattlesnake, *Sistrurus c. catenatus*. *Endangered Species Research*, 22, 51-60.

Submitted (currently in review or in revision following reviews):

- Giенcke L, Dovčiak M, Mountrakis G, Cale, J, Mitchell M. Beech bark disease: Spatial patterns of thicket formation and disease spread in an aftermath forest in the northeastern United States. *Canadian Journal of Forest Research* (in review following revisions).
- Álvarez-Yépez JC, Cueva A, Dovčiak M, Teece M, Yépez E. Ontogenetic functional strategies along environmental gradients: Insights from leaf traits in a rare cycad. *Conservation Physiology* (in revision).
- Westerband A, Dovčiak M. Aspect influences soil moisture and species coexistence in semi-arid pinyon-juniper woodlands of the southwestern United States. *Southwestern Naturalist* (in revision).
- Steen DA, Osborne PA, Dovčiak M, Patrick D, Gibbs JP. Short-term effects of a prescribed fire on habitat quality for a snake assemblage. *The Wildlife Society Bulletin* (in review).

B. Non-refereed Publications

- Lawrence GB, Sullivan TJ, Burns DA, Cosby BJ, Dovčiak M, McDonnell TC, Minocha R, Quant J, Rice KC, Siemion J, Weathers K. 2013. Acidic Deposition along the Appalachian Trail Corridor and its Effects on Acid-Sensitive Terrestrial and Aquatic Resources. Results of the Appalachian Trail MegaTransect Study. Report to NPS. 385 pages (in review/revision for NPS).
- Nowak C, Quant J, Hopper E, Bartholomew C, Dovčiak M. 2013. Cost Effectiveness of Cleaning Techniques for Controlling Human-Based Transport of Invasive Exotic Plants on Electric Transmission Line Rights-of-Way, Second Technical Update. Report No. 3002001189, Electric Power Research Institute, Palo Alto, CA. 74 pages.

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

- Dovčiak M, Halpern CB, Nelson C., Evans SA. 2013. Conserving bryophytes in working forests: insights from the Demonstration of Ecosystem Management Options (DEMO) Experiment. Canadian Botanical Association, Annual Meeting, Kamloops, British Columbia, June 1-7, 2013 (invited, symposium speaker).
- Álvarez-Yépez JC, Cueva A, Dovčiak M, Teece M, Yépez E. 2013. Functional strategies of a rare ancient cycad along an environmental gradient of a tropical dry forest. Ecological Society of America, Annual Meeting, Twin Cities, MN. Aug. 4-9, 2013.
- Quant JM, Dovčiak M, Lawrence GB, Leopold DJ. 2014. Understory composition along the Appalachian Trail as influenced by broad environmental gradients: The AT Mega-Transect Project. New York Society of American Foresters Annual Meeting, Syracuse, NY, January 23, 2014.
- Gutiérrez Lagoueyte ME, Ruiz Carrascal D, Dovčiak M, del Pilar Arroyave Maya M, Zapata Jaramillo PA, Arcila Marín N, Gutiérrez Cardona C. 2013. Vulnerability of high mountain ecosystems to changes in climate in Los Nevados National Park, Columbia (in Spanish). 7th Colombian Congress of Botany, Ibagué, Colombia, August 6-11, 2013.

D. Public Service Presentations (lectures, seminars, etc. to and for the public; give group or occasion, date(s), and attendance)—None.

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

1. Government Agencies (Federal, State, Local)

- New York State DEC and Cornell Cooperative Extension, Ithaca, NY. Contributing to the development of public outreach and citizen science addition to currently funded research on the management of the impacts of deer on forests of New York State (ongoing).
- New York Power Authority. Contributing to the development of guidelines on the effectiveness of cleaning techniques for controlling human-based transport of invasive exotic plants on electric transmission line rights-of-way across New York by vegetation management crews to inform best management practices for vegetation management under electric power lines (ongoing).

2. Industrial and Commercial Groups, etc.—None.

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

- U.S. National Park Service. Environmental monitoring and modeling support for science-based conservation of forest vegetation along the Appalachian Trail from Georgia to Maine (Vegetation team leader).
- Sierra de Alamos-Rio Cuchujaqui Biosphere Reserve, Mexico. Ecological monitoring and conservation of an endangered forest cycad, *Dioon sonorense* (Advisor).
- Los Nevados National Park and Antioquia School of Engineering, Colombia. Predicting potential effects of climate change on vegetation in the Colombian Andes (Advisor).
- Shingle Shanty Preserve and Research Station, Adirondacks, NY. Vegetation monitoring (Advisor).
- Regular interaction with the public/answering of inquiries on plant ecology, taxonomy, global change, and sustainability (ongoing; example: Syracuse University TV News).

VI. PROFESSIONAL DEVELOPMENT

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

- Appointed as a Roosevelt Forest Ecologist and Scientist in Residence at Roosevelt Wild Life Station
- SUNY ESF Special Recognition Award for contributing to student success

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

- Invited Panelist—Bryophyte diversity and ecosystem function within managed forests, Canadian Botanical Association, Annual Meeting, Kamloops, British Columbia. June 1-7, 2013.

2. Professional Society Membership

- Ecological Society of America
- Botanical Society of America
- International Association for Vegetation Science
- Society of American Foresters
- Mountain Research Initiative Expert Database
- New York Invasive Species Research Institute Expert Database

3. Other Professional Activities

- a. Editorial activity—None, but upon recommendation of my P&T committee I have rejected an offer by Springer to serve as an Editor-in-Chief (paid) for the *Current Forestry Reports*.

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
Journal of Vegetation Science	1
Forest Ecology and Management	1

Upon recommendation of the P&T committee, I declined reviewing additional manuscripts (Ecological Monographs, Diversity & Distributions, Forest Ecology & Management, Journal of Vegetation Science, Forest Science, and a proposal for the German Research Foundation).

c. Participation (workshops, symposia, etc.)

<u>Name of workshop, etc.</u>	<u>Date</u>	<u>Place</u>
• Meeting with NYS DEC (Wildlife and Forests sections), NYC DEP, NYS Natural Heritage Program, and The Nature Conservancy to discuss data sharing for the ESF study of deer effects on forests across New York State, 4/30/2014, Albany, NY.		
• Meeting with Cornell Cooperative Extension and NYS DEC to discuss the development of outreach and extension component related to the ESF study of deer effects on forests across New York State, Cornell Cooperative Extension, 5/6/2014, Ithaca, NY.		

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

- Instructional Leadership Academy on Team Based Learning, SUNY Albany, May 20-22, 2014.
- Teaching Section Symposium of the Canadian Botanical Association. “Distilling Plant Science-Botanical Education and Outreach in the 21st Century”. Canadian Botanical Association Annual Meeting, Kamloops, British Columbia, June 2, 2013 (using modern teaching approaches to teaching botany).
- Scientific teaching in undergraduate education in biology (session organized by M. Fierke and , G. McGee). SUNY ESF Annual Hardy L. Shirley Mentoring Colloquium, Syracuse, January 8, 2014.

D. Foreign Travel (Where, When, Purpose)

- Technical University in Zvolen, Slovakia (Aug. 5-19, 2013). Research on the mechanisms and consequences of woody colonization of grasslands in the Carpathian Mountains (manuscript currently in advanced stages of preparation, to be submitted this summer).

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

- Robert Burgess Graduate Scholarship in Ecology, Chair
- Graduate Program Advisory Committee, member

B. College-level

- NSF UMEB and CSTEP program mentor (2 undergraduate students)
- Graduate Program in Environmental Science–Ecosystem Restoration & Environmental Monitoring and Modeling Program Areas, member
- Beech Working Group, member
- Center for Urban Environment, member
- Participant in ESF winter and spring Convocations and Commencement

C. University-wide, including Research Foundation– None.

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

- Dr. Mark Lesser: March 31, 2014 to April 1, 2016 (co-advised by J. Frair).
- Dr. Juan C. Alvarez-Yepiz: May 11 to August 30, 2014.
- Additional mentoring and supervision of research staff: Juliana Quant, M.S., Research Analyst: May 11, 2014 to August 2015 (co-advised with C. Nowak).

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.

Students: I taught Flowering Plants: Diversity, Evolution, and Systematics (EFB 435/635) to the highest enrollment in this class since I started to teach it at ESF (19 students), and Plant Ecology and Global Change (EFB 445/645) to an average enrolment for that class (38 students). I continued to contribute to our large departmental course, EFB 210-Diversity of Life I, by providing lectures on Flowering Plants, and I contributed a guest lecture to EFB 326-Diversity of Plants. I advised 19 undergraduates in Environmental and Conservation Biology majors, and 2 students in the NSF-UMEB and CSTEP programs. I served as an MP or co-MP to 8 graduate students (3 Ph.D., 2 M.S., 3 M.P.S.), 5 of which completed their degrees (1 Ph.D., 1 M.S., and all 3 M.P.S. students). It was particularly exciting to graduate my first Ph.D. student, who has been awarded two important departmental awards this year for his work on ecology and conservation of an endangered cycad endemic to northwestern Mexico (Outstanding PhD Student Award and Dence Award). I am pleased to report that my second PhD student advanced to candidacy this Spring, and that I can support both of my remaining two PhD students via research funding in their third and second field seasons (by a NSRC grant and ESF Seed grant), thus contributing to the EFB/ESF doctoral program. I am also pleased by graduating my fourth MS student (co-advised by D. Leopold), who through her work contributed to a large collaborative research effort “Appalachian Trail Mega-Transect Study”. I enjoyed contributing to our growing M.P.S. program by co-advising three Ukrainian students with J. Gibbs, who completed their degrees and gained experience from their involvement as research interns on the study of invasive species in New York power line corridors (for which I am a co-PI). I served on steering committees for another 14 graduate students, including 5 who defended their theses and two students at Syracuse University. Most of my previously completed graduate students and several undergraduate researches continue to be successful, with professional positions at universities or in environmental consulting firms such as Jones Ecological Research Center, University of Arizona, University of Miami, or O'Brian & Gere. Three of my former students published papers with me this past academic year as first authors or co-authors, four additional manuscripts with former students are currently in review, and three of them presented their work at venues in Minnesota, New York, and Colombia.

Department/College: I continued to represent College/Department in my broader professional service, which included serving as a PI, co-PI, or collaborator in larger collaborative research groupings that included: (1) Cooperation with NYS DEC and Cornell Cooperative Extension on a research project “Evaluating deer impacts on forests of New York State” (funded by \$214,870 from NYS DEC). As a PI, I developed this project proposal with J. Frair (Co-PI) as one of the initial projects contributing to ESF receiving funding under NYS DEC-ESF Memorandum of Understanding. I have recruited an excellent post-doctoral associate, Dr. Mark Lesser, to help with the project over the two years (as well as to teach a graduate seminar on Deer Impacts on Forests this Fall). (2) Cooperation with New York Power Authority on a research project “Cost effectiveness of cleaning techniques for controlling human-based transport of invasive exotic plants on electric transmission line rights-of-way across New York” for which I am a Co-PI (with C. Nowak as a PI; funded by \$414,551 from EPRI; sub-award to me is \$176,184). This funding supports one of my recent graduates, J. Quant, as a full-time Research Analyst, and it also supports several part-time technical/field crew members. (3) Cooperation with several state and federal land and forest management agencies in New York, Vermont, New Hampshire, and Maine in establishing climate and forest vegetation monitoring network across latitudinal and elevational gradients of the northeastern U.S. as a part of a research projects “Global change fingerprints in montane boreal forests: Implications for biodiversity and management of the northeastern protected areas” for which I am a PI

(funded by \$89,497 from Northeastern States Research Cooperative). The funding supports one of my doctoral students, J. Wason. (4) Collaboration with US Geological Survey, US Forest Service, and Cary Institute on the "Appalachian Trail Mega-Transect Study" as a Co-PI responsible for vegetation (funded by \$747,242 from NPS; \$49,310 supported J. Quant at ESF. (5) DEMO Study at the University of Washington (although I do not receive any current funding, this collaboration continues to provide opportunities for collaborative publications and invited talks). In addition, I continued to serve as the Chair for the Selection Committee for the Burgess Graduate Scholarship in Ecology, and I renewed my activities as a member of the Graduate Program Advisory Committee at the departmental level. At the college level, I served as a faculty mentor in the CSTEP program, a member in two of the GPES Areas (Ecosystem Restoration, Environmental Monitoring and Modeling) and I contributed to the Adaptive Peaks seminar by inviting Dr. A. Royo from USFS as a speaker. I continued as a faculty member in the Center for Urban Environment, ESF Beech working group, and a regular participant in ESF and departmental events and meetings.

Self/Professional Development: In the last cycle, I felt honored for (1) having been appointed as a Roosevelt Forest Ecologist and Scientist in Residence at Roosevelt Wild Life Station last summer/fall, (2) receiving SUNY ESF Special Recognition Award for contributing to student success (given based on a positive feedback from graduating students), and (3) being asked by Springer to serve as a paid Editor-in-Chief for the *Current Forestry Reports* (which I declined). I have significantly focused on further development of my teaching by attending workshops and symposia dedicated to the development of student-centered teaching, including (1) Instructional Leadership Academy on Team Based Learning at SUNY Albany, (2) Teaching Section Symposium of the Canadian Botanical Association "Distilling Plant Science-Botanical Education and Outreach in the 21st Century", and (3) Scientific teaching in undergraduate education in biology session within ESF Annual Hardy L. Shirley Mentoring Colloquium in Syracuse. In terms of research, I have published (or have in press) 4 refereed papers (2 first-authored), and I submitted another 4 manuscripts that are currently in review or revision following review; another 3-4 manuscripts are in advanced stages of preparation (to be submitted this summer). All but one of these papers/manuscripts were initiated at ESF (and all but one have student co/authors). All deal with global change topics such as changes in land/forest management, biodiversity loss, drought stress, or introduced pathogens), thus helping me to establish a well-rounded research agenda in Global Change Ecology. Given that I published 4 papers last academic year, it appears that I am at a mean publication rate of 4 papers per cycle, but I would still like to push this number higher in the coming cycle. The impact factors of journals in this past cycle range from 3 (*Oecologia*) to 1.5 (*Canadian Journal of Forest Research*, one of the top-tier forest ecology journals). As one of three speakers, I gave an invited oral presentation on my work in the Demonstration of Ecosystem Management Options (DEMO) Study at a symposium organized by Canadian Botanical Association at their annual meeting in British Columbia (June 1-5, 2013). I also co-authored 2 large multi-author non-refereed reports which should provide materials for at least two additional refereed manuscripts in the next cycle and I co-authored tree presentations given at an annual meeting of the Ecological Society of America, Colombian Congress of Botany in Colombia, and at meeting of the New York Society of American Foresters. Importantly, I developed a NSF DEB preliminary proposal (as a PI) "How do interacting global change drivers affect plant invasions?"; although this pre-proposal was not selected for the next round (~80% rejection rate), I received an encouraging and constructive feedback that should improve the next submission. My summer travel to Slovakia continued to enhance my research on woody invasions of grasslands (a manuscript in advanced preparation, to be submitted to *Ecography* this summer).

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 main plans include: (1) submit additional major research proposals on forest ecotones, climate-vegetation relationships, and global change, (2) revise and resubmit NSF DEB pre-proposal on global change and plant invasions in January 2015, (3) mentor a post-doctoral associate in my group as he offers a graduate seminar on Deer Impacts on Forests in the Fall, (4) offer another graduate seminar on Global Change Ecology or co-teach a graduate seminar on foundational papers in Ecology with M. Fierke in the Spring, (5) increase the applications of student-centered and active learning in my regular classes, (6) complete and submit the two manuscripts on tree invasions and the role of biodiversity in ecosystem stability, both in advanced stages of preparation, (7) help my recent and current graduate

students to finalize their manuscripts for submission and to navigate the revision process, (8) graduate my fifth M.S. student and recruit 1-2 new graduate students, (9) continue my involvement as a PI on Deer Impacts on Forests studies (including developing an outreach component with the Cornell Cooperative extension, and a first manuscript), (10) continue my involvement as a Co-PI on the study of invasive plants in New York power lines (including a first manuscript), (11) conclude the NSRC study of climate-vegetation relationships and climate change effects on northeastern forests, (12) continue committee and public service and guest lectures as appropriate.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2014

a. Course(s) to be offered– None.

b. Proposed research activity

- Coordinate field work for the vegetation-climate NSRC study in northeastern US, greenhouse/field work for the ERPI study of the cleaning techniques impacts on plant invasions in New York power-line corridors, and data analyses and reporting for the research in Deer Impacts on Forests.
- Complete and submit two manuscripts on tree invasions and the role of biodiversity in ecosystem stability (both in advanced stages of preparation).
- Provide revisions for the final report for the vegetation components of the AT MEGA-transect study.
- Feedback for the submission and revisions of *Dioon sonorensis* manuscripts.
- Prepare at least two proposals for funding for NSF (GSS or Career), USDA, and/or NYSERDA to expand my current work on elevational or latitudinal vegetation-climate-deposition gradients.
- Contribute to ESA Annual Meeting presentation (presenter Jay Wason).
- Travel to Technical University in Zvolen, Slovakia, to finalize a manuscript and discuss future collaboration.
- Prepare my P & T dossier

c. University, professional society, and public service

Committee service as appropriate.

2. Fall Semester 2014

a. Course(s) to be offered

- Teach EFB 435/635 *Flowering Plants: Diversity, Evolution, & Systematics*, with an increased application of student-centered and active learning approaches.
- Flowering plants sections in *Diversity of Life I* (EFB 210)
- Mentor, Dr. Lesser, a post-doctoral associate, as he offers a graduate seminar on *Deer Impacts on Forests*

b. Proposed research activity

- Revise and resubmit NSF DEB pre-proposal on global change and plant invasions in January 2015
- Conclude the analyses and submit at least one paper from the NSRC vegetation-climate studies
- Finalize and submit manuscript(s) from the Appalachian Trail Mega-Transect Study.
- Supervise and manage data analyses and manuscript preparation in the ERPI study of the cleaning techniques impacts on plant invasions in New York power-line corridors as well as in the Deer Impacts Study
- Prepare proposals for funding to continue and expand the current work on elevational or latitudinal vegetation-climate-deposition gradients, potentially integrating deer browse.

c. University, Professional society, and public service

- Participation with a Flowering Plants Class in the ESF Inaugural bioblitz at Onondaga Lake, Sept. 12 and 13.
- Continue current service in College-wide commitments—GPES, CSTEP, CUE, and Beech Working Group, as well as departmental commitments such as chairing the Burgess Scholarship in Ecology and membership in GPAC. Other service as appropriate.
- Look for possibilities of greater involvement in ESA, BSA, SAF, and/or journal editorial boards.
- Look for an opportunity to (co-)organize a workshop or discussion group at Shirley Colloquium at ESF focused on implementing of Team Based Learning

3. Spring Semester 2015

a. Course(s) to be offered

- Teach EFB 445/645 *Plant Ecology & Global Change*, with an increased application of student-centered and active learning approaches.
- Teach graduate seminar on *Global Change Ecology*, or co-teach a graduate seminar on *Foundational Papers in Ecology* with M. Fierke; both as EFB 797.
- Provide a guest lecture in *Diversity of Plants*, and potentially other guest lectures as appropriate.

b. Proposed research activity

- Revisions and a second manuscript from the NSRC vegetation-climate studies
- Revisions of manuscript(s) from the Appalachian Trail Mega-Transect Study.
- Supervise and manage data analyses and manuscript preparation in the ERPI study of the cleaning techniques impacts on plant invasions in New York power-line corridors as well as in the Deer Impacts Study
- Prepare proposals for funding to continue and expand the current work on elevational or latitudinal vegetation-climate-deposition gradients, potentially integrating deer browse.

c. University, professional society, and public service

- Continue current service in College-wide commitments—GPES, CSTEP, CUE, and Beech Working Group, as well as departmental commitments such as chairing the Burgess Scholarship in Ecology and membership in GPAC. Other service as appropriate.
- Look for possibilities of greater involvement in ESA, BSA, SAF, and/or journal editorial boards.