

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

NAME: Donald J. Leopold

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 327	Adirondack Flora	3.0	6	0
FALL:	EFB 336	Dendrology I	3.0	165	6
	EFB 495	Undergrad Exp./College Teach.	3.0	8	

SPRING:

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 420	Internship	3.0	1
EFB 498	Research Problems	1 - 3	1
EFB 899	Master's Thesis Research	1 - 9.	7
EFB 999	Doctoral Thesis Research	1 - 9	5

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 210	Diversity of Life I	3 (+ two labs)
ESF 503	Seminar on University Outreach and Public Serv.	1
ESF 797	Grad Seminar on Information Resources	1
FOR 481	Introduction to Arboriculture	1
LSA 433/633	Planting Design & Practice	1

II. STUDENT ADVISING

- A. Number of undergraduates for whom you are the student's official advisor 9 and unofficial advisor _____
- 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

- Brumbelow, Thomas R. 2014. Population and microclimate studies of the American hart's-tongue fern (*Asplenium scolopendrium* var. *americanum* (Fern.) Kartesz & Ghandi) in central New York. M.S. Thesis, 82 p.
- Jivoff, BettyJo. 2014. Environmental and ecological limits on native stress-tolerant plant species on calcareous restoration. M.S. Thesis, 119 p.
- Delaney, Frances J. 2014. Short-term response of alvar vegetation following treatment of exotic woody plant species: A case study at Lucky Star Ranch, Chaumont, NY. M.S. Thesis, 79 p.
- Raney, Patrick A. 2014. Identifying potential refugia from climate change in wetlands. Ph.D. Dissertation, 157 p.
- Jones, Jaime B. 2014. Vernal pools of the Northeastern United States: Plant assemblages and environmental conditions of constructed and natural ephemeral pools in New York State. M.S. Thesis, 77 p.

1. Catherine Landis, Ph.D., January 2009
2. James Johnson, M.S., August 2010
3. Scott Sveiven, M.S., August 2010
4. Matthew Regan, M.S., August 2011
5. Laura Brown, M.P.S., August 2011
6. Samantha Wason, M.P.S., August 2012
7. Jessica Saville, Ph.D., August 2012
8. Justine Weber, Ph.D., August 2012

CO-MAJOR PROFESSOR

- Quant, Juliana. 2014. Forest communities along soil, acid deposition, and climate gradients of the Appalachian Trail. M.S. Thesis, 117 p. (with Martin Dovciak)
1. Alison Halpern, Ph.D. (with John Farrell)
 2. Kristen Haynes, Ph.D. (with Mark Lomolino)

MEMBER, STEERING COMMITTEE (other than those listed above)

1. Keith Bowman (EFB, Ph.D.)
2. Juan Carlos Alvarez Yepiz (EFB, Ph.D.)
3. Kathleen Buckler (SUNY-Brockport, M.S.)
4. Eli Polzer (SUNY-Brockport, M.S.)
5. Stephen Langdon (EFB, M.S.)
6. Jessica Bouchard (EFB, M.S.)
7. Jay Wason (EFB, Ph.D.)
8. Lisa Gorney (LA, M.L.A.)
9. Cheryl Whritenour (EFB, Ph.D.)

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

1. Norman Bergey (FCH, Ph.D., chair of candidacy exam)
2. Franklin Diggs (FNRM, M.S., chair of defense)

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)

- Anchor QEA, LLC, Grass River Habitat Assessment and Reconstruction – Vegetation Issues; \$9,956; February to December 2014; D.J. Leopold.
- Environmental Protection Agency, Improving vegetation indicators of wetland condition; \$172,070; Oct. 2013 to September 2015; D.J. Evans and D.J. Leopold.
- NYS-DEC, New York Natural Heritage Program; \$3,273,393; July 2012 to June 2017; D.J. Leopold.
- Environmental Protection Agency; Development of wetland assessment protocols; \$499,847; Oct. 2012 to March 2015, D.J. Leopold, D.J. Evans, and A. Feldmann.
- NYS Consolidated Funding, SUNY-ESF Gateway Building green roof; \$413,000; January 2011 to December 2013; T. Toland, M. Kelleher, D. Daley, and D.J. Leopold.
- Honeywell, Inc., Restoration of inland salt marsh, marl fen, and select woody species: Short-term goals of the native species component of the SWRS demonstration plan; \$908,754; January 2008 to August 2014; D.J. Leopold.
- Honeywell, Inc., Review of Honeywell Onondaga Lake shoreline restoration projects, \$23,580; July 2010 to June 2013, D.J. Leopold.
- National Science Foundation, ARRA Renovation to wet labs and cyber infrastructure to enhance integrated research and teaching in aquatic sciences; \$1,470,000; October 2010 to September 2013; N. Ringler, K. Schulz, J. Farrell, C. Whipps, and D. Leopold.
- National Science Foundation, Environmental scholars: A scholarship program in Environmental Chemistry, Biology, and Engineering; \$600,000; March 2009 to February 2014; K. Donaghy, D.J. Leopold, J.P. Hassett, J.M. Hassett, and J.E. Turbeville.
- NYS-DEC, Invasive plants program coordinator; \$198,145; January 2010 to June 2014; D.J. Leopold.
- University of New Hampshire, Genetic diversity, morphometrics and habitat analysis of a rare wood fern in the northern forests: Implications for management and long-term survival; \$82,876; July 2011 to September 2013; D.D. Fernando, D.J. Leopold, and S. Bailey.
- USACE, Development of database and algorithms to support the National Wetland Plant List; \$94,419; September 2011 to December 2013; D.J. Leopold
- USFWS (GLRI), Production of genetically diverse American hart's-tongue fern for introduction or reintroduction in the Great Lakes Region, \$99,682; July 2011 to September 2014; D.D. Fernando and D.J. Leopold.
- USFWS (GLRI), Control of Japanese knotweed (*Fallopia japonica* var. *japonica*) on Leedy's roseroot (*Rhodiola integrifolia* subsp. *leedyi*), a federally-threatened plant; \$69,902; September 2011 to August 2015; D.J. Leopold
- USFWS (GLRI), Restoring critical habitat, mitigating multiple threats, and evaluating population statuses for bog turtle, eastern massasauga rattlesnake, and Houghton's goldenrod co-occurring in a single..., August 2012 to May 2015, D.J. Leopold and J.P. Gibbs.
- USDA Forest Service-NSRC, Importance of calcium-rich substrates for supporting refugia of biodiversity and productivity in an increasingly acidified landscape; \$41,543; July 2008 to June 2013; C. Beier, M. Mitchell, J. Gibbs, D. Leopold, and M. Dovciak.
- Ducks Unlimited Inc., Coastal fisheries habitat restoration in the St. Lawrence River; \$274,722; July 1, 2010 to June 30, 2014; J.M. Farrell, D.J. Leopold, J.P. Gibbs, K.L. Schulz, and M.J. Mitchell.

Arizona Game and Fish Department; Novel survey methods to increase detectability of rare frogs in the field; \$46,948; May 2010 to August 2013; D.J. Leopold and M. Schlaepfer.

USDA CSREES (SUNY ESF McIntire-Stennis program), Restoring small ephemeral wetlands in forested landscapes of New York State; \$89,850; August 2009 to December 2013; J.P. Gibbs, J.C. Stella, D.J. Leopold, and K.S. Schulz.

Norcross Wildlife Foundation, Inc., To identify priority wildlife and plant conservation areas that might be less vulnerable to the effects of climate change; \$1,200; January to December 2013; P.A. Raney and D.J. Leopold.

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

Distler, M.T. and D.J. Leopold. Influence of landscape setting on peatland development in New York State: Can paleoecological methods inform conservation choices? *Journal of Biogeography* (submitted).

Landis, C. and D.J. Leopold. Natural plant establishment along an urban stream, Onondaga Creek, New York. *Northeastern Naturalist* (in press).

Riddle, J., N. Pederson, J.C. Stella, and D.J. Leopold. 2014. Shifting climate sensitivity and contrasting growth trends in *Juniperus* species growing together at opposite range margins. *Tree-Ring Research* (in press).

Eallonardo Jr., A.S. and D.J. Leopold. 2014. Inland salt marshes of the northeastern United States: stress, disturbance and compositional stability. *Wetlands* 34:155-166.

Raney, P.R., J.D. Fridley and D.J. Leopold. 2014. Characterizing microclimate and plant community variation in wetlands. *Wetlands* 34:43-53.

B. Non-refereed Publications

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

Restoring the plant community of wetlands of the upper St. Lawrence River, SER 2013 World Conference on Ecological Restoration, Madison, WI, October 2013 (with Matt Regan and John Farrell).

Use of native plants on an intensive green roof: Initial results, 10th International Phytotechnologies Conference, Syracuse, October 2013 (with Tim Toland and Doug Daley), about 50 people in attendance.

Application of highly unique natural plant communities to the restoration of an industrial waste site, 10th International Phytotechnologies Conference, Syracuse, October 2013 (with Molly Farrell and Tony Eallonardo), about 50 people in attendance.

Evapotranspiration from a unique wetland restoration site, 10th International Phytotechnologies Conference, Syracuse, October 2013 (with Tony Eallonardo), about 50 people in attendance.

Feasibility of native species and natural communities on green roofs, American Society of Landscape Architects annual meeting, Boston, MA, November 2013 (with Darren Damone and Timothy Toland), over 200 people in attendance.

High performance building design and biomimicry in the built environment, New York State Green Building Conference, Syracuse, NY, March 2014 (with James Blount and Timothy Toland), over 100 people in attendance.

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

- Tree identification, ecology, and natural history, Cornell Cooperative Extension of Onondaga County, Syracuse, June 2013, about 30 people in attendance.
- Incorporating native plant species into CNY gardens, Watson's Greenhouses, Lafayette, June 2013, about 25 people in attendance
- Father's Day nature walk, Clark Reservation State Park, June 2013, about 40 people in attendance
- Pawpaws, shooting stars, and prickly pears. Excellent and underutilized native plants for the garden, Mt. Cuba Center, Hockessin, DE, July 2013, about 50 people in attendance.
- Native tree and shrub selection considering plant, soil and site characteristics, Forest Riparian Buffer Workshop, USDA-NRCS, Big Flats Plant Materials Center, September 2013, over 200 people in attendance.
- Oakwood in autumn, HOCPA, Oakwood Cemetery, Syracuse, September 2013.
- Segment on fall color for WSYR Bridge Street, October 2013.
- Trees of Oakwood Cemetery, Sierra Club, Oakwood Cemetery, Syracuse, October 2013, about 25 people in attendance.
- Native plants for difficult garden and landscape settings, Adirondack Chapter of the Rock Garden Society, Ithaca, NY, November 2013, about 70 people in attendance.
- Rare and unique native plants of New York State, Syracuse Botanical Club, Syracuse, December 2013, about 25 people in attendance.
- Natural plant communities as templates for restoring degraded landscapes and creating sustainable green systems, Philadelphia Chapter of the Rock Garden Society, Plymouth, PA, February 2014, about 70 people in attendance.
- Alvar plant communities of New York State, Philadelphia Chapter of the Rock Garden Society, Plymouth, PA, February 2014, about 70 people in attendance.
- Natural communities as templates for restoring degraded landscapes and creating sustainable green systems, Dept. of Forestry and Natural Resources, Purdue University, West Lafayette, IN, March 2014, about 25 people in attendance.
- Natural plant communities: Templates for creating/restoring sustainable landscapes (+ book signing), Garden Club of York, York PA, March 2014, over 200 people in attendance.
- Native plants for sustainable landscapes, Longwood Gardens, Kennett Square, PA, March 2014, two lectures with total over 300 people.
- Tree walk in Oakwood Cemetery for International Day of Forests, Atlantic States Legal Foundation, March 2014.
- Field trip for the NY Flora Association Annual Meeting, Clark Reservation State Park, May 2014, about 50 people in attendance
- Nature walk in Oakwood Cemetery for HOCPA, Syracuse, May 2014.

E. Miscellaneous Products of Scholarship

Worked with editor of Scientific American article on the ecology and past importance of the American chestnut to complement article contributed by William Powell in March 2014 issue. Work included writing a summary article and taking editor to the field in September 2013. Article at: <http://www.scientificamerican.com/article/chestnut-forest-a-new-generation-of-american-chestnut-trees-may-redefine-americas-forests/>

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.

Gateway green roof tour, American Wildlife Conservation Foundation, Syracuse, June 2013.

Plant communities and habitat restoration at Onondaga Lake, Onondaga Lake NRD board meeting, Liverpool, September 2013

Co-chair, paper session at 10th International Phytotechnologies Conference, Syracuse, October 2013.

Co-leader of NYS-DEC Tour of Honeywell Restoration Sites Associated with the Onondaga Lake Remedy, October 2013

Member, NYS Biodiversity Research Institute Executive Committee

Member, Board of Trustees, The Wetland Trust, Inc.

National Technical Committee for Wetland Vegetation, northeastern U.S. representative from academia to this US Army Corp of Engineers advisory committee, January 2007 to present.

Upper Susquehanna Coalition, consulting on various wetland issues

Frequent contributor, upon request, to the Syracuse Post-Standard

Frequently answer questions from city of Syracuse employees regarding city trees, park plantings, and green infrastructure projects

Numerous local and national TV and radio interviews including interviews on fall color, Gateway Building green roof, drought, invasive species, allergy season, and native plant species.

VI. PROFESSIONAL DEVELOPMENT

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

Received Distinguished Agriculture Alumni Award, Purdue University, March 2014

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

2. Professional Society Membership

Society of Wetland Scientists

Ecological Society of America

Society of Conservation Biologists

New York Flora Association

3. Other Professional Activities

a. Editorial activity

Journal (s)

Responsibility

Northeastern Naturalist

Associate Editor

Other (books, symposia, etc.)

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
<i>Northeastern Naturalist</i>	4
<i>Wetlands</i>	1
<i>American Journal of Botany</i>	1
<i>Ecological Engineering</i>	1

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

Promotion and Tenure dossier for faculty member of the University of the West Indies, Mona
Promotion and Tenure dossier for faculty member of Colgate University

Long-term Response of a Forest Watershed Ecosystem, Oxford University Press (invited review used for back of book, Oxford U catalog, and other purposes)

c. Participation (workshops, symposia, etc.)

<u>Name of workshop, etc.</u>	<u>Date</u>	<u>Place</u>
USACE National Technical Committee meeting	May 12-15	Syracuse, NY

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

Chair, Department of Environmental and Forest Biology

General Summary of Regular Duties

Supervisor for about 35 faculty, one administrative assistant, one Keyboard Specialist 2, two Instructional Support Specialists and other staff

Related: promoting faculty and staff within and outside of the department and facilitating the many good ideas that regularly emanate from faculty and staff

Manage allocation of state, Research Foundation (research incentives), and College Foundation accounts

Manage allocation of 40 state graduate teaching assistantships

Convene regular department meetings

Represent department at biweekly Academic Council meetings

Work with Development Office for fundraising

Responsible for making sure that all regular and new undergraduate and graduate courses are offered as listed in the College Catalog or webpage; main contact with Registrar for any course changes.

Work with Physical Plant on all planned renovations and emergency repairs

Assist Provost with special projects as needed

Represent department at all college open houses and other department events

Prepare annual department report

SEFA Coordinator, Fall 2013

B. College-level

Presenter, Gateway green roof, SUNY-ESF Potluck and Sustainability Tours at Gateway, Green Campus Initiative, Sept. 2013.

Presenter, Graduate Colloquium August 2013, "A Vision of Excellence in Teaching and Scholarship"

Presenter (twice, on campus trees and shrubs) for annual Alumni, Family, and Friends BBQ, October 2013

Member, Core Team for Academic Research Building

Member (representing Academic Council as "academic dean"), SUNY ESF Presidential Search Committee

Roosevelt Field Ecologist, Roosevelt Wild Life Station, SUNY-ESF

Chair, AEC Director Search Committee

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 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, which I'll continue to award based on your contributions to the department and college this reporting period.

Five of the graduate students (including one Ph.D.) I had advised and one that I co advised all defended their theses or dissertations in April and graduated in May.

In June 2014 I finished my ninth year as chair of EFB.

In March I received a Distinguished Agriculture Alumni Award from Purdue University.

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)

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2012

- a. Course(s) to be offered
- b. Proposed research activity
- c. University, professional society, and public service

2. Fall Semester 2012

- a. Course(s) to be offered
- b. Proposed research activity

c. University, Professional society, and public service

3. Spring Semester 2013

a. Course(s) to be offered

b. Proposed research activity

c. University, professional society, and public service