

ANNUAL REPORT
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY College of Environmental Science and Forestry
(June 1, 2009 - May 31, 2010; i.e., Summer 2009, AY 2009-2010)

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	10	
FALL:	EFB 336	Dendrology I	3.0	125	6
	EFB 495	Undergrad Exp./College Teach.	3.0	5	

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.

EFB 414, Senior Synthesis in Conservation Biology (Spring 2010) was convened weekly by a recently finished M.S. graduate student, Sam Quinn. I arranged for the 30+ seniors to focus their semester efforts on developing a conservation and management plan for a 2000 acre, unique property northwest of Watertown, NY. This property has been managed for a variety of interesting wildlife species and is nearly half comprised of rare alvar plant communities. The property owners hosted the students for a weekend in late March, during which the students collected baseline data for their plans. In late April, the students presented drafts of their plans to one owner, and in early June we presented the final plans. The landowners seem very pleased and offered a paid summer internship to one of the students to begin to carry out some of the key recommendations. Additionally, they have asked us to return with the seniors in Conservation Biology next spring for a follow up.

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	2
EFB 499	Honors Thesis/Project	1.0	1
EFB 899	Master's Thesis Research	1 - 9.	5
EFB 999	Doctoral Thesis Research	1 - 9	8

3. Continuing Education and Extension (short courses, workshops, etc.)

Lecture on upstate New York wetlands for Naturally New York (March 2010)

4. Guest Lecture Activities

<u>Course No.</u>	<u>Title</u>	<u>No. of Lectures</u>
EFB 404	Natural History Museums and Modern Science	1
EFB 416	Intro/Environ. Interpretation	2
EFB 796	New Graduate Student Seminar	1
ESF 797	Graduate Seminar on Information Resources	1

II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student's official advisor: 12 .

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

1. Scanga, Sara E. 2009. Population ecology of the rare wetland plant *Trollius laxus* (Ranunculaceae), Ph.D. Dissertation, SUNY-ESF, xx p.
2. Matt Distler, Ph.D., August 2002
3. Kay Hajek, Ph.D., August 2003
4. Chuck Schirmer, M.S., August 2003
5. Brandon Murphy, M.S., January 2006
6. Tony Eallonardo, Ph.D., May 2006
7. Jess Riddle, M.S., August 2007
8. Joseph Gawronski-Salerno, Ph.D., August 2007
9. Patrick Raney, Ph.D., January 2008
10. Jaime Jones, M.S., August 2008
11. Molly Farrell, M.S., August 2008
12. Catherine Landis, Ph.D., January 2009

CO-MAJOR PROFESSOR

MEMBER, STEERING COMMITTEE (other than those listed above)

1. Jen Gillrich (EFB, M.S.)
2. Todd Ristau (EFB, Ph.D.)
3. Juan Carlos Alvarez Yepiz (EFB, Ph.D.)

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

1. Kacie L. Gehl (FNRM, M.S.; chair)
2. Ali Shahrukh Pracha (FNRM, M.S., examiner)

ADVISOR, UNDERGRAD HONORS PROGRAM

1. Kelly Brie Klingler

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) – new grants in bold

Honeywell, Restoration of inland salt marsh, marl fen, and select woody species: Short-term goals of the native species component of the SWRS demonstration plan; \$421,976; April 2008 to August 2010; D.J. Leopold.

National Science Foundation, Environmental science to promote sustainable urban, rural and indigenous communities; \$1,605,000; March 2007 to February 2010; D.J. Leopold, R. Beal, C.M. Spuches, and D.J. Raynal; nine ESF graduate students supported each year.

Biodiversity Research Institute, Inventory and analysis of vegetation in remnant inland salt marshes of New York; \$39,467; April 2007 to August 2009; D.J. Leopold.

Biodiversity Research Institute, Environmental influences on plant diversity in rich fens of central New York: A multiscale analysis; \$18,014; November 2006 to March 2009; D.J. Leopold.

NYS-DEC, Invasive plants program coordinator; \$160,000; January 2006 to December 2010; D.J. Leopold.

US EPA, Onondaga Creek Habitat Restoration Demonstration Initiative; \$347,900; August 2004 to July 2010; T.A. Endreny and D.J. Leopold.

US EPA, STAR Fellowship to Sara Scanga; \$38,519; January 2006 to December 2009.

US EPA, STAR Fellowship to Anthony Eallonardo; \$21,824; August 2007 to August 2009.

US EPA, GRO Fellowship to Matthew Distler; \$27,314; August 2006 to August 2009.

USDA CSREES (SUNY ESF McIntire-Stennis program), Restoring small ephemeral wetlands in forested landscapes of New York State; \$87,817; August 2009 to September 2012; J.P. Gibbs, J.C. Stella, D.J. Leopold, and K.S. Schulz.

NYS-DEC, Student internship program; \$24,297; March 2008 to February 2013; J.P. Gibbs and D.J. Leopold.

USDA CSREES Biotechnology Risk Assessment Grants (BRAG) program, Evaluating environmental impacts of transgenic American chestnut trees to chestnut trees produced by conventional breeding; \$380,000; September 2008 to August 2011; W.A. Powell, C.A. Maynard, T.R. Horton, D. Parry, and D.J. Leopold.

National Science Foundation, Environmental scholars: A scholarship program in Environmental Chemistry, Biology, and Engineering; \$600,000; March 2009 to February 2013; K. Donaghy, D.J. Leopold, J.P. Hassett, J.M. Hassett, and J.E. Turbeville.

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. Doviak.

National Geographic Society, Climate buffering in temperate zone fens: implications for climate change; \$5000; May 2010 to December 2011; D. Leopold and P. Raney.

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

National Science Foundation, Renovation of wet labs and cyber-infrastructure to enhance integrated research and teaching in aquatic sciences; \$1,757,801; January 2010 to December 2012; N. Ringler, K. Schulz, J. Farrell, D. Leopold, and B. Boothroyd.

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

Scanga, S.E., and D.J. Leopold. Population vigor of a rare, wetland, understory herb in relation to light and hydrology.

Journal of the Torrey Botanical Society (in press).

- Farrell, J.M., B.A. Murry, D.J. Leopold, A. Halpern, M. Rippke, K.S. Godwin, and S.D. Hafner. 2009. Water level regulation and coastal wetland vegetation in the upper St. Lawrence River: Inferences from historical aerial imagery, seed banks, and *Typha* dynamics. *Hydrobiologia* 647:127–144.
- Newhouse, A.E., J.P. Gibbs, L.B. Smart, and D.J. Leopold, A molecular genetic and fitness evaluation of commercial and locally collected *Lupinus perennis* L. (blue lupine) seeds for use in *Lycaeides melissa samuelis* Nabokov (Karner blue butterfly) restoration efforts. *Restoration Ecology* (in revision)
- Quaye, A.K., T.A. Volk, S. Hafner, D.J. Leopold, and C. Schirmer, Impacts of paper sludge, manure, and fertilizer application on soil properties and biomass production in a short rotation willow cropping system in central New York. *Biomass and Bioenergy* (submitted)
- Eallonardo Jr., A.S., D.J. Leopold, J.D. Fridley, and J.C. Stella. Linking plant traits to stress and resource gradients in inland salt and freshwater marsh communities. *Ecology* (submitted)

B. Non-refereed Publications

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

Raynal, D.J. and D.J. Leopold, Population ecology, dynamics and conservation of rare plants in New York State, International Symposium on Biology of Rare and Endemic Plant Species (BIORARE 2010), May 2010, Mugla, Turkey (invited)

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

What natural communities teach us to plant, Keynote, Indiana Native Plant and Wildflower Society 16th Annual Conference, November 2009, about 275 people in attendance.

Neglected native plants, Indiana Native Plant and Wildflower Society 16th Annual Conference, November 2009, about 275 people in attendance.

My favorite native trees, shrubs, ferns and wildflowers, Syracuse University 5th Annual Bookstore Break, about 25 people in attendance, March 2010, about 25 people in attendance.

Central New York's natural wonders: state protected species and ecologically significant areas, CNY Blooms, Keynote Speaker, Syracuse, NY; March 2010, about 175 people in attendance

Wetlands of upstate New York, Great Swamp Conservancy, Canastota, NY, April 2010, about 25 people in attendance

New York state native plants for the landscape, Buffalo/Erie County Botanical Gardens, Buffalo, NY; May 2010, about 100 people in attendance

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

1. Government Agencies (Federal, State, Local)

Assistance with updating of the National Wetlands Plant List

2. Industrial and Commercial Groups, etc.

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

Trees and Shrubs in Oakwood Cemetery, Central New York Communitree Stewards (Cornell Coop. Extension), July 2009, about 40 people in attendance.

Common and unique natural communities in upstate New York and characteristic plant species for the landscape, Men's Garden Club of Syracuse, Syracuse, NY; September 2009; about 50 people in attendance.

Neglected native species, Adirondack Chapter of the North American Rock Garden Society, Ithaca, NY; November 2009; about 60 people in attendance.

State-protected plant species, Ithaca Garden Club, Ithaca, NY; November 2009; about 110 people in attendance.

Natural Communities of Central New York, Syracuse Botanical Club, Syracuse, NY; December 2009, about 25 people in attendance.

Natural communities as templates to guide planting of native species, Central New York State Nursery and Landscape Association Annual Trade Show and Education Day, Skaneateles, NY; February 2010, about 50 people in attendance.

Using native plants in landscaping and restoration, internet presentation to NYS PRISM network throughout NYS, Syracuse, NY; February 2010, dozens participating.

New York state-protected plant species: Why they are listed and how to use them in the landscape, NYS DEC STNLA Annual Education Day, Owego, NY; March 2010, about 50 people in attendance.

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.

VI. PROFESSIONAL DEVELOPMENT

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

Received New York State Nursery and Landscape Association 2009 George L. Good Gold Medal of Horticulture Award (August 2009)

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

<u>Journal (s)</u>	<u>Responsibility</u>
<i>Northeastern Naturalist</i>	Associate Editor
<u>Other (books, symposia, etc.)</u>	

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
<i>Northeastern Naturalist</i>	1
<i>Landscape and Urban Planning</i>	2

Agency

No. of proposals

Other

Mississippi-Alabama Sea Grant Consortium 1
Promotion and Tenure package for candidate at Oregon State University

c. Participation (workshops, symposia, etc.)

Name of workshop, etc.

Date

Place

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

D. Foreign Travel (Where, When, Purpose)

In March 2010, Drs. Bongarten, Ringler, Gibbs, Teale, Stella, Diemont, and I visited INECOL in Xalapa, Mexico at their invitation to discuss research collaboration and graduate training. That trip has already led to a \$50K commitment from CONACYT in Mexico for a workshop to be held likely during the spring 2011 to bring researchers together to discuss the ecology and conservation of mountain cloud forests in Mexico.

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

Chair, Department of Environmental and Forest Biology
Supervisor, Illick Greenhouse Manager
SEFA Coordinator, Fall 2009

B. College-level

Presenter (twice, on campus trees and shrubs) for annual Alumni, Family, and Friends BBQ, October 2009
Empire Innovation Program Committee to recruit and hire three faculty in Global Environment, Health and Sustainability

Presenter on GSA panel on Graduate School, April 2010

Reviewer, McStennis proposal

Chair, Faculty Committee on Promotion and Tenure, October 2007 through present

Member, Advisory/Steering Committee for ESF Campus Master Plan Study (now Gateway Building), September 2007 through present.

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.

This past AY I taught about 125 students in Dendrology (EFB 336) and had one of my Ph.D. students, Sara Scanga, finish her doctoral program in December. She was immediately hired for the tenure-track Assistant Professor in Plant Ecology position at Utica College. In September, Dr. Neil Ringler and I were asked to assist the county in providing interns and other help to the Carpenter Brook Fish Hatchery because of serious county budget problems. EFB aquatic and fisheries science faculty have assisted in recruiting student interns that have helped to keep this facility open.

During the past year I gave 14 invited presentations, typically on native plant conservation topics, including the keynote and book signing in November at the Indiana Native Plant and Wildflower Society 16th Annual Conference to about 275 people. In March 2010, Drs. Bongarten, Ringler, Gibbs, Teale, Stella, Diemont, and I visited INECOL in Xalapa, Mexico at their invitation to discuss research collaboration and graduate training. That trip has already led to a \$50K commitment from CONACYT in Mexico for a workshop to be held likely during the spring 2011 to bring researchers together to discuss the ecology and conservation of mountain cloud forests in Mexico.

This past year has required substantial attention to planning for the Gateway Building, especially the plans for the landscaping around the building and the green roof. I have had to initiate a research project, working with Tim Toland (Dept. of LA) and Terry Ettinger (campus greenhouse manager) to demonstrate that the plant selection for the green roof will be successful. Last August I received New York State Nursery and Landscape Association 2009 George L. Good Gold Medal of Horticulture Award for contributions to the horticulture and green industries of NYS.

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 2008

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

2. Fall Semester 2008

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

3. Spring Semester 2009

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