

ANNUAL REPORT: June 1, 2011 – May 31, 2012
(i.e., Summer 2011, AY 2011-2012)
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:					
FALL:	EFB 336	Dendrology I	3.0	167	6
	EFB 495	Undergrad Exp./College Teach.	3.0	9	

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. 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 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)
EFB 414	Senior Synthesis in Conservation Biology	1
EFB 542	Freshwater Wetland Ecosystems	2
EFB 797	Graduate Seminar on Grant Writing	1
ESF 797	Grad Seminar on Information Resources	1
LSA 433/633	Planting Design & Practice	1
LSA 470/670	Food Systems and Landscape Systems	critique panel

II. STUDENT ADVISING

- A. Number of undergraduates for whom you are the student's official advisor 6 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

1. Farrell, Molly. 2011. Plant community Development and invisibility at an industrial waste restoration site. SUNY-ESF M.S. Thesis, Syracuse, NY, 134 p.
2. Kay Hajek, Ph.D., August 2003
3. Matthew Buff, Ph.D., August 2002
4. Brandon Murphy, M.S., January 2006
5. Patrick Raney, Ph.D., January 2008
6. Jaime Jones, M.S., August 2008
7. Catherine Landis, Ph.D., January 2009
8. Frances More, M.S., August 2010
9. Thomas Brumbelow, M.S., August 2010
10. James Johnson, M.S., August 2010
11. Scott Sveiven, M.S., August 2010
12. BettyJo Jivoff, M.S., August 2011
13. Matthew Regan, M.S., August 2011
14. David Geliebter, Ph.D., August 2011
15. Laura Brown, M.P.S., August 2011

CO-MAJOR PROFESSOR

1. Alison Halpern, Ph.D. (with John Farrell)

MEMBER, STEERING COMMITTEE (other than those listed above)

1. Jen Gillrich (EFB, M.S.)
2. Juan Carlos Alvarez Yepiz (EFB, Ph.D.)
3. Kathleen Buckler (SUNY-Brockport, M.S.)
4. Stephen Langdon (EFB, M.S.)
5. Andrew Myers (EFB, M.S.)
6. Brent Johnson (EFB, M.S.)
7. Jay Wason (EFB, Ph.D.)
8. Jeremy Discenza (EFB, M.S.)
9. Keith Cardinali (EFB, M.P.S.)
10. Lisa Gorney (LA, M.L.A.)

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

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)

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; \$648,274; January 2008 to August 2012; D.J. Leopold.

Honeywell, Inc., Review of Honeywell Onondaga Lake shoreline restoration projects, \$23,580; July 2010 to June 2011, D.J. Leopold.

Honeywell, Inc., Descriptions of natural communities and plant sources for restoration of Onondaga Lake shore and adjacent areas; \$25,895; June to December 2011; D.J. Leopold

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

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.

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.

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

NYS-DEC, Invasive plants program coordinator; \$100,733; January 2010 to June 2012; 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 2012; D.J. Leopold

USFWS, 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, 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

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.

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 2012; W.A. Powell, C.A. Maynard, T.R. Horton, D. Parry, and D.J. Leopold.

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.

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

Ducks Unlimited Inc., Coastal fisheries habitat restoration in the St. Lawrence River; \$197,722; July 1, 2010 to June 30, 2012; J.M. Farrell, D.J. Leopold, J.P. Gibbs, K.L. Schulz, and M.J. Mitchell.

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

- Scanga, S.E. and D.J. Leopold. 2012. Managing wetland plant populations: Lessons learned in Europe may apply to North American fens. *Biological Conservation* 148:69-78.
- Beier, C.M., Woods, A.M., Hotopp, K.P., Gibbs, J.P., Mitchell, M.J., Dovčiak, M., Leopold, D.J., Lawrence, G.B., and Page B.D. 2012. Changes in faunal and vegetation communities along a soil calcium gradient in northern hardwood forests. *Canadian Journal of Forest Research* 42:1141-1152.
- Gibbs, J.P., L.B. Smart, A.E. Newhouse, and D.J. Leopold. 2012. A molecular and fitness evaluation of commercially available versus locally collected blue lupine *Lupinus perennis* L. seeds for use in ecosystem restoration efforts. *Restoration Ecology* (in press).
- Eallonardo Jr., A.S., D.J. Leopold, J.D. Fridley, and J.C. Stella. 2012. Salinity tolerance and the decoupling of resource axis plant traits, *Journal of Vegetation Science* (in press).
- Hunter, E.A., P.A. Raney, J.P. Gibbs, and D.J. Leopold. Improving wetland mitigation site identification through community distribution modeling and a patch-based ranking scheme. *Wetlands* (in press).
- Scanga, S.E. and D.J. Leopold. Plant demography and wetland canopy gap dynamics: nonlinear and indirect responses. *Journal of Ecology* (submitted).

B. Non-refereed Publications

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

- Brumbelow, T. and D.J. Leopold, Current status of the federally-listed American hart's-tongue fern in central New York, Northeast Natural History Conference, Syracuse, NY, April 2012
- Scanga, S.E. and D.J. Leopold, European studies may apply to North American fen management, Northeast Natural History Conference, Syracuse, NY, April 2012
- Scanga, S.E. and D.J. Leopold, Plant demography in wetland canopy gaps: nonlinear and indirect responses, Northeast Natural History Conference, Syracuse, NY, April 2012
- Leopold, D.J., Rare and unique plant communities as templates for restoring degraded landscapes and creating sustainable green systems, invited presentation at 2nd International Symposium on the Biology of Rare and Endemic Plants, in Mugla, Turkey, April 2012.

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

- Native plants for the landscape, Watson's Greenhouses, Lafayette, June 2011, about 25 people in attendance
- Woodland and inland salt marsh ecology at Montezuma Wildlife Refuge, Finger Lakes Native Plant Society, August 2011 (with T. Eallonardo), about 12 people in attendance
- Natural communities as templates for gardens, urban plantings, and restoration projects, Habitat Gardening in CNY, Liverpool, NY, September 2011, about 75 people in attendance.
- Natural communities as templates for restoring sustainable landscapes, keynote talk at The American Chestnut Foundation annual meeting, Java, NY, October 2011, about 150 people in attendance.
- Tree walk on the Mt. Hope Reservoir Trail, Oneida, NY, October 2011, about 25 people in attendance
- Natural communities as templates for native plant selection for gardens, urban plantings, and restoration projects; Syracuse Botanical Club, E. Syracuse, NY; December 2011, about 20 people in attendance.
- Neat native plants for the Garden, Fayetteville Garden Club, Fayetteville, January 2012, about 50 people in attendance

Native plant species for the landscape, GardenScape Professionals and Cornell Cooperative Extension Monroe County Annual Educational Conference and Trade Show, Rochester, February 2012, about 150 people in attendance.

Natural communities as templates for restoring sustainable landscapes, Utica College Seminar Series, Utica College, February 2012, about 50 people in attendance

Woody plant species for the winter garden, Annual CNYSNLA Trade Show and Education Day, Skaneateles, NY, February 2012, 100+ people in attendance

Native plant species and their use in sustainable landscapes, Annual STNLA Education Day, Owego, NY, March 2012, about 100 people in attendance.

Success in the Shade, 17th Men's Garden Club of Syracuse Spring Gardening Seminar, East Syracuse, April 2012, about 90 people in attendance.

Native plant species and natural communities as templates for restoring degraded landscapes and creating sustainable, green systems, Keynote (invited) to New York Flora Association Annual Meeting held in conjunction with the Northeast Natural History Conference, Syracuse, NY, April 2012, about 60 people in attendance.

Natural communities as templates for native plant selection for gardens, urban plantings, and restoration projects, Syracuse Chapter of the Society of Conservation Biology, Syracuse, April 2012, about 60 people in attendance

Urban tree identification and care, Syracuse Communi-tree Steward Program, Syracuse, May 2012, about 15 people in attendance

E. Miscellaneous Products of Scholarship

Produced (summer 2011), with Christopher Baycura (ITS) 100 tree videos in HD, each about 2 to 3 minutes in length, and available for downloading and viewing at www.esf.edu/trees/youtube or www.esf.edu/trees/itunesu. Tree species include most of the trees included in the outdoor labs for EFB 336 (Dendrology) plus dozens of introduced but commonly planted tree species in CNY.

Produced (fall 2011), with Christopher Baycura (ITS) a five-minute video on fall colors, available on ESF web sites.

With Paul Otteson's assistance, added Guide to Fall Colors in Upstate New York on ESF web site (<http://www.esf.edu/ecenter/CNY%20Fall%20Colors.pdf>)

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

1. Government Agencies (Federal, State, Local):

EPA STAR 2012 Graduate Fellowship Panel – F3 Terrestrial Systems Soil-Plant Ecology, Washington, DC, March 2012, 18 proposals reviewed, about 80 total in panel

2. Industrial and Commercial Groups, etc.

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

Member, NYS Biodiversity Research Institute Executive Committee

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

Assisted National September 11 Memorial & Museum regarding tree plantings, summer 2011

Member, 2012 Program Committee, Northeast Natural History Conference, Syracuse, NY (held in April 2012)

Review of historical photos for Chapman Historical Museum (Glens Falls, NY), Winter 2012

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.

Fire Island National Seashore Science Team, January to present
 Upper Susquehanna Coalition, consulting on various wetland issues
 Frequent contributor, upon request, to the Syracuse Post-Standard, including feature stories this past year on warm spring
 Frequently answer questions from city of Syracuse employees regarding city trees, park plantings, and green infrastructure projects
 Numerous local TV and radio interviews including interviews on fall color, abnormally warm weather, allergy season, native plant species
 Interviewed by Forbes.com which ran an article on early and unusually warm spring, based on interview and follow up questions; article picked up by US News & World Report, ouramazingplanet.com, Yahoo news, and dozens of other websites and news organizations

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)

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>Rhodora</i>	1
<i>Northeastern Naturalist</i>	3
<i>Natural Areas Journal</i>	1
<u>Agency</u>	<u>No. of proposals</u>
<u>Other</u>	

Served on Kansas State University, Department of Landscape Architecture Jarvis Faculty of Distinction jury, summer 2011

Reviewed P&T dossier for candidate at Purdue University, Dept. of Forestry and Natural Resources

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)

I was one of three invited speakers to make a presentation at the 2nd International Symposium on the Biology of Rare and Endemic Plants, in Mugla, Turkey, April 2012.

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 2011

Organized and led Bioblitz at Lucky Star Ranch (<http://www.esf.edu/efb/bioblitz/>), June 2011 (100 faculty, staff, and students participated)

Participant at CLBS Reunion, August 2011

B. College-level

Represented ESF at Scarsdale Country Club for Green Tie Gala Event, July 2011

Participant, ESF Learning Community Retreat, Marcellus, September 2011

Presenter (twice, on campus trees and shrubs) for annual Alumni, Family, and Friends BBQ, September 2011

Reviewer, McStennis proposal

Member, Organizing Committee for Hardy L. Shirley Faculty Mentoring Colloquium (held January 2012)

Presentation (with Tim Toland), Native Plants for Sustainable Landscapes, ESF Sustainability Training Series (1st talk of series), February 2012, Moon Conference Room filled to capacity.

Member, Core Team for Academic Research Building

Member, Core Team for Illick Hall rehabilitation project

Member, SUNY-ESF Facilities Master Plan Committee
Member, Advisory/Steering Committee for ESF Campus Master Plan Study (now Gateway Building)
Reviewer of dossier for P&T candidate in Chemistry Department
With Tim Toland (lead) and others, was awarded \$413,000 grant from the NYS Environmental Facilities Corporation to help pay for Gateway Building green roof project
Participant in press event for Gateway Building green roof project and award of \$413,000 grant from the NYS Environmental Facilities Corporation, included interviews for print and radio (local WRVO), May 2012

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.

To enhance instruction in EFB 336 (Dendrology) and beyond Christopher Baycura (ITS) and I produced 100 tree videos in HD, each about 2 to 3 minutes in length, and available for downloading and viewing at www.esf.edu/trees/youtube or www.esf.edu/trees/itunesu. Besides teaching Dendrology to over 160 students during the fall semester, I enjoyed giving three guest lectures (and two labs) on angiosperms and gymnosperms in the department's first offering of Diversity of Life I (EFB 210). Among other guest lectures both semesters I gave two lectures in Freshwater Wetland Ecosystems (EFB 542), a course that I initiated at ESF in 1986 and last spring was taught (at no cost to ESF) by Dr. Tony Eallonardo (Research Scientist, O'Brien & Gere).

I organized a bioblitz at Lucky Star Ranch held last June, which had about 100 students, faculty, and staff involved with cataloguing the biota in a large alvar landscape over a 24-hour period. One of the highlights of the past year was hosting the gathering of alumni and friends for ESF's Green Tie Dinner at the Scarsdale Country Club in July. A substantial amount of time was spent on a variety of Illick building issues (including lack of perimeter heat for months during the winter and plans for a new roof and greenhouses), the new biology building ("academic research building), and Gateway Building displays and greenroof. Much additional time this past year was spent on new contracts, particularly negotiations for ESF to host the NY Natural Heritage Program, which should officially take place soon in the '12-13 academic year. A significant amount of time was also spent on development activities, some of which have yielded some promising results. This next academic year should indicate whether we're on the right track relative to development efforts.

Besides the numerous invited presentations and interviews to discuss native plant topics I was one of three invited speakers to make a presentation at the 2nd International Symposium on the Biology of Rare and Endemic Plants, in Mugla, Turkey, April 2012. The symposium included three days of talks and two days to explore southwestern Turkey near the coast. I have never seen so many new and globally rare plant species in my life so the trip was quite memorable.

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