

**ANNUAL REPORT**  
**DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY**  
**SUNY College of Environmental Science and Forestry**  
**(June 1, 2010 - May 31, 2011; i.e., Summer 2010, AY 2010-2011)**

**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	160	6
	EFB 495	Undergrad Exp./College Teach.	3.0	8	

**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 416	Intro/Environ. Interpretation	2
EFB 414	Senior Synthesis in Conservation Biology	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: 10 .

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. Riddle, J. 2011. Growth-climate relationships of *Juniperus communis* and *Juniperus virginiana* at contrasting range margins. SUNY-ESF M.S. Thesis, Syracuse, NY, 134 p.
2. Eallonardo, A.S., Jr. 2010. Inland salt marsh ecology and the restoration of rare plant communities on a Solvay waste site: A functional approach. SUNY-ESF Ph.D. Dissertation, Syracuse, NY, 231 p.
3. Distler, M.T. 2010. The influences of landscape position and *Typha* (cattail) on dominance, diversity, and long-term dynamics of vegetation in central New York lakeside fens. SUNY-ESF Ph.D. Dissertation, Syracuse, NY, 298 p.
4. Kay Hajek, Ph.D., August 2003
5. Matt Buff, Ph.D., August 2002
6. Chuck Schirmer, M.S., August 2003
7. Brandon Murphy, M.S., January 2006
8. Patrick Raney, Ph.D., January 2008
9. Jaime Jones, M.S., August 2008
10. Molly Farrell, M.S., August 2008
11. Catherine Landis, Ph.D., January 2009
12. Frances More, M.S., August 2010
13. Thomas Brumbelow, M.S., August 2010
14. James Johnson, M.S., August 2010
15. Scott Sveiven, M.S., August 2010

#### 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. Todd Ristau (EFB, Ph.D.)
3. Juan Carlos Alvarez Yepiz (EFB, Ph.D.)
4. Kathleen Buckler (SUNY-Brockport, M.S.)
5. Stephen Langdon (EFB, M.S.)
6. Andrew Myers (EFB, M.S.)
7. Lee Davis (EFB, M.P.S.)
8. Zhongan Chen (Syracuse U., M.S.)

#### CHAIRMAN OR READER ON THESIS EXAMS, ETC.

1. Kacie L. Gehl (FNRM, M.S.; chair)
2. Mike Dimpfl (GPES, M.S., chair)

#### ADVISOR, UNDERGRAD HONORS PROGRAM

- 1.

### **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, 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 December 2011; D.J. Leopold.
- Honeywell, Inc., Review of Honeywell Onondaga Lake shoreline restoration projects, \$6,550; July 2010 to June 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 science to promote sustainable urban, rural and indigenous communities; \$1,605,000; March 2007 to February 2011; D.J. Leopold, R. Beal, C.M. Spuches, and D.J. Raynal.
- 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; \$54,703; January 2010 to June 2011; D.J. Leopold.
- The Nature Conservancy, Genetic diversity of American hart's-tongue fern: The population in Clark Reservation State Park, Onondaga County, NY; \$8,127; January 2010 to December 2010, D. Fernando and D. Leopold.
- The Wetland Foundation, Research travel grant to Jaime Jones, \$800, April 2010 to March 2011, 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 2011; 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.
- US EPA, Onondaga Creek Habitat Restoration Demonstration Initiative; \$347,900; August 2004 to July 2010; T.A. Endreny and D.J. Leopold.

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

many

**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. 2010. Population vigor of a rare, wetland, understory herb in relation to light and hydrology. *Journal of the Torrey Botanical Society* 297-311.
- Quaye, A.K., T.A. Volk, S. Hafner, D.J. Leopold, and C. Schirmer. 2011. Impacts of paper sludge and manure on soil and biomass production of willow. *Biomass and Bioenergy* 35:2796-2806.

- Gibbs, J.P., L.B. Smart, A.E. Newhouse, and D.J. Leopold. 2011. 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., DJ. Leopold, J.D. Fridley, and J.C. Stella. The salinity tolerance axis and other functional drivers of inland salt marsh assembly, *Journal of Vegetation Science* (submitted).
- 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. Soil calcium influences communities at multiple trophic levels in the northern hardwood forests of the Adirondack Mountains, NY. *Canadian Journal of Forest Research* (submitted).
- Yorks, T.E., A.S. Eallonardo, Jr., D.J. Leopold, D.J. Raynal, D.A. Burns, and P.S. Murdoch. Effects of timber harvesting intensity and white-tailed deer herbivory on vegetation and nitrogen accumulation in northern hardwoods: Catskill Mountains, New York (U.S.A.). *Forest Ecology and Management* (submitted)

B. Non-refereed Publications

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

- Eallonardo, A.S., Jr., D.J. Leopold, J. Fridley, and J. Stella. Linking plant traits to stress and resource gradients in inland salt and freshwater marsh communities. oral presentation, Ecological Society of America Annual Meeting, Pittsburgh, PA, August 2010
- Jones, J.B., D.J. Leopold, and J.C. Stella. The influence of environmental factors on vascular plant assemblages in created and natural vernal pools in southwestern New York (USA), poster presentation, Ecological Society of America Annual Meeting, Pittsburgh, PA, August 2010
- Landis, C.L., R.W. Kimmerer, and D.J. Leopold. Lost and found in Onondaga: Historical ecology of a polluted lake, oral presentation, Cornell University Natural Resources Graduate Student Association Annual Research Symposium, Cornell University, Ithaca, NY January 2011.

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

(all invited)

- From the Ground Up, Oakwood Cemetery, Syracuse, May 2010, about 40 people in attendance.
- Native plants for the landscape, Watson's Greenhouses, Lafayette, June 2010, about 25 people in attendance
- Ecology of Nelson Swamp, Cazenovia Preservation Society, June 2010, about 30 people in attendance.
- Natural communities as templates for native plant selection for gardens, urban plantings, and restoration projects; Irvine Nature Center, Owings Mills, MD, August 2010, about 150 people in attendance.
- Central New York wetlands, Syracuse Botanical Club, Syracuse, NY; December 2010, about 25 people in attendance.
- NYS native plant species for the landscape, NYS-DEC Education Day, Buffalo, February 2011, over 200 people in attendance
- Native plants of wetlands and their borders, 14<sup>th</sup> Annual Meeting of the Connecticut Association of Wetland Scientists, North Haven, CT, February 2011, about 200 people in attendance
- CNY natural communities as templates for garden, green, and restoration plantings; CNY Blooms, Syracuse, March 2011, about 25 people in attendance
- Native trees for urban, home, and degraded landscapes, Cazenovia Village Tree Commission, Cazenovia, March 2011, about 70 people in attendance
- Rare plants and unique natural areas of upstate NY, Syracuse Chapter of the Society of Conservation Biology, Syracuse, March 2011, about 75 people in attendance
- Natural communities as templates for garden, green, and restoration plantings, Cornell University Department of Landscape Architecture, Cornell University, Ithaca, April 2011, about 75 people in attendance
- New York State-protected plant species, Chittenango Garden Club, Chittenango, April 2011, about 75 people in attendance

Gardening with native plants, DeWitt Community Library, DeWitt, May 2011, about 25 people in attendance  
Native plants for the landscape, City View Garden Club, Onondaga Hill, May 2011, about 20 people in attendance

## V. PUBLIC SERVICE

### A. Funded Service (include consulting activities)

1. Government Agencies (Federal, State, Local)
2. Industrial and Commercial Groups, etc.

Nelson, Byrd, Woltz Landscape Architects for consulting at Monticello, Charlottesville, Virginia  
edr Companies for consulting at Sacred Grove, Palmyra, NY

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

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 wetlands grant from EPA to the USC  
Review of faculty member for reappointment, Department of Natural Resources, Cornell University, Ithaca  
Frequent contributor, upon request, to the Syracuse Post-Standard, including feature stories this past year on fall color, native plants, lush spring  
Member, round-table to answer questions about landscape plantings, CNY Blooms, Syracuse, March 2011, about 50 people in attendance.  
Book signing for Syracuse University Bookstore, Syracuse Downtown Arts and Crafts Festival, July 2010

## VI. PROFESSIONAL DEVELOPMENT

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

#### 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)

*Northeastern Naturalist*

Other (books, symposia, etc.)

Responsibility

Associate Editor

##### b. Reviewer

Journal(s)

No. of manuscripts

<i>Northeastern Naturalist</i>	1
<i>Wetlands</i>	1

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

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

c. Participation (workshops, symposia, etc.)

<u>Name of workshop, etc.</u>	<u>Date</u>	<u>Place</u>
Hosted the USACE National Technical Committee on Wetland Vegetation annual meeting	June 2010	SUNY-ESF

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 2010

B. College-level

Co-leader, exercise for Pre-orientation students, August 2010

Host, campus remembrance for Dr. Edwin H. Ketchledge, October 2010

Presenter (twice, on campus trees and shrubs) for annual Alumni, Family, and Friends BBQ, October 2010

Presenter on GSA panel on Graduate School, Fall 2010  
Reviewer, McStennis proposal  
Member, Core Team for Academic Research Building  
Member, Core Team for Illick Hall rehabilitation project  
Member, SUNY-ESF Facilities Master Plan Committee  
Chair, Faculty Committee on ESF Promotion and Tenure Standards (through completion in mid February)  
Member, Advisory/Steering Committee for ESF Campus Master Plan Study (now Gateway Building)  
Director, Undergraduate Honors Program (through mid-May)

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.

#### Students

This past AY I taught 160 students in Dendrology (EFB 336), the largest enrollment since I started teaching this course in 1985. Two of my Ph.D. students, Matt Distler and Tony Eallonardo, finished their doctoral programs in December, and one of my M.S. students, Jess Riddle, finished his M.S. thesis in May.

#### Department/college

I have been involved with a variety of development activities for the department including a sustained effort with Drs. Gibbs and Frair and Bob Quinn to revitalize the Roosevelt Wildlife Station. I am optimistic that by next year we should have important outcomes to report from these efforts. This past year has required substantial attention (up to 20 hours some weeks) for four different campus building projects and planning processes, i.e., the Academic Research Building; rehabilitation of Illick greenhouses, roof, and facade; the SUNY ESF Facilities Master Plan, and the construction of CIRTAS (Center for Integrated Research and Teaching in Aquatic Sciences) in Illick.

#### Self

During the past year I gave over a dozen invited presentations, typically on native plant conservation topics. The highlight was giving a lecture to and having discussions with graduate students and faculty in the Department of Landscape Architecture at Cornell University on natural communities as templates for garden, green, and restoration plantings. Additional funding for ongoing research on the Solvay wastebeds is moving my restoration research into some potentially very exciting opportunities and I am very pleased by the collaboration with engineers and scientists from Honeywell, Parsons, O'Brien & Gere, and others. The Syracuse Post-Standard published a number of articles this past year based on interviews with me on fall color, native plants, and the wet spring.

**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 2010

###### a. Course(s) to be offered

b. Proposed research activity

c. University, professional society, and public service

2. Fall Semester 2011

a. Course(s) to be offered

b. Proposed research activity

c. University, Professional society, and public service

3. Spring Semester 2012

a. Course(s) to be offered

b. Proposed research activity

c. University, professional society, and public service