

**ANNUAL REPORT: June 1, 2016 – May 31, 2017**  
**(i.e., Summer 2016, AY 2016-2017)**  
**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                | 122                 | 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              | 2                   |
| EFB 899           | Master's Thesis Research | 1 - 9.             | 2                   |
| 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                      |
| ESF 797           | Grad Seminar on Information Resources | 1                      |
| LSA 433/633       | Planting Design & Practice            | 1                      |

**II. STUDENT ADVISING**

A. Number of undergraduates for whom you are the student's official advisor 8 and unofficial advisor \_\_\_\_\_

- 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

Regan, Matthew. 2017. Plant community response to wetland enhancement techniques in coastal wetlands of the Upper St. Lawrence River, M.S. Thesis, 112 p.

1. Justine Weber, Ph.D., August 2012
2. Kristen Haynes, Ph.D., August 2014
3. Alex Petzke, Ph.D., August 2014
4. Robert Smith, M.S., August 2014
5. Toby Liss, Ph.D., August 2015
6. James Molloy, M.S., January 2017

#### CO-MAJOR PROFESSOR

Halpern, Alison. 2017. *Hydrocharis morsus-ranae* L. in the upper St. Lawrence River in New York: Its success within heterogenous wetland habitat and potential management approaches. Ph.D. Dissertation, 185 p. (with J. Farrell)

1. Catherine Landis, Ph.D., January 2009 (with R. Kimmerer)

#### MEMBER, STEERING COMMITTEE (other than those listed above)

1. Kathleen Buckler (SUNY-Brockport, M.S.)
2. Eli Polzer (SUNY-Brockport, M.S.)
3. Elise Hinman (SYR, Ph.D.)
4. Michael Serviss (EFB, M.S.)
5. Chellby Kilheffer (EFB, Ph.D.)
6. Dan Collins (EFB, Ph.D.)

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

1. Andry Razanakoto (FNRM, M.S., chair of defense)
2. Alex Levine (CHEM, Ph.D., chair of defense)
3. Byeong Cheol Min (PBE, Ph.D., chair of defense)
4. Joshua Weber-Townsend (EFB, M.S., examiner)
5. Avalon Bunge (GPES, M.S., examiner)
6. Sultant-ud-Din (Hazara University, Mansehra, Pakistan, Ph.D., external examiner)

### **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 International Inc., Onondaga Lake and adjacent lands: Habitat assessment and restoration, vegetation issues; \$19,956; January 2014 to December 2016; D.J. Leopold.

NYS-DEC, New York Natural Heritage Program; \$3,273,393; July 2012 to June 2017; D.J. Leopold.

NYS-DEC, Invasive plants program coordinator; \$164,763; July 2015 to June 2017; 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...; \$128,064; August 2012 to April 2016, D.J. Leopold and J.P. Gibbs.

USFWS (GLRI), Range wide status assessment of Houghton's goldenrod, with a special emphasis on niche limit, demographic transitions, and population stability; \$149,600; February 2016 to December 2017. D.J. Leopold.

National Park Service, Impacts of hurricane Sandy and white-tailed deer on maritime vegetation recovery at Fire Island National Seashore; \$224,619; July 2014 to July 2016; H.B. Underwood and D.J. Leopold.

NOAA, Factors affecting dune and vegetation recovery from superstorm Sandy in the Otis Pike High Dune Wilderness Area on Fire Island National Seashore (FIIS), NY; \$40,000; July 2016 to July 2017; H.B Underwood and D.J. Leopold.

NYS DEC, Abundance, distribution and management of white-tailed deer in the Town of Dewitt, NY; \$230,916; August 2016 to July 2018; H.B. Underwood 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

Raney, P.A, D.J. Leopold, M. Dovciak, and C.M. Beier. 2016. Hydrologic position mediates sensitivity of tree growth to climate: groundwater subsidies provide a thermal buffer effect in wetlands. *Forest Ecology and Management* 379:70-80.

Mattingly, K.Z. and D.J. Leopold. Habitat indicators of a federally listed glacial relict plant species restricted to cliffs in the northern U.S. *Natural Areas Journal* (in press).

Bouchard J.R., D.D. Fernando, S.B. Bailey, J. Weber-Townsend and D.J. Leopold. Contrasting patterns of genetic variation in central and peripheral populations of *Dryopteris fragrans* (fragrant wood fern) and implications for colonization dynamics and conservation. *International Journal of Plant Science* (in press).

Raney, P.A. and D.J. Leopold. Fantastic wetlands and where to find them: Modeling rich fen distribution in New York State with maxent. *Wetlands* (accepted).

B. Non-refereed Publications

Leopold, D.J. and L.J. Musselman. *Wildflowers of the Adirondacks*. Johns Hopkins Press, Baltimore, MD (in press)

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

Weber, J., D.J. Leopold, and J.J. Wiley, Jr., Greenhouse germination trials with federally-listed Houghton's goldenrod: Evaluating factors associated with population persistence, National Native Seed Conference, Washington, D.C., February 2017 (poster presentation).

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

Native plants for the landscape, Great Swamp Conservancy, Canastota, June 2016, about 40 people in attendance

Father's Day nature walk, Clark Reservation State Park, June 2016, about 40 people in attendance

Nature hike at Nelson Swamp, Cazenovia Preservation Foundation, June 2016, about 40 people in attendance

Wildflowers of the Adirondacks, Syracuse Men's Garden Club, Syracuse, September 2016, about 40 people in attendance.

Tree identification, ecology, and natural history (walk), Cornell Cooperative Extension of Onondaga County, Syracuse, May 2017, about 30 people in attendance (Oakwood Cemetery, Syracuse).  
 Creating and Restoring Sustainable Landscapes with Native Plants and Natural Plant Communities. Rutgers Master Gardeners of Mercer County, Princeton, March 2017, about 300 people in attendance  
 Oaks and Other Trees of Oakwood Cemetery (walk), Historic Oakwood Cemetery Preservation Association, Oakwood Cemetery, May 2017, about 50 people in attendance

**V. PUBLIC SERVICE**

A. Funded Service (include consulting activities)

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

Project (with J. Gibbs) on Long Island for Janice Parker Landscape Architects, on restoring a degraded parcel of land after we made a biological assessment.

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

Vice Chair, 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; including live interview with The Weather Channel August 10 on emerging fall colors

**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

Journal (s)

Responsibility

Other (books, symposia, etc.)

b. Reviewer

| <u>Journal(s)</u>                        | <u>No. of manuscripts</u> |
|--|---------------------------|
| Frontiers in Ecology and the Environment | 1                         |
| Ecological Engineering                   | 2                         |
| Journal of Environmental Management      | 1                         |

| <u>Agency</u>                              | <u>No. of proposals</u> |
|--|-------------------------|
| Ohio Water Resources Center, December 2016 | 1                       |

Other

Reviewed book proposal (Tree by Tree: The Death of America's Eastern Forests) for the University of Chicago Press, August 2016

Reviewed book (*Wetland Indicators: A Guide to Wetland Identification, Delineation, Classification, and Mapping* by Ralph Tiner) for CRC Press, August 2016; review statement used for marketing

Reviewed book (*Designing a Vision. Janice Parker Landscape Architects*) for Images Publishing, November 2016; review statement used for marketing and included on front inside cover

c. Participation (workshops, symposia, etc.)

| <u>Name of workshop, etc.</u>              | <u>Date</u>    | <u>Place</u>  |
|--|----------------|---------------|
| USACE National Technical Committee meeting | September 2016 | Telluride, CO |

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

D. Foreign Travel (Where, When, Purpose)

In July 2016, a group of us from ESF (L. Newman, R. Briggs, G. Lanza) travelled to Tyumen State University (TSU) in Tyumen, Russia (southwest Siberia) to discuss collaborative teaching and research opportunities between our institutions. In October, we hosted a contingent from TSU to continue those discussions which have already resulted in faculty and student exchanges and much more significant collaborations pending.

**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, two Secretary 1 positions (incl. my administrative assistant), 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

Represent department at all college open houses and other department events

Prepare annual department report

#### B. College-level

Chair, Vice President of Research search committee, 2016

Member, Search Committee for ESF Major Gifts Officer, May 2017 to present

Member, Core Team for Academic Research Building (since March 2010)

Member, Core Team for Roosevelt Wild Life Education and Research Center in ESF's Gateway Center (since Fall 2014)

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

Participant in the Environmental Health undergraduate level curriculum group.

Organizer and Host, Dale L. Travis lectures, twice each year.

Presenter, Graduate Colloquium August 2015, "A Vision of Excellence in Teaching and Scholarship"

Presenter (twice, on campus trees and shrubs) for annual Alumni, Family, and Friends BBQ, October 2016

ESF Fall Field Days Event, Tree identification on campus and in Oakwood Cemetery, two walks, September 2016

#### 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 (i.e., three paragraphs total) 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 (when available), which I'll continue to award based on your contributions to the department and college this reporting period.

I taught EFB 336 Dendrology for the 31<sup>st</sup> year and it was more fun as ever as student interest and engagement were very high. It's my understanding that no previous instructor (including Drs. Harlow and Ketchledge) has taught this course for more than 30 years. I finished one M.S. and one Ph.D. student (co-advised by John Farrell) this past to total 71 M.S., M.P.S., and Ph.D. students advised and graduated since coming to ESF in August 1985. Last summer Grete Bader's thesis research (defended the previous April) on the huge populations of native orchids on abandoned iron mine tailings in the Adirondacks continued to generate significant press with reports in the Washington Post/AP and other outlets including the Houston Chronicle. And in February, Adirondack Life published an article about our work there on these native, terrestrial orchids. The story about the extraordinary populations of these plants of conservation concern that have arisen on a historically terribly degraded site without any directed help from people seems to appeal to the public unlike any plant-related research in which I have been involved.

I will have served as chair of EFB for 12 years this July. Among the administrative highlights of this reporting period were: (1) travelling to Tyumen State University in southwestern Siberia last July with colleagues from ESF to discuss collaborative opportunities; (2) helping to bring in a substantial development gift (\$500,000; with J. Gibbs) to support a conservation initiative on private lands; (3) being responsible for and hosting two very successful Dale L. Travis lecture events; and, (4) hiring a new Environmental Toxicologist for the department (Dr. Roxanne Razavi), the thirteenth EFB faculty position that I have had the privilege to help fill as chair.

After spending just about all of two winter breaks between semesters on my *Wildflowers of the Adirondacks* (with L. Musselman) we have submitted the text and images to Johns Hopkins Press. I hope this book is available before end of

this calendar year. I am looking forward to doing something else this winter break. This will be my seventh book as author or co-author (i.e., not counting edited books or chapters within edited books). Books and the many dozens of invited presentations that have resulted have created an opportunity to educate thousands of people beyond the students in our classrooms. Many of these people are in positions to implement ideas related to sustainability and other important conservation topics.

**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 2016

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

2. Fall Semester 2016

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

3. Spring Semester 2017

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