

# JUSTINE BEILER WEBER

State University of New York || College of Environmental Science and Forestry  
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## EDUCATION

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### Ph.D. Candidate, Ecology

State University of New York College of Environmental Science and Forestry (ESF), 2022 (expected)  
Dissertation: Using niche data to improve conservation outcomes in rare plants, with a focus on Houghton's goldenrod (*Solidago houghtonii*)  
Advisor: Donald J. Leopold, Ph.D.

### B.S., Biology and Environmental Education

Messiah (College) University, *magna cum laude*, 2006  
Pennsylvania Teaching Certification: Biology 7-12  
Pennsylvania Teaching Certification: Environmental Education K-12

## TEACHING

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### Invited Instructor

ESF, Cranberry Lake Biological Station, 2020 season canceled due to COVID-19  
200-level ecological monitoring and biodiversity assessment field course, required

**Summer 2020-2022**  
Adirondack Park, NY

### Lecturer

Hamilton College, Department of Biology  
200-level Wetland Ecology lecture for Biology program undergraduates, new course, 1 semester  
200-level Wetland Ecology field lab for Biology program undergraduates, new course, 1 semester

**Fall 2021**  
Clinton, NY

### Visiting Assistant Professor

Utica (College) University, Department of Biology  
100-level Ecology lecture for nonmajors, new course, 2 semesters  
100-level Ecology lab for nonmajors, new course, 2 semesters  
200-level Research Methods course for Biology program undergraduates, writing-intensive, 2 semesters  
400-level Senior Seminar for Biology program undergraduates, writing intensive, 1 semester  
\* All courses above taught online for seven weeks in Spring 2020 due to COVID-19

**2019-2020**  
Utica, NY

### Instructor and Coordinator

ESF, Department of Environmental Biology  
200-level Biodiversity Survey lecture course, required, 11 semesters  
200-level Biodiversity Survey lab course, required, 11 semesters as secondary coordinator

**2014-2019**  
Syracuse, NY

### Teaching Assistant

ESF, Department of Environmental Biology  
200-level Biodiversity Survey lecture and lab course, 2 semesters  
300-level Ecology of Mosses lecture and lab course, 1 semester  
300-level Indigenous Issues and the Environment lecture course, 1 semester

**2012-2013**  
Syracuse, NY

### High School Science Teacher

Lancaster Mennonite High School  
9<sup>th</sup> grade Environmental Science, led curriculum redesign, 8 semesters  
10<sup>th</sup> grade Biology, 6 semesters  
11<sup>th</sup> and 12<sup>th</sup> grade Wildlife Science, elective, 2 semesters  
11<sup>th</sup> and 12<sup>th</sup> grade Advanced Environmental Science, elective, 1 semester

**2006-2010**  
Lancaster, PA

## RESEARCH

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### ESF, Department of Environmental Biology

2012-present

*Dissertation Research*

Syracuse, NY

Plant ecology and conservation of *Solidago houghtonii*, Dr. Donald Leopold

*Research Associate*

Plant ecology and conservation of *Trollius laxus*, Drs. Sara Scanga (Utica College) and Donald Leopold

### The Pennsylvania State University

2010-2012

*Research Technician*

State College, PA

Forest songbird response to Marcellus shale-fracking infrastructure, Dr. Margaret Brittingham

*Research Technician*

Grassland songbird response to agricultural land management, Dr. Margaret Brittingham

*Lab Assistant*

Carabid beetle weed seed granivory in agricultural systems, Dr. Robert Gallagher and PhD candidate Jeffrey Law

*Research Technician*

Grassland bird response to agricultural conservation practices (CRP), Dr. Margaret Brittingham

## FUNDED GRANTS and AWARDS

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*Research awards:*

- \$10,000**    **E.B. Sussman Fund Dissertation Fellowship**, competitive award for dissertation writing, **2021**  
Edna Bailey Sussman Fund
- \$2600**    **Wilford A. Dence Fellowship**, for achievements in natural history and wild life, **2019**  
ESF Department of Environmental and Forest Biology, first botany student to receive award
- \$100**    **Excellence in Applied Research Award**, nominated for rare plant conservation work, **2019**  
ESF Graduate Student Association
- \$2900**    **Maurice Alexander Graduate Award**, competitive award for wetland research, **2017**  
ESF Department of Environmental and Forest Biology
- \$149,600**    **Great Lakes Restoration Initiative, U.S. Fish and Wildlife Service, 2015**  
J. Weber – lead author/researcher, D.J. Leopold – principal investigator of record  
*Range-wide status assessment of Houghton's goldenrod, with special emphasis on niche limits, demographic transitions, and population stability*
- \$7370**    **Edna Bailey Sussman Fund Fellowship**, competitive award for summer research, **2015**  
Edna Bailey Sussman Fund

*Travel awards:*

- \$250**    **Student Travel Grant** for attendance to Northeast Natural History Conference, **2019**  
ESF Graduate Student Association
- \$250**    **Student Travel Grant** for attendance to Botany2017 (BSA annual meeting), **2017**  
ESF Graduate Student Association
- \$350**    **Student Travel Grant** for attendance to National Native Seed Conference, **2017**  
ESF Graduate School

## OUTREACH and SERVICE

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<b>Participating Scientist, Skype a Scientist</b> Skype a Scientist program connects classrooms with scientists via video conference	<b>2020-present</b> online
<b>Expert Interview, “New York’s Extinction”</b> Feature story on New York State’s endangered plants, appears in <i>The Earth Issue</i> and <i>Icarus Complex</i>	<b>published March 2021</b> online
<b>Striped Coralroot (<i>Corallorhiza striata</i>) Surveys</b> New York Natural Heritage Program, rare orchid surveys, Nelson Swamp Unique Area	<b>2020</b> Nelson, NY
<b>Teaching Fellow: Graduate Assistant Colloquium on Teaching and Learning</b> ESF, Open Academy, prepping new grad students for teaching tasks	<b>2017 and 2018</b> Syracuse, NY
<b>Ecolunch Departmental Seminar Coordinator</b> ESF, weekly ecology seminar with graduate students and faculty presentations	<b>2014-2017</b> Syracuse, NY
<b>Onondaga Lake Bioblitz</b> ESF, plant data collection and collation for bioblitz to honor incoming ESF president	<b>2014</b> Syracuse, NY

## ENVIRONMENTAL EDUCATION

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<b>Invited Instructor: Fall Migration and Monhegan, Coastal Maine Bird Studies for Teens</b> National Audubon Society, Hog Island Audubon Camp; <i>invited in 2019, declined due to conflict;</i> historic conservation camp providing bird-focused programming for adults, families, and teens	<b>2017-2019, 2022</b> Bremen, ME
<b>Naturalist Program Leader</b> Millbrook Marsh Nature Center; tasks included school programs, summer camps, bird walks	<b>2010-2012</b> State College, PA
<b>Environmental Education Intern</b> Edwin B. Forsythe National Wildlife Refuge; tasks included public outreach, school programs	<b>Summer 2006</b> Oceanville, NJ
<b>Park Ranger Naturalist Intern</b> Glacier National Park, with 4 weeks of National Association of Interpretation (NAI) training	<b>Summer 2005</b> St. Mary, MT

## MENTORING

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### Student Research Mentor

Chelsea Radford, ESF undergraduate student (1 year, research credits, skills, and field training)  
Morgan Couch, ESF undergraduate student (1 year, research credits, skills, and field training)  
Luria Lee, ESF undergraduate student (1 year, research credits, skills, and greenhouse training)  
Lindsay Windsor, ESF undergraduate student (1.5 years; research credits, skills, and field training)  
Baylee Earl, ESF undergraduate student (4 months; research skills and field training)

### Student Internship Mentor

Gabrielle Sisson, ESF undergraduate student (1 semester, faculty sponsor for environmental education internship)

### Student Involvement

Head Coach, junior high field hockey, Lancaster Mennonite School  
FFA Assistant Advisor, Lancaster Mennonite School  
Envirothon Coach, Lancaster Mennonite School  
Student Green Team faculty mentor, Lancaster Mennonite School  
Student Support Team member (conflict resolution), Lancaster Mennonite School

## PUBLICATIONS and TECHNICAL REPORTS

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### *Submitted manuscripts:*

Law, J.J., R.S. Gallagher, T.F. Leslie, and **J.B. Weber**. Enhanced invertebrate activity-densities and weed seed predation in an integrated cropping system. Invited submission to *Basic and Applied Ecology*.

### *Manuscripts in preparation:*

**Weber, J.** and D.J. Leopold. Substrate moisture and texture affect germination in Houghton's goldenrod, a federally-protected Great Lakes endemic plant. To be submitted to *Native Plants Journal* spring 2022.

### *Technical reports:*

**Final Report to U.S. Fish and Wildlife Service**, with Dr. Donald Leopold, *April 2019*

Range wide status assessment of Houghton's goldenrod (*Oligoneuron* [=*Solidago*] *houghtonii*) with a special emphasis on niche limits, demographic transitions, and population stability

**Interim Reports:** 2017, 2018

**Final Report to U.S. Fish and Wildlife Service**, with Dr. Donald Leopold, *April 2016*

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, Exceptional Marl Fen Ecosystem, Bergen Swamp, Genesee County, New York

**Interim Reports:** 2014, 2015

**Final Report to Edna Bailey Sussman Foundation**, *December 2015*

Range-wide status assessment of Houghton's goldenrod (*Oligoneuron houghtonii*) with a special emphasis on niche limits, demographic transitions, and population stability

**Final Report to The Pennsylvania State University**, with Dr. Margaret Brittingham, *Fall 2012*

Recommendations for Rockview Property acquisitions as managed bird habitat

## PRESENTATIONS and GUEST LECTURES

\*undergraduate mentee

- April 2022 **Weber, J.B.** and D.J. Leopold. *Oral Presentation (abstract accepted)*. Ontogenetic niche shifts present conservation challenges for rare plants such as Houghton's goldenrod, a federally-listed species and Great Lakes endemic. *Northeast Natural History Conference, Albany, NY*.
- July 2021 **Weber, J.** and D.J. Leopold. *Oral Presentation*. Conservation challenges due to ontogenetic niche shifts in Houghton's Goldenrod, a federally-listed species and Great Lakes endemic. *BOTANY21, BSA Annual Meeting, Virtual*.
- April 2019 Crouch, M.\*, **J. Weber**, S.E. Scanga, and D.J. Leopold. *Poster*. Effect of gap position on *Trollius laxus* vigor. *ESF Student Spotlight on Research Symposium, Syracuse, NY*.
- April 2019 Radford, C.\*, **J. Weber**, S.E. Scanga, and D.J. Leopold. *Poster*. Canopy gap effects on fecundity to biomass ratios and herbivory of spreading globeflower (*Trollius laxus* ssp. *laxus*). *ESF Student Spotlight on Research Symposium, Syracuse, NY*.
- April 2019 **Weber, J.** and D.J. Leopold. *Poster*. Evaluating reproductive niche characteristics of federally-listed Houghton's goldenrod to approximate range wide stability. *Northeast Natural History Conference, Springfield, MA*, and *ESF Student Spotlight on Research Symposium, Syracuse, NY*.
- April 2019 **Weber, J.** and D.J. Leopold. *Oral Presentation*. Rediscovering our species sense: developing natural history appreciation and skill sets in undergraduate students. *Northeast Natural History Conference, Springfield, MA*.

- March 2019 and 2018 **Weber, J.** *Guest Lecture.* Nature apps as conservation tools: thoughts from an old millennial. *ESF Senior Synthesis in Conservation Biology (EFB 414).*
- June 2017 **Weber, J.,** D.J. Leopold, and J.J. Wiley Jr., *Poster.* Greenhouse germination trials with federally-protected Houghton's goldenrod: evaluating factors associated with population persistence. *BOTANY17, BSA Annual Meeting, Fort Worth, TX.*
- April 2017 Lee, L.\*, **J. Weber,** and D.J. Leopold. Preliminary analysis of germination rate in Houghton's goldenrod (*Oligoneuron houghtonii*) in various substrate types. *ESF Student Spotlight on Research Symposium, Syracuse, NY.*
- April 2017 **Weber, J.,** D.J. Leopold, and J.J. Wiley Jr., *Poster.* Greenhouse germination trials with federally-protected Houghton's goldenrod: evaluating factors associated with population persistence. *ESF Student Spotlight on Research Symposium, Syracuse, NY.*
- Feb 2017 **Weber, J.,** D.J. Leopold, and J.J. Wiley Jr., *Poster.* Greenhouse germination trials with federally-protected Houghton's goldenrod: evaluating factors associated with population persistence. *National Native Seed Conference, Washington, D.C.*
- Sept 2016 **Weber, J.** *Guest lab instructor.* Botanical lab exploration of Rand Tract, Syracuse, NY: identification of local angiosperms. *ESF Flowering Plants: Diversity, Evolution, and Systematics (EFB 435/635).*
- Sept 2016 **Weber, J.** *Invited talk.* Houghton's goldenrod range wide status update. *US Fish and Wildlife Service New York Field Office, Cortland, NY.*
- Oct 2013 **Weber, J.** *Keynote speaker.* Potential impacts of deer herbivory and non-native *Phragmites australis* on marl fen rarities. *Bergen Swamp Preservation Society Annual Meeting, Bergen, NY.*
- March 2013 **Weber, J.** *Guest lecture.* Moss life history strategies. *ESF Ecology of Mosses (EFB 446/646).*

## PROFESSIONAL SOCIETIES – CURRENT MEMBERSHIPS

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Botanical Society of America  
 Ecological Research as Education Network (EREN)  
 Ecological Society of America  
 New York Flora Association

## ACADEMIC AWARDS and HONORS

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*ETS Recognition of Excellence for High Praxis Scores (Biology Content Knowledge)*  
*Au Sable Institute of Environmental Studies Honors Scholarship and Fellowship*  
*Messiah College Honors Program (Provost's and President's Scholarships)*  
*Messiah College Dean's List, 8 semesters*  
*National Merit Commended Scholar*

## TECHNICAL SKILLS

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Learning Management Systems: Blackboard and Engage  
 Microsoft Office Suite  
 Google Workspace  
 WordPress  
 Geographic Information Systems (GIS)  
 R programming language