

# JUSTINE B. WEBER

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## EDUCATION

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### Ph.D., Ecology

State University of New York College of Environmental Science and Forestry (ESF), 2022

Dissertation: Using niche data to improve conservation decisions 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 Certifications: Biology 7-12, Environmental Education K-12

## PROFESSIONAL APPOINTMENTS

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### Visiting Assistant Professor

Colgate University, Department of Biology

**2023-present**

Hamilton, NY

### Visiting Assistant Professor

Utica (College) University, Department of Biology

**2019-2020**

Utica, NY

## TEACHING

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### Visiting Assistant Professor

Colgate University, Department of Biology

**2023-present**

Hamilton, NY

100-level science seminar for all majors, focused on natural history and ecology, new course, 3 semesters

100-level Intro Biology lecture and lab for Biology undergraduates, 3 semesters

300-level Wetland Ecology elective lecture course for Biology undergraduates, new course, 2 semesters

300-level Conservation Biology lecture course for Biology undergraduates, 2 semesters

### Visiting Instructor

ESF, Cranberry Lake Biological Station

**2021-present**

Adirondack Park, NY

200-level Ecological Monitoring and Biodiversity Assessment, required summer field course, 4 seasons

ESF, Department of Environmental Biology

Syracuse, NY

500-level Freshwater Wetland Ecosystems lecture course for undergrads and grads, 1 semester

### Lecturer

Hamilton College, Department of Biology

**Fall 2021**

Clinton, NY

200-level Wetland Ecology lecture and field lab for Biology undergraduates, new course, 1 semester

### Visiting Assistant Professor

Utica (College) University, Department of Biology

**2019-2020**

Utica, NY

100-level Ecology lecture and 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

**Instructor and Coordinator***ESF, Department of Environmental Biology*

200-level Diversity of Life lecture course, required, 11 semesters

200-level Diversity of Life lab course, required, 11 semesters as secondary coordinator

**2014-2019**

Syracuse, NY

**Teaching Assistant***ESF, Department of Environmental Biology*

200-level Diversity of Life I 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 semesters10<sup>th</sup> grade Biology, 6 semesters11<sup>th</sup> and 12<sup>th</sup> grade Wildlife Science, elective, 2 semesters11<sup>th</sup> and 12<sup>th</sup> grade Advanced Environmental Science, elective, 1 semester**2006-2010**

Lancaster, PA

**RESEARCH**

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**Current Research**Plant ecology and conservation of *Trollius laxus* with Sara E. Scanga (Utica University)**2018-present****ESF, Department of Environmental Biology***Graduate Research*Plant ecology and conservation of *Solidago houghtonii*, with Donald J. Leopold**2012-2022**

Syracuse, NY

**The Pennsylvania State University***Research Technician*

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

**2010-2012**

State College, PA

*Research Technician*

Grassland songbird response to agricultural land management, with Margaret Brittingham

*Lab Assistant*

Invertebrate weed seed granivory in agricultural systems, with Robert Gallagher and Jeffrey Law

*Research Technician*

Grassland bird response to agricultural conservation practices (CRP), with 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

## **PUBLICATIONS and TECHNICAL REPORTS**

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*Peer-reviewed manuscripts:*

- Weber, J.B.** and D.J. Leopold. 2023. Substrate moisture and texture affect germination in Houghton's goldenrod, a federally protected Great Lakes endemic plant. *Native Plants Journal*.
- Law, J.J., R.S. Gallagher, T.F. Leslie, and **J.B. Weber**. 2023. Enhanced invertebrate activity-densities and weed seed predation in an integrated cropping system. *Basic and Applied Ecology*.

*Manuscripts in preparation:*

- Weber, J.B.** and S.E. Scanga. *In prep.* Long-term monitoring after management interventions: Response of the rare plant *Trollius laxus* to experimental canopy gaps in a forested fen.

*Technical reports:*

- Final Report to U.S. Fish and Wildlife Service**, with Donald J. 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 Donald J. 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 Margaret Brittingham, *Fall 2012*  
Recommendations for Rockview Property acquisitions as managed bird habitat

## OUTREACH and SERVICE

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<b>Participating Scientist, Skype a Scientist</b> Skype a Scientist program connects classrooms with scientists via video calls	<b>2020-2021, 2023</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 student 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

## PRESENTATIONS and GUEST LECTURES

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\*undergraduate mentee

April 2024	<b>Weber, J.B.</b> and S.E. Scanga. <i>Oral Presentation</i> . Long-term monitoring after management: 15-year response of a rare plant to experimental canopy gaps in a forested fen. <i>Northeast Natural History Conference, Albany, NY</i> .
April 2022	<b>Weber, J.B.</b> and D.J. Leopold. <i>Oral Presentation</i> . Ontogenetic niche shifts present conservation challenges for rare plants such as Houghton’s goldenrod, a federally listed species and Great Lakes endemic. <i>Northeast Natural History Conference, Albany, NY</i> .
July 2021	<b>Weber, J.</b> and D.J. Leopold. <i>Oral Presentation</i> . Conservation challenges due to ontogenetic niche shifts in Houghton’s Goldenrod, a federally listed species and Great Lakes endemic. <i>BOTANY21, BSA Annual Meeting, Virtual</i> .
April 2019	Crouch, M.*, <b>J. Weber</b> , S.E. Scanga, and D.J. Leopold. <i>Poster</i> . Effect of gap position on <i>Trollius laxus</i> vigor. <i>ESF Student Spotlight on Research Symposium, Syracuse, NY</i> .
April 2019	Radford, C.*, <b>J. Weber</b> , S.E. Scanga, and D.J. Leopold. <i>Poster</i> . Canopy gap effects on fecundity to biomass ratios and herbivory of spreading globeflower ( <i>Trollius laxus</i> ssp. <i>laxus</i> ). <i>ESF Student Spotlight on Research Symposium, Syracuse, NY</i> .
April 2019	<b>Weber, J.</b> and D.J. Leopold. <i>Poster</i> . Evaluating reproductive niche characteristics of federally listed Houghton’s goldenrod to approximate range wide stability. <i>Northeast Natural History Conference, Springfield, MA, and ESF Student Spotlight on Research Symposium, Syracuse, NY</i> .
April 2019	<b>Weber, J.</b> and D.J. Leopold. <i>Oral Presentation</i> . Rediscovering our species sense: developing natural history appreciation and skill sets in undergraduate students. <i>Northeast Natural History Conference, Springfield, MA</i> .
March 2019 and 2018	<b>Weber, J.</b> <i>Guest Lecture</i> . Nature apps as conservation tools: thoughts from an old millennial. <i>ESF Senior Synthesis in Conservation Biology (EFB 414)</i> .
June 2017	<b>Weber, J.</b> , D.J. Leopold, and J.J. Wiley Jr., <i>Poster</i> . Greenhouse germination trials with federally protected Houghton’s goldenrod: evaluating factors associated with population persistence. <i>BOTANY17, BSA Annual Meeting, Fort Worth, TX</i> .
April 2017	Lee, L.*, <b>J. Weber</b> , and D.J. Leopold. Preliminary analysis of germination rate in Houghton’s goldenrod ( <i>Oligoneuron houghtonii</i> ) in various substrate types. <i>ESF Student Spotlight on Research Symposium, Syracuse, NY</i> .

- 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)*.

## ENVIRONMENTAL EDUCATION

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<b>Wetland Science Presenter</b>	<b>2023</b>
Onondaga Nation Summer Youth Program's Wetlands Day	Onondaga Nation
<b>Invited Instructor: Fall Migration and Monhegan, Coastal Maine Bird Studies for Teens</b>	<b>2017-2019, 2022</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	Bremen, ME
<b>Naturalist Program Leader</b>	<b>2010-2012</b>
Millbrook Marsh Nature Center: tasks included school programs, summer camps, bird walks	State College, PA
<b>Environmental Education Intern</b>	<b>Summer 2006</b>
Edwin B. Forsythe National Wildlife Refuge: tasks included public outreach, school programs	Oceanville, NJ
<b>Park Ranger Naturalist Intern</b>	<b>Summer 2005</b>
Glacier National Park, with 4 weeks of National Association of Interpretation (NAI) training	St. Mary, MT

## MENTORING

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### Honors Thesis Reader

Suado Mohamed, Colgate University undergraduate student  
 Sophie Pedzich, Colgate University undergraduate student

### 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

**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