

Sam Schurkamp — Curriculum Vitae

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Contact Information

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ACADEMIC INTERESTS

- Climate change impacts on coastal wetland ecological communities
- Biodiversity-centered monitoring and restoration
- Ecological impacts of invasive flora

EDUCATION

University of Michigan

PhD in Environment + Sustainability

Ann Arbor, MI

exp. 2029

Loyola University Chicago

MS in Environmental Science and Sustainability

Chicago, IL

2022

Thesis title: Influence of biochar, Phragmites australis and Typha × glauca on salinity in simulated wetland systems

Loyola University Chicago

BS in Environmental Science

BA in English & Creative Writing

Chicago, IL

2017

Undergraduate GPA: 3.84

SCIENTIFIC AND ACADEMIC POSITIONS HELD

PhD Student Researcher

Aug 2024 – Present

Global Center for Climate Change Impacts on Transboundary Waters

I study the influence of climate change on the ecological communities of coastal wetlands, with special attention to culturally significant plant and bird species.

Research Associate

Aug 2022 – Aug 24

Loyola University Chicago Team Typha research group

I oversaw the day-to-day operations of our research group by collecting and analyzing field data, running lab equipment, writing results for publication, and mentoring undergraduate research projects.

Research Technician

Aug 2020 – Aug 2022

Loyola University Chicago Team Typha research group

I assisted a multi-year project centered on the removal of the invasive plants *Typha x glauca* and *Phragmites australis* from basins along the Illinois Tollway system. I collected field data, harvested in the basins, processed lab samples, and organized and analyzed data.

Admission Counselor

Jan 2018 – Aug 2020

Loyola University Chicago

I recruited for Loyola's undergraduate programs by meeting with and presenting to prospective students on-campus and within my territories, read and made decisions on student applications, and served as a point person for Loyola's Environmental Science and Honors programs.

Student Services Contractor

Summer 2017

United States Geological Survey

I helped develop a management framework for invasive *Phragmites* in the Great Lakes Basin by leading training sessions throughout the Midwest and Canada, writing a guide for participants, and conducting data collection trials.

Restoration Ecology Intern

Summer 2016

Loyola University Retreat and Ecology Campus

I removed invasive flora from fen, woodland, and prairie habitats and developed a database of native plants on the property. I also wrote code that generates repeatable floristic quality indices for each habitat.

Academic Coach

Jan 2015 – May 2017

Targeting New Transitions

I provided academic assistance and success coaching for at-risk freshmen at Curie High School in Chicago.

COURSE MANAGEMENT

Ecology Lab for Science Majors (ENVS 286S)	1 credit
As lecturer: 2 sections, 1 semester	
Restoration Ecology Lab (ENVS 311)	1 credit
As lecturer: 1 section, 1 semester	
Scientific Basis of Environmental Issues (ENVS 101)	3 credits
As lecturer: 2 sections, 1 semester	
Wetland Ecology and Invasion (ENVS 399)	1 credit
As co-lead: 2 sections, 2 semesters	
<i>Note: I developed the syllabus and readings and led discussions, but was not an instructor of record due to contract limitations.</i>	

MENTORING OF UNDERGRADUATE STUDENTS

Alex Risdal (BS 2026; funding \$3,000 and \$6,000) studied the effect of invasive wetland plants on the growth of wild rice (*Z. palustris*) for a one-year fellowship in 2023, then received a two-year fellowship to study the distribution and habitat requirements of *Utricularia* plants in 2024-25.

Spencer Dzacky (BS 2025; funding \$6,000) studies the relationship between wave action and wetland plant community distribution for a two-year fellowship from 2023-24.

Macy Gustafson (BS 2025, funding \$3,000) explores the species community composition of Michigan's only salt marsh in 2024.

Megan Wenner (BS 2025, funding \$3,000) is conducting a plant competition study between manoomin (*Zizania palustris*), *Pontedaria cordata* and *Typha × glauca* in 2024.

Clara Copps (BS 2024; funding \$1,000) studied the effect of biochar on nutrient availability under variable hydrological conditions in 2024.

Eva Bednard (BS 2024; funding \$1,000) investigated native wetland plant response to soil amendments under a one-year research fellowship in 2023.

Madi Palmquist (BS 2024; funding \$3,000) studied the effect of invasive cattail harvest on bird diversity using passive acoustic monitoring techniques for a one-year fellowship in 2023.

Kristina Tsakos (BS 2023; funding \$6,000) studied the impact of biochar on salinity in constructed wetland systems for a two-year research fellowship from 2022-23.

PUBLISHED WRITING

Research articles

- [1] **Schurkamp, S.**; Lishawa, S.; Ohsowski, B. 2024. Wetland plant species and biochar amendments lead to variable salinity reduction in roadway-associated soils. *Science of the Total Environment* 951, 175801. <https://doi.org/10.1016/j.scitotenv.2024.175801>
- [2] Jochems, L.; Brandt, J.; Kingdon, C.; **Schurkamp, S. J.**; Monks, A.; Lishawa, S. C. 2024. Active remote sensing data and dispersal processes improve predictions for an invasive aquatic plant during a climatic extreme in Great Lakes coastal wetlands. *Journal of Environmental Management* 370, 122610. <https://doi.org/10.1016/j.jenvman.2024.122610>
- [3] Monks, A.; Lishawa, S.; Ohsowski, B.; **Schurkamp, S.**; Lawrence, B. 2023. Complementarity of road salt and heavy metal pollutant removal through invasive *Typha* and *Phragmites* harvest in urban wetland detention basins. *Ecological Engineering* 194(107058). <https://doi.org/10.1016/j.ecoleng.2023.107058>

Research articles in preparation

- [1] St. John, L.; Ohsowski, B.; **Schurkamp, S.**; Lishawa, S. Combined effects of invasive *Typha* × *glauca* and *Hydrocharis morsus-ranae* on aquatic macroinvertebrates in a Lake Huron coastal marsh. Anticipated submission to *Biological Invasions* Fall 2024.
- [2] Ohsowski, B.; **Schurkamp, S.**; Aleladia, B.; Michaels, M.; Palmquist, M.; Bednard, E.; Dzyacky, S.; Risdal, A.; Copps, C.; Wenner, M.; Lishawa, S. Surveying 10 Years of Biochar Research in Field and Greenhouse Studies: Strengths and Opportunities for Research Reporting and Practical Management Outcomes. Anticipated submission to *Science of the Total Environment* Fall 2024.

Science communications

- [1] Seven articles written in 2022 for *Envirobites*, a graduate student-run blog that relates scientific publications to a general audience. These articles are available at <https://envirobites.org/author/samschurkamp/>

Creative writing

[1] Schurkamp, S. 2017. Deer Run. *Runestone* 3. Hamline University, St. Paul, MN.

SCHOLASTIC RECOGNITION

Awards and scholarships

UMBS Graduate Student Endowment Grant <i>Award amount: \$1,077</i>	July 2021
Illinois Lakes Management Association Graduate Scholarship <i>Award amount: \$1,000</i>	Winter 2021
Illinois Water Environment Association Graduate Scholarship <i>Award amount: \$1,000</i>	Winter 2021
IES Tuition Scholarship <i>Award amount: \$10,000</i>	Fall 2020
UMBS Graduate Student Endowment Grant <i>Award amount: \$762</i>	July 2020
Graduate Certificate in Environmental Policy	May 2020
Charles W. Hart Award for Excellence in Literary Study	May 2017
English Honors Program certification	May 2017
Interdisciplinary Honors Program certification	May 2017
Damen Scholarship <i>Award amount: \$60,000</i>	Fall 2013

Undergraduate leadership

President , Honors Student Association	2016-17 academic year
Committee Member , Sujack Award Committee I served on the committee to select recipients for the highest institutional award for College of Arts and Sciences faculty.	2016-17 academic year
Committee Member , LUC Institutional Priority Committee 3 I was the lone student on a committee to implement interdisciplinary STEM research at Loyola.	Fall 2015–Spring 2017
Volunteer Coordinator , A Just Harvest I established a program that connected honors students to elementary students for after-school tutoring.	2015–16 academic year

PRESENTATIONS, WORKSHOPS, CONFERENCES

- [1] [Workshop] Digital Nature Photography: A Crash Course. Loyola University Retreat and Ecology Campus, May 19, 2024.
- [2] [Attendance] Obtawaing Biosphere Region First Annual Meeting, University of Michigan Biological Station, October 2023.
- [3] [Attendance] Michigan Wild Rice Initiative Workshop, Roscommon, MI, August 2023.
- [4] [Talk] Harvesting invasive plants to reduce salinization in freshwater wetlands. Joint Aquatic Sciences Meeting, Grand Rapids, MI, May 2022.
- [5] [Poster] *with B. Ohsowski*. Impacts of biochar and invasive macrophytes on wetland salinity. Climate Change Conference. Loyola University Chicago, 2022.
- [6] [Talk] Impact of biochar on the uptake of salts by invasive wetland plants. UMBS Winter Research Meeting, online.
- [7] [Talk] Biomass utilization and runoff remediation through harvesting invasive plants from Illinois Tollway detention basins. UMBS Winter Research Meeting, online.
- [8] [Poster] *with B. Ohsowski, A. Monks, S. Lishawa, B. Lawrence*. Harvesting invasive *Typha × glauca* and *Phragmites australis* to reduce salt and heavy metal pollution in Illinois wetland detention basins. Climate Change Conference, Loyola University Chicago, 2020.
- [9] [Talk] Invasive species harvest as a solution for salt and heavy metal pollution. UMBS Winter Research Meeting, online.
- [10] [Poster] *with C. Moore, L Loizzo, E. Siverhus*. Compost tea experimentation and viability. Undergraduate Research & Engagement Symposium, Loyola University Chicago, 2016.
- [11] [Poster] *with C. Moore, L Loizzo, E. Siverhus*. Drip irrigation installation at Winthrop Garden. 2016 Undergraduate Research & Engagement Symposium, Loyola University Chicago, 2016.
- [12] [Featured Poet] Columbia Citywide Undergraduate Poetry Festival. Columbia College Chicago, April 2016.
- [13] [Guest Lecture] How to Survive the Honors Program. *For* Honors Freshmen Seminar, joint UNIV 101 classes. Loyola University Chicago, October 2015.

SOCIETY MEMBERSHIP

Ecological Society of America <i>Great Lakes chapter</i>	Fall 2020–Present
Society for Ecological Restoration <i>Midwest-Great Lakes chapter</i>	Fall 2020–Present
Society of Wetland Scientists <i>Central chapter</i>	Fall 2020–Present

SKILLS

- Field identification of plant and bird species; dichotomous key usage
- Ion chromatography and organic elemental analysis of soil, plant, and water samples
- Field water analysis with YSI and EXO multiparameter instrumentation
- R, Markdown, and L^AT_EX languages
- Project organization with Miro and Obsidian using YAML front matter
- Photography and photo editing with Adobe Lightroom and Photoshop; portfolio available at <https://samschurkamp.myportfolio.com>
- Woodworking and restoration

CERTIFICATIONS

Boating Safety <i>Michigan Department of Natural Resources</i>	May 2023
Wilderness First Aid <i>NOLS/National Outdoor Leadership School</i>	March 2023
Hunters Safety <i>Illinois Department of Natural Resources</i>	November 2020