
Nicholas J. Lyon

Research Interests: Community Ecology, Agroecology, Pollination
Biology, Plant-Insect Interactions, Entomology

858.735.0896

Nicholasjlyon@gmail.com

Nicholasjlyon.com

EDUCATION

M.S. Ecology and Evolutionary Biology – May 2019 (expected) – Iowa State University, Ames IA

Thesis: *An Integrated Approach to Restoring Grassland Function to Working Lands*

B.S. Biology – May 2016 – University of Puget Sound, Tacoma WA

Interdisciplinary Emphasis in **Bioethics**, Minor in **Humanities**

Thesis: *Mytilus Mussels as Bio-indicators of Regional Microplastic Trends*

RESEARCH

Grassland Plant and Pollinator Researcher (May 2016 – Present)

Iowa State University, Ames IA – **Advisors: Diane Debinski and Haldre Rogers**

- Performed field surveys for butterflies, wild bees, and flowering plants in a combination of remnant prairies, grazed landscapes, and un-grazed grassland restorations
- Wrote univariate and multivariate analysis code for ecological community data in the R statistical environment
- Built species distribution models (SDMs) in R for grassland plant species to inform climate-resilient seed-mix design
- Interviewed, hired, trained, and managed field technicians for summer 2017 and 2018
- Wrote protocols for field data collection and database management

Vegetation Sampling Field Crew Coordinator (June – July 2017 & June – July 2018)

Iowa State University, Ames IA – **Co-Coordinator: Jaime Coon**

- Conducted vegetation percent cover estimations for several plant functional groups (e.g. forbs, cool-season grasses, etc.)
- Trained technicians with variable previous field experience in identification of relevant plant species and functional groups
- Planned and executed an intensive sampling schedule with field technicians from three different universities
- Wrote customized functions in R for response calculation as well as tidy and analysis scripts for raw collected data

Marine Microplastics Researcher (Apr. 2014 – May 2016)

University of Puget Sound, Tacoma WA – **Advisor: Peter Hodum**

- Developed a novel methodology using fluorescence microscopy to quantify plastic load in mussels (*Mytilus spp.*)
- Designed a follow-up study in the second funded summer to my work the previous year
- Wrote competitively funded grant proposals for University funding for the summer of 2014 and 2015
- Selected as the university's sole 'Biological Sciences' representative at the Murdock College Science Research Conference

Plant Genetics Lab Member (Dec. 2015 – May 2016)

University of Puget Sound, Tacoma WA – **Advisor: Bryan Thines**

- Used PCR to identify *Arabidopsis thaliana* homozygous knockout mutants for a trait related to F-BOX stress response
- Expanded existing R code for meta-analysis of Affymetrix microarray data on several abiotic stresses
- Participated in weekly literature days where lab members introduced a peer-reviewed paper and explained it to the group

Leopard Seal Behavior Research Assistant (May – July 2013 & Nov. 2014 – Jan. 2015)

National Oceanic and Atmospheric Administration, La Jolla, CA – **Advisor: Douglas Krause**

- Quantified 30,000 leopard seal dive profiles into seven distinct behavioral categories
 - Analyzed 40 hours of leopard seal dive camera footage and categorized different activities
-

TEACHING

Ecology Teaching Assistant (Aug. 2018 – Present)

Iowa State University, Ames IA – **Biology 312 (Intro to Ecology)**

- Taught core ecological concepts to sophomore through senior undergraduate students
- Worked with students individually and in groups to facilitate formal scientific writing skills and strategies
- Led both lab and field exercises to promote hands-on interaction with course concepts
- Collaborated with another TA to modify the course structure to emphasize development of scientific writing skills

Instructor of Record (Aug. 2017 – Dec. 2017)

Iowa State University, Ames IA – **Environmental Sciences 490 (Independent Research)**

- Mentored an Iowa State University undergraduate in their first independent research experience
- Facilitated the student in hypothesis formation, methods development, statistical analysis, and results reporting
- Taught the student data management and cleaning in the R statistical environment
- Wrote guidelines and gave feedback on abstract writing and poster presentation skills

Instructor's Assistant (Jan. 2016 – May 2016)

University of Puget Sound, Tacoma WA – **Biology 111 (Unity of life)**

- Addressed questions from students as they learned and employed lab techniques
- Supervised and led trainings in the use of lab equipment
- Taught statistical and database management methods in Microsoft Excel

LEADERSHIP

Social Media Coordinator (May 2018 – Present)

Iowa State University, Ames IA – **Society for Advancement of Hispanics/Chicanos and Native Americans in Science**

- Led workshops on professional networking and the process of applying to graduate school
- Created consistent branding for web presence across social media platforms
- Wrote and posted tweets in-line with the support for diverse identities in science consistent with the society's mission
- Member since January 2018

Recruitment Committee Graduate Student Representative (May 2017 – Present)

Iowa State University, Ames IA – **Ecology and Evolutionary Biology Graduate Program**

- Established timeline for organizing the research symposium during recruitment weekend
- Worked with faculty, staff, and students to ensure a successful recruitment season
- Designed a promotional flier and the program for the event
- Elected for two consecutive terms by the graduate student members of the program

Graduate Student Senator (Dec. 2017 – Present)

Iowa State University, Ames IA – **Graduate and Professional Student Senate**

- Voted on policy and administrative matters that affect graduate students
- Advocated for issues relevant to graduate students in the Ecology and Evolutionary Biology Graduate Program
- Appointed as the first EEB Program Senator and subsequently elected for the following term

Applied Ecology Section Liaison (Aug. 2017 – Oct. 2018)

Ecological Society of America – **ESA Student Section**

- Provided social media (e.g. Twitter, newsletter, etc.) content on Applied Ecology Section news relevant to students
- Recorded a podcast with the ESA Student Section on my experience of being an applied ecology graduate student
- Member of the Ecological Society of America since August 2017

Phi Sigma Research Symposium Co-Chair (Apr. 2015 – May 2016)

University of Puget Sound, Tacoma WA – **Phi Sigma Biological Sciences Honors Society**

- Organized a symposium for student researchers across the natural sciences to present to the campus community
- Secured a keynote speaker for the symposium and coordinated logistics around their visit
- Sourced and managed a designer to produce posters to publicize the event around campus

PUBLICATIONS

- Lyon, N. J.**, Debinski, D.M., Rangwala, I. Evaluating the Utility of Species Distribution Models in Informing Climate Change-Resilient Grassland Restoration Strategy [*In press at Frontiers in Ecology and Evolutionary Biology*]
- Lyon, N. J.**, Hodum, P., Woods, C.L. Mussels as Bio-Indicators of Regional Microplastic Trends. [*In review at Marine Pollution Bulletin*]
- Stein, D.S., Debinski, D.M., Pleasants, J.M., **Lyon, N. J.** Enhancing Butterfly and Flowering Plant Communities via Collaborative Adaptive Management of *Schedonorus arundinaceus*. [*In prep*]
- Lyon, N. J.**, Debinski, D.M. Butterfly Long-Term Response to Management with Fire and Grazing Differs from Short-Term Responses. [*In prep*]
-

SELECTED PRESENTATIONS

- Lyon, N.J. Multivariate Statistics in R. **Data Management and Analysis in R for Ecologists and Evolutionary Biologists (EEB 698)**, Ames IA, November 2018. Guest Lecture.
- Lyon, N.J., Debinski, D.M., Miller, J., Schact, W. Native Plant and Pollinator Response to Adaptive Management. **Ecological Society of America**, New Orleans LA, August 2018. Oral Presentation.
- Lyon, N.J., Debinski, D.M., Miller, J., Schact, W. Plant and Pollinator Response to Adaptive Management. **Graduate and Professional Student Research Conference**, Ames IA, April 2018. Awarded Best Oral Presentation.
- Lyon, N.J., Debinski, D.M. Butterfly and Nectar-Producing Plant Response to Invasive Grass Management. **Graduate Research in Ecology and Evolutionary Biology Symposium**, Ames IA, February 2018. Oral Presentation.
- Lyon, N. J., Debinski, D.M., and Rangwala, I. Species Distribution Modeling to Predict Prairie Restoration Success under Climate Change. **Ecological Society of America**, Portland OR, August 2017. Oral Presentation.
- Lyon, N.J., Debinski, D.M., Miller, J., Schact, W. and Stein, D. Adaptive Management for Prairie Plants and Pollinators in Midwestern Working Landscapes. **Iowa Invasive Species Conference**, Moravia IA, March 2017. Oral Presentation.
- Lyon, N.J. Incorporating Correlative Modeling into Modifying Restoration Strategies for the Future. **Graduate Research in Ecology and Evolutionary Biology Symposium**, Ames IA, February 2017. Oral Presentation.
-

HONORS & AWARDS

Honors

- 2018 – **Preparing Future Faculty** – Iowa State University, Ames IA
- 2017 – **Science Communication Fellow** – Reiman Gardens, Ames IA
- 2016 – **Biology Department Honors** – University of Puget Sound, Tacoma WA

Grants & Awards

- 2018 – **Graduate Student Travel Award** – \$500
Ecological Society of America, Applied Ecology Section
- 2017 – **Graduate Student Travel Grant** – \$600
Center for Global and Regional Environmental Research (CGRER)
- 2017 – **Graduate Student Field Research Grant** – \$1,377
Center for Global and Regional Environmental Research (CGRER)
- 2014 & 2015 – **Student Research Award** – \$3,250
University of Puget Sound, Biology Department
-