

Travis Seaborn
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EDUCATION

WASHINGTON STATE UNIVERSITY- Pullman, WA

Doctor of Philosophy in Biology – July, 2019

Advisor: Erica Crespi

WESTERN CAROLINA UNIVERSITY- Cullowhee, NC

Master's of Science in Biology – May, 2014

Advisor: Kefyn Catley

UNIVERSITY OF WASHINGTON – Seattle, WA

Bachelor's of Science in Biology, Minor in Philosophy – March, 2010

PROFESSIONAL APPOINTMENTS AND EXPERIENCE

NORTH DAKOTA STATE UNIVERSITY

Assistant Professor, July 2022-Present

School of Natural Resource Sciences, Select Ongoing Projects:

- Demo-genetic, spatial agent-based models to assess trout adaptive capacity and responses to climate change
- Understanding social-ecological systems from genomics to stakeholder engagement for understanding invasive species and future scenarios for Yellowstone cutthroat trout
- Comparative bumble bee landscape connectivity in a highly modified landscape in North Dakota
- Effectiveness of culling and hunting on managing relatedness and susceptibility to chronic wasting disease
- Elk herd relatedness and connectivity across North Dakota, Minnesota, and Manitoba
- Fisheries as Coupled Human and Natural Systems: Global survey and assessment
- Local adaptation of walleye hatchery strains in the upper Midwest for understanding future supplementation success with climate change

Instructor of Record, January 2023-Present

Current average course evaluation across all classes: 4.31 / 5

Natural Resource Management / Range Science 225: Natural Resources and Agroecosystems, Fall Semester, 2023, 2024, 2025

Natural Resource Management 393: Undergraduate Research: Conservation Genetics, Spring 2026

Natural Resource Management 470/670: Landscape Genetics, Spring Semester, 2024, 2026

- International distributed graduate course across dozens of universities and hundreds of students, serving as week nine simulation and modeling principle instructor. Local section instructor at NDSU.
- Co-Course Organizer with Melanie Murphy, Nusha Keyghobadi, Bill Peterman, and Ho Yi Wan.

Natural Resource Management 471/671: Landscape Genetics Lab, Spring Semester, 2024, 2026

Range Science 765: Analysis of Ecosystems, Spring Semester, 2024, 2026

Range Science 791: Fundamentals of R for Ecologists, Spring Semester, 2023, 2024

Range Science 791: Applied Ecological Analyses in R, Spring Semester, 2023, 2024

Range Science 792: Graduate Teaching Experience

2 students mentored in Range Science 792, Spring Semesters, 2023, 2024

Planned: Natural Resource Management 457/657: Applied Analysis Tools for Natural Resources and Agriculture, Fall Semesters starting in 2026. Permanent version of the 791 R courses.

Additional Salaried Appointments:

Department Leaders Position: Recruitment, July 2023-July 2025

School of Natural Resource Sciences

- Determine strategies to actively recruit undergraduates, MNRM, MS, and PhD students
 - Developed and implemented three-year student decision survey
- Improve the impact and reach of recruitment regionally, as well as nationally and globally
- Stakeholder outreach to increase awareness

North Dakota Water Resources Research Institute Faculty Fellow, January 2024-Present

- Planning PFAS and Fargo Diversion Conferences
- Geospatial R Workshops
- Transdisciplinary Grant Planning and Collaboration

Honors College Core Curriculum Team, October 2025-Present

- Create program learning outcomes
- Developing an innovative and cross-disciplinary curriculum that serves as the foundation of the new Honors College academic experience

UNIVERSITY OF IDAHO

National Science Foundation EPSCoR GEM3 Postdoctoral Scholar

Research Associate, July 2019-July 2022

Department of Fish and Wildlife Sciences, College of Natural Resources

Mentors: Christopher Caudill, Lisette Waits, Paul Hohenlohe

Instructor of Record, January 2020-May 2022

Bioinformatics and Computational Biology 503: Data Carpentries Geospatial Workshop, Co-Instructor: Spring Semester, 2020

Bioinformatics and Computational Biology 503: Unix, Git, Python Workshop, Co-Instructor, Spring Semester 2021

Bioinformatics and Computational Biology 503: Data Visualization in R and Python Workshop, Co-Instructor, Spring Semester 2022

Core Science 231: Fish and Wildlife in a Changing World, Co-Instructor, Fall Semester, 2020

Education Curriculum & Instruction Design / Fishery Resources 504 (cross listed): Teaching Data Analysis and Pedagogy *New Course*, Fall Semester, 2020

Environmental Science 404/504: Distribution and Climate Change Modeling, *New course*, Spring Semester 2021

Wildlife 561: Landscape Genetics, Co-Instructor, Spring Semester, 2020, 2022

International distributed graduate course across many universities and hundreds of students

2020, 2022: International group project leader for Alshwairikh et al. 2021 and co-group leader with McKinney and Fraik for Ledger et al. 2023 publications

2022, 2024: Acting as simulation and modeling expert and lecturer, including curriculum development
Wildlife 562: Landscape Genetics Lab, Spring Semester, 2020, 2022

WASHINGTON STATE UNIVERSITY

Teaching Assistant/Lab Instructor, August 2014 - May 2019

Biology 432: Biology of Amphibians and Reptiles: Spring Semesters, 2016 and 2018
Biology 372: General Ecology: Fall Semester, 2015
Biology 106: Introductory Biology: Organismal Biology: Fall Semesters, 2014 and 2016
Science 101: Origins in the Natural World: Fall Semester, 2018
Science 102: Dynamic Systems in the Natural World: Spring Semester, 2019

Research Assistant

Fall Semester, 2017: eDNA assay design for amphibian conservation in montane wetlands. Goldberg lab, collaboration with Piovio-Scott lab, WSU Vancouver.
Spring Semester, 2017: Conservation genomics of the Sonoran tiger salamander. Goldberg lab, collaboration with Arizona Game and Fish Department.
Spring Semester, 2015: Genetically informed metapopulation viability analysis of the northern leopard frog. Goldberg lab, collaboration with Washington State Department of Fish and Wildlife.

WESTERN CAROLINA UNIVERSITY

Teaching Assistant/Lab Instructor, August 2012 - May 2014

Biology 104: Human Biology: Spring Semester, 2014
Biology 141: Principles of Biology II: Fall Semester, 2012; Spring Semester, 2013
Biology 241: Ecology and Evolution: Fall Semester, 2012; Summer Semester, 2013
Biology 140: Principles of Biology I: Fall Semester, 2013
Biology 373: Invertebrate Zoology: Guest lab instructor

Laboratory Preparator/Coordinator, January 2013 - December 2013

Biology 141: Principles of Biology II: Spring Semester, 2013
Biology 140: Principles of Biology I: Fall Semester, 2013

FUNDING AND AWARDS

NORTH DAKOTA STATE UNIVERSITY

Research Funding

Pending

1. United State Department of Agriculture, National Institute of Food and Agriculture, Agriculture and Food Research Initiative. 2025. \$892,320. Co-PI with James T. Van Leuvan (University of Idaho).
 - a. "PARTNERSHIP: Safeguarding Pollinator Health by Understanding Microbial Exchange at the Wild-Managed Interface"
 - b. Role: Geospatial modeling of species, microbiome, and disease. One PhD student to NDSU.
2. National Science Foundation EPSCoR Research Infrastructure Improvement Program: EPSCoR Research Incubators for STEM Excellence (E-RISE). 2025, \$8,000,000, \$5,826,309 to NDSU. Co-PI with PI Zhulu Lin, NDSU Co-PIs Jaile Xu, Dane Mataic, and

Trung Le. Other Ecology Team Co-PIs: University of North Dakota: Mark Kaemingk, Melissa Schmitt, Keenan Stears; Minot State University: Mark Leuders; United Tribes Technical College: Mandy Guinn

- a. “A Social-Ecological-Environmental Network for Statewide Engagement in Per- and Polyfluoroalkyl Substances Research (SENSE PFAS)”
 - b. Role: Leader of the Ecology Team, with Ecology Team members across NDSU, UND, Minot State University, and United Tribes Technical College. Leader of agency and NGO support engagement.
3. National Science Foundation EPSCoR Graduate Fellowship Program (EGFP). 2025, \$945,000. Co-PI with PI Ned Dochtermann, Co-PIs Julia Bowsher, Jennifer Momsen, Timothy Grieves.
 - a. “Understanding organismal resilience and building academic resilience: The Fellowship in Organismal Resilience (FOR) Program”
 - b. Role: Student mentorship and professional development workshops on GIS, data science, basic vs. applied science, and land grant Extension.
 4. Research Council of Finland. 2025, \$623,417. Collaborator with Mervi Kunasranta, Milaja Nykanen, Jaakko Pohjoismaki (University of Eastern Finland).
 - a. “Should I stay or should I go? - Implications of site fidelity and dispersal dynamics on viability of fragmented populations”
 - b. Role: Train postdoc on individual based demographic genetics modeling by hosting them at NDSU.
 5. Waterways for Wildlife, National Wild Turkey Federation. 2026, \$19,071. PI, with Co-PIs Torre Hovick, Dillon Fogarty, and Miranda Meehan.
 - a. “Response to low-tech process-based river restoration in the Northern Great Plains”
 - b. Role: funding request for graduate student and equipment in my lab. Remaining support from the project coming from the Ekre Grassland Preserve.

Total Awarded: \$6,480,461; Lab Awarded: \$713,253

1. North Dakota State University College of Agriculture, Food Systems, and Natural Resources Teaching Equipment Funds. 2025, \$16,975.
 - a. Apex electrofishing backpack
 - b. Role: sole PI. Backpack for workshops and classroom teaching.
2. United States Department of Agriculture Natural Resources Conservation Service Conservation Innovation Grant Classic Program. 2024, \$1,096,659. Co-PI with PI Jason Harmon and Co-PIs Torre Hovick, Kevin Sedivec, Miranda Meehan, Christopher Augustin, Benjamin Geaumont, and Dillon Fogarty.
 - a. “Virtual fencing to support livestock production and conservation of grassland wildlife and invertebrates”
 - b. Role: spatial analysis of cattle behavior and the response of birds and pollinators to cattle disturbance.

3. North Dakota Research and Creative Activity Office: University Research Collaboration Program. 2024. \$49,954. PI with Co-PIs Jason Harmon, Rebecca Simmons (UND), Brian Darby (UND), Scott Hanson (Turtle Mountain Community College), Joseph Petit (Minot State University).
 - a. “Reinforcing food security by utilizing new approaches for understanding pollinator success in the Northern Great Plains.”
 - b. Role: Leader of the project linking plant/food diversity, to gut microbiome diversity, to bumble bee population genetic diversity. My lab completed the population genetic diversity analysis in addition to linkages work.
4. U.S. Forest Service Research & Development Bipartisan Infrastructure Law Ecosystem Restoration Research Project Proposal. 2023, \$974,122. Co-PI with PI Michael Schwartz and Co-PIs Alexandra Fraik, Rachel Toczydlowski, Taylor Wilcox, and Thomas Franklin.
 - a. “Integrated modeling tools to monitor, predict, prevent, and eradicate aquatic invasive species from highly disturbed riverscapes”
 - b. Role: Leader of Objectives 1 and 4, co-leader of Objective 2 with Fraik. Project includes mentorship of a Ph.D. student and research specialist.
 - i. Objective 1. Quantify the distribution, occupancy, and seasonal habitat use of both endemic and invasive salmonid fishes in the Teton River basin.
 - ii. Objective 2. Identify how landscape features, geographic distance, restoration activities and environmental stressors promote or limit gene flow among the four salmonid species in the basins.
 - iii. Objective 4: Incorporate ecological (Obj. I), genetic (Obj. II), and social (Obj. III) results in an integrative model to make predictions and identify preventative measures for future invasions in the river basins.
5. United States Department of Agriculture Wild Cervid Chronic Wasting Disease Management and Response Activities 2023. \$247,927. Co-PI with PI Michelle Carstensen, Minnesota Department of Natural Resources, and Co-PI Emily Latch, University of Wisconsin.
 - a. “Utilizing Novel Genetic Resources to Evaluate Effectiveness of Culling to Manage CWD in Endemic Areas”.
 - i. Additional Minnesota Department of Natural Resources Contributed Funds: \$3,500 to NDSU.
 - b. Role: All analyses for the project, with data generated by the Latch lab. Mentoring the M.S. student on the project.
6. National Science Foundation EPSCoR Research Infrastructure Improvement Program: Track-2 Focused EPSCoR Collaborations (RII Track-2 FEC). 2023, \$4,000,000. \$1,245,646 to NDSU. Senior Personnel with NDSU Co-PIs Febina Merlin Mathew (NDSU lead), Qifeng Zhang, Samiran Banerjee, Nancy Marie Hodur, Rajani Ganesh Pillai, Britt Jana Heidinger, and Surya Sarat Chandra Congress. Collaborative proposal with South Dakota.
 - a. “CCAT: Center for Climate-Conscious Agricultural Technologies.”

- b. Role: In charge and development of Task 6: Within-field spatial analysis to determine how the environment and soil factors impact microbial communities. Mentoring M.S. student.
- 7. North Dakota Agricultural Experiment Station SNRS Graduate Research Fellowships. 2023, \$40,000. Co-PI with PI Torre Hovick and Co-PIs Benjamin Geaumont, Kevin Sedivec, and Ned Dochtermann.
 - a. "Conservation of ecologically and economically important gamebirds in North Dakota agroecosystems."
 - b. Role: Graduate student mentor helping with statistics, spatial ecology, and model selection theory.
- 8. North Dakota State University EPSCoR STEM Research and Education Seed Award. 2023, \$15,000.
 - a. "Comparative bee genomics to understand the impacts of land use and climate change in North Dakota"
- 9. North Dakota State University School of Natural Resource Sciences Equipment Grant, 2023, \$5,332
- 10. North Dakota State University School of Natural Resource Sciences Equipment Grant, 2023, \$7,957
- 11. Environmental and Conservation Science Recruiting Stipend Enhancement Award,
 - a. 2023-2025, \$5,000 per year for 2 academic years (\$10,000 total)
 - b. 2026-2027, \$5,000 per year for 2 academic years (\$10,000 total)

Awards and Nominations

Total Awarded: \$20,000

Nomination for NDSU College of Agriculture, Food Systems, and Natural Resources Larson/Yaggie Excellence in Research Award, 2025
 North Dakota State University Agricultural Affairs Core Values Award, July, 2024
 North Dakota Water Resources Research Institute Faculty Fellowship, 2024-2025, \$20,000
 Office of Teaching and Learning, Innovation in Teaching Award, Fall 2023

UNIVERSITY OF IDAHO

Total Awarded: \$22,005

Idaho EPSCoR Sequencing Genomics Grant, 2022, \$8,000
 "Understanding the social-ecological dynamics of Yellowstone cutthroat trout hybridization and connectivity within the Teton river system"
 Nominee, Outstanding Post-Doc Scholar Award for 2020-2021, 2021-2022
 Institute for Modeling Collaboration and Innovation Registration Grant, September 2020, \$205
 For attending SACNAS 2020 - National Diversity in STEM Conference
 EPSCoR Vertically Integrated Program Course Development Grant, June 2020 - June 2021, \$13,400
 Funding for 1 new graduate course and 1 new undergraduate course
 Science Saturdays Outreach Grant, University of Idaho Arboretum, June 2019, \$400

WASHINGTON STATE UNIVERSITY

Total Awarded: \$16,950

Anne and Russ Fuller Fellowship for Interdisciplinary Research Scholarship,
WSU Graduate School, August 2018 - May 2019, \$4,000
McNeil Graduate Scholarship, WSU School of Biological Sciences, May 2018, \$2,000
Gil Pauley Award, Washington Cooperative Fish and Wildlife Research Unit
50th Anniversary, October 2017, \$1,000
WSU Graduate and Professional Student Association Travel Grant, Summer 2017, \$291
Carl. H. Elling Endowment, WSU School of Biological Sciences, Summers 2015-2016, 2018, \$7,159
Graduate Recruitment Fellowship, WSU College of Arts and Sciences, August 2014, \$2,500

WESTERN CAROLINA UNIVERSITY

Total Awarded: \$7,275

Teaching Assistant of the Year, Biology, August 2012 - May 2013
Highlands Biological Station Grant in Aid of Research, May - July 2013, \$1,750
Graduate School Study Stipend Grant, August 2013 - May 2014, \$2,000
Poster Competition Runner Up, American Arachnological Society, June 2013, \$250
Graduate Student Association Travel Award, June 2013, \$500
Graduate School Summer Research Assistantship, May - August 2013, \$2,000
Graduate Student Research and Creative Projects Stipend Award, January - May 2013, \$1,000
Residential Living 4.0 Ceremony, August 2012 - May 2013

UNIVERSITY OF WASHINGTON

Friday Harbor Labs Financial Award for Student of the Quarter, Spring Semester 2009, \$250

PUBLICATIONS AND REVIEWS

IN REVIEW, REVISIONS, AND IN PRESS

⁺ graduate student mentee, ^{*} external to academia and/or stakeholder

1. Netherton-Morrison, H.K.^{*}, T. M. Breech^{*}, S. Galla^{*}, G. Hart-Fredeluces^{*}, **T. Seaborn^{*}**, A. Child, E. Redd, K. Griswold, C. Baxter, A. Kliskey. Exploring interconnected drivers of team science integration within a statewide, transdisciplinary project: The importance of mentorship, prior beliefs, and team dynamics. In review *Ecology and Society*. ^{*} = Co-Leads/Corresponding Authors
 - a. Role: Co-developed project idea with Galla, Child, Hart-Fredeluces, and Kliskey. Writing sections on team formation, data collection and design, editing, figure development.
2. Johnson⁺, E., J. P. Harmon, T. Hovick, **T. Seaborn**, K. Kral-O'Brien, and K. Sedivec. Cattle foraging on milkweed: Intra-seasonal herbivory shifts and implications for monarch butterfly conservation. Accepted, *Ecosphere*
 - a. Role: Student mentorship and statistical consulting. Manuscript editing.
3. Robertson, B. C. Duquette, J. Harmon, K. Kral-O'Brien, T. Hovick, D. Fogarty, **T. Seaborn**, and K. Sedivec. Bumble bee communities exhibit delayed recovery responses following a severe drought in grazed mixed-grass prairie. In Revisions, *Environmental Entomology*

- a. Role: Student mentorship and statistical consulting. Manuscript editing.
4. Hall, R., M.A. Alston, C. Otto x, J. Harmon, and **T. Seaborn**. Lack of population structuring and low genetic diversity in two bumble bee species in North Dakota. In Revisions: *Biodiversity and Conservation*.
 - a. Role: My lab completed all analyses and almost all writing for the project. Mentoring the M.S. student (Hall) on the project as part of her thesis. Mentorship to research specialist who supported the project (Alston). All work at NDSU.
5. Alston, M.A., A.K. Fraik x, C. Wagner, W. Rosenthal, M.P. Rodriguez, B. Van Winkle x, M. Lien x, P. Hohenlohe, and **T. Seaborn**. Understanding Yellowstone cutthroat trout hybridization and connectivity within the Teton River system, a combined genomics and modeling approach. In Review: *Molecular Ecology*.
 - a. Role: Mentor of research specialist (Alston) and principle investigator of the project.
6. Yetter, J., B. Geaumont, **T. Seaborn**, J. Kolar, and T. Hovick. Understanding thermal conditions provides context for the influence of habitat characteristics on gamebird winter ecology. In Revisions: *Wildlife Biology*.
 - a. Role: Student mentorship, conceptualization, and analysis. Manuscript editing.

Late-stage prep: The following papers are complete drafts near submission but require review from co-authors, such as internal agency review.

1. **Seaborn, T.**, C.C. Caudill, H. Rantala x, L. Thurman x, G.G. Sass x, J.T. Mrnak x, J.M. Miller, and C. Chu x. Geographic and intraspecific variation incorporation into the adaptive capacity framework for fishes. Planned Submission: *Conservation Science and Practice*.
 - a. Role: As mentioned above, I was one of the keynote invited speakers for a workshop on adaptive capacity and fish by the USGS Midwest Climate Adaptation Science Center during my second year at NDSU. In addition to co-authoring a paper with Embke, this is the paper that I developed and became the lead of post-workshop.
2. Whaley +, Z.B., M.A. Alston, C. Bahnson x, L. Newediuk, K. LaSharr x, M. Carstensen x, and **T. Seaborn**. Elk Without Borders: Genomics Reveals Asymmetrical Gene Flow Among a Patchily Distributed Cervid. Planned Submission: *Ecological Applications*.
 - a. Role: Mentor of Whaley through NDSU RaMP program and research specialist Alston. Received genomic data provided by the agency partners.
3. Christensen, A., E. Latch, M. Carstensen x, T. Hovick, and **T. Seaborn**. Relatedness of Hunter-Harvested and Agency Culled White-Tailed Deer within an Endemic Chronic Wasting Disease population of Minnesota. Planned Submission: *Journal of Applied Ecology*.
 - a. Role: My lab completed all analyses and almost all writing for the project, with data generated by the Latch lab. Mentoring the M.S. student (Christensen) on the project as part of his thesis.

PUBLISHED

+ graduate student mentee, x external to academia and/or stakeholder

1. Embke, H. S.^x, K. M. Alofs, D. Bunnell^x, C. C. Caudill, C. Chu^x, C. Dunn^x, K. Fogelman, S. T. Gardner, T. Hook, M. Keefer, S. A. Jackson^x, S. Koenigbauer, O. LeDee^x, S. A. Ludsin, Abigail J. Lynch^x, B. Myers^x, E. Nyboer, **T. Seaborn**, C. D. Suski, L. Thurman^x, A. Walters^x, J. Westhoff^x. Adaptive capacity of freshwater organisms: current understanding and future applications. *Global Change Biology Communications*. 1(2)
 - a. Role: First paper coming from a workshop that I was one of the keynote speakers at. Contributed to conceptualization, writing, and editing.
2. Christensen, A.⁺, E. K. Latch, M. Carstensen^x, and **T. Seaborn**. 2026 Assessing kinship detection: SNP array density and estimator comparisons in White-Tailed Deer. *G3: Genes, Genomics, Genetics*.
 - a. Role: All analyses for the project, with data generated by the Latch lab. Mentoring the M.S. student (Christensen) on the project.
3. **Seaborn, T.**, E.J. Crespi, and C.S. Goldberg, 2025. Variation in dispersal traits and geography predict loss of ranges due to climate change in cold-adapted amphibians. *Biodiversity and Conservation*. 34(4):1311-1334.
 - a. Role: Project conceptualization, data generation and analysis from simulation work, writing, and editing.
4. Adams, A. J., C. Kamoroff^x, R. L. Grasso^x, B. Halstead^x, P. Kleeman^x, K. Powelson^x, **T. Seaborn**, C. Mengelt^x, and C. S. Goldberg. 2024. From eDNA to Decisions: A multi-method approach to restoration planning in streams. *Scientific Reports, Special Issue: Ecological Restoration and Rewilding*, 14.
 - a. Role: Created one of the eDNA qPCR assays. Editing.
5. Ledger, K.⁺, Y. Su, J.⁺ Y. Jeon⁺, A. Fullerton^x, D. Kuligowski^x, T. Bennett^x, K. Denton^x, R. Peters^x, M. McHenry^x, J. McMillian^x, J. H. Anderson^x, T. Seamons^x, G. Pess^x, K. M. Nichols^x, G. McKinney^x, **T. Seaborn**, A. Fraik^x. 2023. Using riverscape genetics to investigate the genetic response of two species and their life-history forms to dam removal. *Frontiers in Ecology and Evolution*. 11: 1225229.
 - a. Role: Co-mentored students Ledger, Su, and Jeon with Fraik and McKinney, with a particular emphasis on spatial analysis to understand connectivity. Part of Landscape Genetics Distributed Graduate Seminar group project.
6. Bhowmik⁺, N., **T. Seaborn**, K. A. Ringwall, C. R. Dahlen, K. C. Swanson, and L. L. Hulsman Hanna. 2023. Genetic distinctness and diversity of American Aberdeen cattle compared to common beef breeds in the United States. *Genes*. 14(10):1842.
 - a. Role: Helped mentor population genetics pipeline for Bhowmik and Hulsman Hanna. Editing.
7. **Seaborn, T.**, C. C. Day, S. J. Galla, T. O. Höök, E. Jossie^{+x}, E. L. Landguth, R. Liu, and R. K. Simmons^x. 2023. Individual-based models for incorporating landscape processes in the conservation and management of aquatic systems. Invited Review. *Current Landscape Ecology Reports*. 1-17.

- a. Role: I was the invited author to contribute this piece. Formed the team and provided leadership throughout the project. Conceptualization and figure development, writing, and editing.
8. Jossie^{xx}, E., **T. Seaborn**, C. Baxter, and M. Burnham. 2023. Using social-ecological models to explore stream connectivity outcomes for stakeholders and Yellowstone cutthroat trout. *Ecological Applications*.33(8): e2915.
 - a. Role: Provided all mentoring for the student on the individual-based modeling half of the project. Conceptualization of modelling component and editing.
9. **Seaborn, T.**, E.L. Landguth, and C.C. Caudill. 2023. Simulating plasticity as a framework for understanding habitat selection and its role in adaptive capacity and extinction risk through an expansion of CDMetaPOP. *Molecular Ecology Resources*.
 - a. Role: Developed the project and associated software module. Conceptualization, data generation, writing, and editing.
10. Keating^x, L., L. Randall^x, R. Stanton^x, C. McCormack^x, M. Lucid^x, **T. Seaborn**, S. J. Converse, S. Canessa, and A. Moehrenschrager^x. 2023. Using decision analysis to determine the feasibility of a conservation translocation. *Decision Analysis*.
 - a. Role: Model development and statistical contributions. Editing.
11. Andrews, K.R., **T. Seaborn**, J.P. Egan, M.W. Fagnan, D.D. New, Z. Chen, P.A. Hohenlohe, L.P. Waits, C.C. Caudill, and S.R. Narum^x. 2023. Whole genome resequencing identifies local adaptation associated with environmental variation for redband trout. *Molecular Ecology*. 900-919.
 - a. Role: All analyses that included aspects of spatial data being paired with genomics data, including genotype-environment association models and species distribution models to evaluate climate change impacts. Writing and editing.
12. Chen, Z., L. Grossfurthner⁺, J.L. Loxterman, J. Masingale⁺, B.A. Richardson^x, **T. Seaborn**, B. Smith⁺, L.P. Waits, and S.R. Narum^x. 2022. Applying genomics in assisted migration under climate change: empirical applications, case studies and guidelines. *Evolutionary Applications*. 15:3-21.
 - a. Role: Paper from workshop I attended. Mentored students on data generation and visualization. Writing and editing.
13. Alshwairikh, Y.A. ⁺, S.L. Kroeze⁺, J. Olsson⁺, S.A. Stephens-Cardenas^x, W.L. Swain⁺, L.P. Waits, R.L. Horn^x, S.R. Narum^x, and **T. Seaborn**. 2021. Influence of Environmental Conditions at Spawning Sites and Migration Routes on Adaptive Variation and Population Connectivity in Chinook Salmon. *Ecology and Evolution*. 11:16890–16908.
 - a. Role: Mentorship of students Alshwairikh, Kroeze, Olsson, Stephens-Cardenas, and Swain. Leader of the overall project. Editing. Part of Landscape Genetics Distributed Graduate Seminar group project.
14. Wang, H., **T. Seaborn**, Z. Wang, C.C. Caudill, and T.E. Link. 2021. Modeling tree canopy height using machine learning over mixed vegetation landscapes. *International Journal of Applied Earth Observations and Geoinformation*. 101:102353.

- a. Role: Did most of the comparison analyses between geographically and standard random forest. Writing and editing.
15. **Seaborn, T.**, K.R. Andrews, C.V. Applestein⁺, T.M. Breech⁺, M.J. Garrett⁺, A. Zaiats⁺, and T.T. Caughlin. 2021. Integrating genomics in population models to forecast translocation success. *Restoration Ecology*. e13395.
 - a. Role: Leader of project to come from a workshop. Conceptualization, writing, and editing.
16. **Seaborn, T.**, D. Griffith, A. Kliskey, and C.C. Caudill. 2021. Building a Bridge Between Adaptive Capacity and Adaptive Potential. *Global Change Biology*. 1-13.
 - a. Role: Leader of the project. Conceptualization, figure development, writing, and editing.
17. Hall, E.M., S.I. Duncan, **T. Seaborn**, J. Cundiff, L.J. Rissler^x, and E.J. Crespi. 2021. Ecological adaptation drives wood frog population divergence in life history traits. *Heredity*. 1-15.
 - a. Role: Contributed species distribution models and spatial analyses.
18. **Seaborn, T.**, C.S. Goldberg, and E.J. Crespi. 2021. Drivers of distributions and niches of North American cold-adapted amphibians: evaluating both climate and land use. *Ecological Applications*. 31: e2236.
 - a. Role: Student lead of the project. Conceptualization, data generation and analysis, writing, and editing.
19. **Seaborn, T.**, and C.S. Goldberg. 2020. Population analysis and conservation genetics of the last known northern leopard frog (*Rana pipiens*) population in Washington State. *Journal of Herpetology*. 54: 465-475.
 - a. Role: Student lead of the project. Conceptualization, data generation and analysis, writing, and editing.
20. **Seaborn, T.**, C. Goldberg, and E. Crespi. 2020. Integration of dispersal data into distribution modeling in biogeography: What have we done and what have we learned? *Frontiers of Biogeography*. 12: e43130.
 - a. Role: Student lead of the project. Conceptualization, data generation and analysis, writing, and editing.
21. Pope^x, K. L., C.S. Goldberg, N. L. Nelson, A. Cummings, **T. Seaborn**, and J. Piovia-Scott. 2020. Designing environmental DNA Surveys in Complex Aquatic Systems: Backpack Sampling for Rare Amphibians in Sierra Nevada Meadows. *Aquatic Conservation: Marine and Freshwater Ecosystems*. 30(10): 1975-87.
 - a. Role: Developed eDNA qPCR assay. Editing.
22. **Seaborn, T.**, S. Hauser, L. Konrade, L.P. Waits, and C.S. Goldberg. 2019. Landscape genetic inferences vary with sampling scenario for a pond-breeding amphibian. *Ecology and Evolution*. 9(9): 5063-5078.

- a. Role: Student lead of the project. Conceptualization, data generation and analysis, writing, and editing.
23. **Seaborn, T.**, and K.M. Catley. 2016. Abiotic microhabitat parameters of the spruce-fir moss spider, *Microhexura montivaga* Crosby and Bishop 1925 (Araneae: Dipluridae). *Southeastern Naturalist*. 15(1):61-75.
- a. Role: Student lead of the project. Conceptualization, data generation and analysis, writing, and editing.
24. Crespi, E.J., L. Rissler, N. Mattheus, K. Engbrecht, S. Duncan, **T. Seaborn**, E. Hall, J. Peterson, and J. Brunner. 2015. Geophysiology of wood frogs: landscape patterns of disease prevalence and circulating hormone levels across the eastern range. *Integrative and Comparative Biology*. 55(4): 602-617.
- a. Role: Contributed species distribution models and spatial analyses.
25. **Seaborn, T.** 2014. Limpets and their algal epibionts: costs and benefits of *Acrosiphonia* spp and *Ulva lactuca* Growth. *Journal of Marine Biology*. p 7. doi: 10.1155/2014/891943.
- a. Role: Student lead of the project. Conceptualization, data generation and analysis, writing, and editing.
26. Lee, S., **T. Seaborn**, F. Mao, S. Massey, N. Luu, M. Schubert, J. Chien, P. Carpenter, C. Moravec, P. Martin, and M. Flowers. Frequency of Abnormal Findings Detected by Comprehensive Clinical Evaluation at 1 Year after Allogeneic Hematopoietic Cell Transplantation. 2009. *American Society for Blood and Marrow Transplantation*. 15(4):416-420.
- a. Role: Undergraduate researcher. Data generation and editing.

TECHNICAL REPORTS

⁺ student mentee, ^x external to academia and/or stakeholder

1. Newediuk, L., Z. Whaley⁺, **T. Seaborn**, and E. Vander Wal. 2025. Elk habitat selection and reproductive success in Manitoba's human-modified landscapes; Evaluating human influence on nutritional and psychological stress of Manitoba elk. Manitoba Habitat Conservancy Fish and Wildlife Enhancement Fund Report.
2. Goldberg, C.S., R. Peek, and **T. Seaborn**. 2024. "Northern leopard frog updated population genetics, genomics, and population predictions." Washington Department of Fish and Wildlife.
3. Caudill, C.C., J. Masingale⁺, **T. Seaborn**, D. Hora^x, and D. Isaak^x. 2021. "Sensitivity of Idaho fishes to climate warming. Submitted as component of the Idaho Climate-Economy Impacts Assessment". <https://www.uidaho.edu/president/direct-reports/mcclure-center/iceia>
4. Goldberg, C.S, and **T. Seaborn**. 2017. "Ancestral lineages and invasive genotypes in southern Arizona tiger salamanders". Arizona Game and Fish.

5. **T. Seaborn**, and C.S. Goldberg. 2015. "Population analysis of the last known northern leopard frog (*Rana pipiens*) population in Washington State." Washington Department of Fish and Wildlife.

PEER-REVIEW WORK

Funding Reviewer

National Science Foundation, 2023-Present

2 panels

United State Department of Agriculture: Agriculture and Food Research Initiative, 2024-Present

1 post-hoc review

Publications Reviewer

Journal of Zoology, 2026

Proceedings of the Royal Society B, 2025-2026

Bioscience, 2025

Animal Conservation, 2025-2026

Journal of Applied Ecology, 2025

Individual-based Ecology, 2025

Ecological Applications, 2025

Transactions of the American Fisheries Society, 2025

Molecular Ecology Resources, 2020-2025

Evolutionary Applications, 2023, 2025

Biodiversity and Conservation, 2019, 2025

Molecular Ecology, 2019-2021, 2024-2025

Canadian Journal of Zoology, 2024-2025

Ethology Ecology & Evolution, 2024

Conservation Biology, 2023-2024

Diversity and Distributions, 2020-2024

Ecology and Evolution, 2019, 2023-2024

Landscape Ecology, 2021-2022

Hydrobiologia, 2021

Heredity, 2019-2020, 2026

Herpetological Review, 2019-2020

Insect Conservation and Diversity, 2019

Technical Report Reviewer

North Dakota Game and Fish Species of Greatest Conservation Need (SGCN)

Fish 2024

Amphibians and Reptiles 2024

U. S. Fish and Wildlife Service 5-Year ESA Reports, *Microhexura montivaga*, 2020

OUTREACH AND EXTENSION PUBLICATIONS

CDMetaPop Tutorial Author using GitHub Pages and Markdown, 2021-2023

https://trasea986.github.io/cdmetapop_tutorial.github.io/

CDMetaPop User Manual Co-Author and Programmer

<https://github.com/ComputationalEcologyLab/CDMetaPOP> 2020-Present.

The Researcher: Idaho NSF EPSCoR Newsletter. "Understanding the dynamics of Yellowstone cutthroat trout hybridization and connectivity within the Teton River system. Co-

- authors: Alexandra Fraik and Paul Hohenlohe. <https://tinyurl.com/mvym4rfd>. Spring, 2023.
- University of Idaho News. Idaho Team Develops DNA-Based Forecasting Framework to Assist in Species Recovery. Co-authors: Trevor Caughlin and Leigh Cooper. <https://www.uidaho.edu/news/news-articles/news-releases/2021-spring/040621-redbandtrout> April, 2021.
- The Researcher: Idaho NSF EPSCoR Newsletter. “Simulating trout distribution to understand environmental change.” Co-author: Christopher Caudill. <https://tinyurl.com/dv3vdczv> Fall, 2020.
- South Atlantic Landscape Conservation Cooperative: Indicators update blog. <http://www.southatlanticlcc.org/profiles/blogs/south-atlantic-indicators-update> (see embedded link in director’s post) Spring, 2013.
- Educational website on *Acrosiphonia*, an algal species through Friday Harbor Labs http://depts.washington.edu/fhl/mb/Acrosiphonia_Travis/Acrosiphonia_home.html. 2009.
- Conservation/Educational Website on the Snare’s Crested Penguin under Dee Boersma <http://mesh.biology.washington.edu/penguinProject/Snares-Crested>. 2008.

PRESENTATIONS

INVITED SYMPOSIA, SEMINARS, WORKSHOPS, AND PANELS

* graduate student mentee, * external to academia and/or stakeholder

1. **Seaborn, T.** October 2025. NDSU RaMP Program Panel: Graduate School Workshop: Finding a School, Advisor, and Navigating Applications.
2. **Seaborn, T.** October 2024. Academic Job Applications in the US & Canada Panel Discussion Participant. Society of Conservation Biology - North America. Virtual.
3. **Seaborn, T.,** Z. Chen, J. Masingale*, S. Narum*, A. Ringleman*, E. Keeley, L. Huang, K. Andrews*, T. Link, E. Du, K. Griswold, B. Kline*, P. Hohenlohe, L. Waits, D. Pradhan, A. Wooding*, B. Small, and C.C. Caudill. September 2024. Adaptive capacity across scales: from genomes to landscapes in rainbow. Invited to Symposium: Understanding the Adaptive Capacity of Fish: Resiliency in a Changing Climate. American Fisheries Society. Honolulu, HI. Talk.
4. **Seaborn, T.** August 2024. Genetic and Connectivity Considerations for Fish and Wildlife. Fargo-Moorehead Area Diversion Project Conference. North Dakota State University. Fargo, ND.
5. **Seaborn, T.** April 2024. Inside the Faculty Hiring Process: Why Student Input and Engagement Matters!. North Dakota State University. Fargo, ND.
6. **Seaborn, T.** January 2024. Integrative research to tackle climate change challenges: systems thinking for system sustainability. Research Community Building Workshop. North Dakota State University. Fargo, ND.
7. **Seaborn, T.** November 2023. Trout tales: reeling in discoveries of adaptive capacity through the untangling of eco-evolutionary dynamics. Biological Sciences Seminar Series. North Dakota State University. Fargo, ND.
8. **Seaborn, T.,** M. Keefer, C. Caudill. November 2023. Toward empirical assessment of adaptive capacity in aquatic populations across scales: from genomes to landscapes in native rainbow trout populations in Idaho. Adaptive Capacity of Inland Fishes Workshop Invited Speaker, USGS Climate Adaptation Science Center and Partners. Madison, WI.

9. **Seaborn, T.** December 2022. Understanding cold-adapted species conservation in the face of anthropogenic environmental change. Department of Biology Seminar Series. University of North Dakota. Grand Forks, ND.
10. **Seaborn, T.** December 2022. Understanding cold-adapted species conservation in the face of anthropogenic environmental change. Environmental and Conservation Sciences Program. North Dakota State University. Fargo, ND.
11. **Seaborn, T.** November 2022. Ask-An-Academic Panel Discussion Series Participant. Society of Conservation Biology - North America. Virtual.
12. **Seaborn, T.** November 2022. Understanding cold-adapted species conservation in the face of anthropogenic environmental change. Department of Biology Seminar Series. University of South Dakota. Vermillion, SD.
13. **Seaborn, T.** October 2022. Who do you think you are? Potentially useful advice for graduate school. School of Natural Resource Sciences Symposium. Fargo, ND.
14. **Seaborn, T.** September 2022. Understanding cold-adapted species conservation in the face of anthropogenic environmental change. Department of Natural Resource Management Seminar Series. South Dakota State University. Brookings, SD.
15. Jossie*, L., **T. Seaborn**, C. Baxter, and M. Burnham. March 2022. "Exploring stream connectivity outcomes for stakeholders and Yellowstone Cutthroat Trout in the Teton River Drainage." Oregon Chapter of the American Fisheries Society. Symposium: Human Dimensions. Virtual.
16. **Seaborn, T.** December 2021. Idaho ESPCoR Graduate Student Career Panel. Virtual.
17. **Seaborn, T.** October 2021. Paul Burton Biology Seminar Series, Western Carolina University. Understanding cold-adapted species conservation in the face of anthropogenic environmental change. Virtual.
18. **Seaborn, T.**, C. Caudill. May 2021. Adaptive Capacity of Redband Trout Across Ecotypes. Western Division of the American Fisheries Society. Symposium: Climate Change Effects on Fish and Fisheries in a Changing World. Virtual.
19. Alshwairikh*, Y., A. Garretson*, S. Kroeze*, J. Olsson*, S. Stephens^x, W. Swain*, R. Horn^x, L. Waits, S. Narum^x, and **T. Seaborn**. April 2021. Influence of environmental conditions at spawning sites and migration routes on adaptive variation and population connectivity in Chinook Salmon. International Association for Landscape Ecology – North America. Symposium: Landscape genetics distributed graduate seminar connecting the world: innovative products of a blended model of graduate education and remote scientific collaboration. Virtual.
20. **Seaborn, T.** Canadian Herpetology Society Webinar Panel. November 2020. Strengths, limitations, and practical considerations of using eDNA techniques to detect amphibian pathogens in wild populations. Virtual.
21. **Seaborn, T.**, S. Hauser, L. Konrade, L.P. Waits, and C.S. Goldberg. May 2017. Testing landscape genetic hypotheses for the Columbia Spotted Frog (*Rana luteiventris*) under multiple sample scenarios. U.S. Regional Association of the International Association for Landscape Ecology. Symposium: Applications of landscape genetics. Baltimore, MD.

CONFERENCE PRESENTATIONS AND SEMINARS

* graduate student mentee, + undergraduate student mentee, #postdoctoral/professional mentee, x external to academia and/or stakeholder

1. Cmelik[#], P., L. Miller^x, **Seaborn, T.** Investigating local adaptation in Minnesota walleye using low coverage whole genome sequencing. 2026. Dakota Chapter American Fisheries Society. Brookings, SD. Talk
2. Priest^{*}, A. Fraik, T. Wilcox, R. Toczydowski, B. Van Winkle, M. Lien, **Seaborn, T.** Modeling native and invasive trout distributions in a stream network using eDNA and spatial stream network models. 2026. Dakota Chapter American Fisheries Society. Brookings, SD. Talk
3. Alston[#], M., J. Allen, S. Barbosa, S. Galla, A. Melton, L. Waits, and **T. Seaborn.** 2026. Evaluating recent trends in the integration of conservation genetics into at-risk species recovery planning. Dakota Chapter American Fisheries Society. Brookings, SD. Talk
4. **Seaborn, T.** Multiscale and multispecies research to understand connectivity for fish (and wildlife) management. 2026. Dakota Chapter American Fisheries Society. Brookings, SD. Talk
5. Adrian, T.A., D.T. Fogarty, K.K. Sedivec, J.P. Harmon, M.A. Meehan, **T. Seaborn**, M.G. Warne, B.A. Robertson, and T.J. Hovick. 2026. Let Them Eat Forbs: Differences in floral resources among path-burn grazing, path grazing using virtual fence, and season-long grazing. Society for Range Management. Monterey, CA. Poster.
6. Sherman, S. M. Meehan, C. Byrd, **T. Seaborn**, T. Hovick, D. Fogarty, J. Wianecki, J. Harmon, and K. Sedivec. 2026. Evaluating efficacy of virtual fencing to implement patch grazing. Society for Range Management. Monterey, CA. Poster.
7. Wianecki, J., M. Meehan, C. Byrd, K. Sedivec, C. Tobin, **T. Seaborn**, M. Drewnoski, Y. Xiong, and T. Aquino. 2026. Comparison of the impacts of grazing technologies on forage utilization in an intensive grazing system Society for Range Management. Monterey, CA. Talk.
8. Lawson, R., T.J. Hovick, **T. Seaborn**, and B. Geaumont. 2026. Utilizing eBird data to model habitat selection through the annual cycle of Barid's Sparrow, Chestnut-collared Longspur, and Sprague's Pipit. North Dakota Chapter of The Wildlife Society. Bismark, N.D. Poster.
9. Adrian, T.A., D.T. Fogarty, K.K. Sedivec, J.P. Harmon, M.A. Mehan, **T. Seaborn**, and T.J. Hovick. 2026. Beyond the Cows: Modern grazing management for butterflies, bees, and blooms. North Dakota Chapter of The Wildlife Society. Bismark, ND. Poster.
10. Calahan, M., Atamian, M., Beck, J., Buerki, S., Forbey, J. S., Forsdick, N., Griffin, K., Heath, J., Lautenbach, J., Schroeder, M., **Seaborn, T.**, Small, J., Struthers, J., Galla, S. J. 2026. Assessing range-wide diversity and population structure in Columbian sharp-tailed grouse using whole genome resequencing. Washington Sage and Sharp-tailed Grouse Annual Workshop, Wenatchee, WA, United States. Talk.
11. Lewis, G., J. Prasifka, **T. Seaborn**, M. Alston, D. Prischmann-Voldseth. 2025. Evaluating impact of pollen and nectar availability on sunflower insect visitation with eDNA. NDSU School of Natural Resource Sciences Symposium. Fargo, ND. Talk.

12. Berg*, T., A. Christensen, **T. Seaborn**, and L. Malone. 2025. Integrating Landscape Ecology Into Precision Agriculture: A Conceptual Framework and Microbial Case Study. NDSU School of Natural Resource Sciences Symposium. Fargo, ND. Talk.
13. Lewis, G., J. Prasifka, **T. Seaborn**, M. Alston, D. Prischmann-Voldseth. 2025. Evaluating impact of pollen and nectar availability on sunflower insect visitation with eDNA. Entomological Society of America. Portland, OR. Poster.
14. Whaley#, Z., C. Bahnson^x, L. Newediuk, K. LaSharr^x, M. Carstensen^x, and **T. Seaborn**. 2025. Elk without borders: Genomics reveals asymmetrical gene flow among patchily distributed herds in Manitoba, Minnesota, and North Dakota. The Wildlife Society. Edmonton, AB, Canada. Talk.
15. Calahan, M., Atamian, M., Beck, J., Buerki, S., Forbey, J. S., Forsdick, N., Griffin, K., Heath, J., Lautenbach, J., Schroeder, M., **Seaborn, T.**, Small, J., Struthers, J., Galla, S. J. 2026. Assessing range-wide diversity and population structure in Columbian sharp-tailed grouse using whole genome resequencing. The Wildlife Society. Edmonton, AB, Canada. Talk.
16. Berg*, T., A. Christensen, **T. Seaborn**, and L. Malone. 2025. Integrating Landscape Ecology Into Precision Agriculture: A Conceptual Framework and Microbial Case Study. CANVAS (American Society of Agronomy, Crop Science Society of America, Soil Science Society of America). Salt Lake City, UT. Poster.
17. Berg*, T., A. Christensen, **T. Seaborn**, and L. Malone. 2025. Integrating Landscape Ecology Into Precision Agriculture: A Conceptual Framework and Microbial Case Study. North Dakota EPSCoR Annual Meeting. Fargo, ND. Poster.
18. Alston#, M., J. Allen, S. Barboa, S.J. Galla, A.E. Melton, L. Waits, **T. Seaborn**. 2025. Evaluating recent trends in the integration of conservation genetics into at-risk species recovery planning. Botanical Society of America. Palm Springs, CA. Talk (Presented by J. Allen).
19. Whaley#, Z., **T. Seaborn**. 2025. Where the elk herd roams: genomics and reveals the status of connectivity between patchily distributed herds. NDSU Student Research Days. Fargo, ND. Talk.
20. Priest*, A., **T. Seaborn**, M. Alston, A. Fraik^x. 2025. Using integrated modeling tools to investigate endemic and invasive salmonid fishes in working landscapes. International Association for Landscape Ecology – North America. Raleigh, NC. Poster.
21. Whaley#, Z., C. Bahnson^x, L. Newediuk, K. LaSharr^x, M. Carstensen^x, and **T. Seaborn**. 2025. Where the elk herd roams: genomics and reveals the status of connectivity between patchily distributed herds. International Association for Landscape Ecology – North America. Raleigh, NC. Poster.
22. Christensen*, A., M. Carstensen^x, T. Hovick, E. Latch, and **T. Seaborn**. 2025. Spatial Genomic Perspectives on Hunting and Culling Strategies for Managing Chronic Wasting Disease in White-tailed Deer. International Association for Landscape Ecology – North America. Raleigh, NC. Talk.
23. Hall*, R., J. Harmon, C. Otto^x, and **T. Seaborn**. 2025. Bee-yond the Nest: Exploring Land Use and Climate Effects on Bumble Bee Ecology. International Association for Landscape Ecology – North America. Raleigh, NC. Talk.

24. Hall*, R., J. Harmon, C. Otto^x, and **T. Seaborn**. 2025. Buzzing through space: Examining the multispatial impact of the landscape on bumble bees. Society for Range Management. Spokane, WA. Poster.
25. Christensen*, A., M. Carstensen^x, T. Hovick, E. Latch, and **T. Seaborn**. 2025. Chronic Wasting Disease Management: Using genomics to assess hunting and culling strategies. North Dakota Chapter of The Wildlife Society. Bismark, ND. Talk.
26. Hall*, R., J. Harmon, C. Otto^x, and **T. Seaborn**. 2025. Buzzing through space: Examining the multispatial impact of the landscape on bumble bees. North Dakota Chapter of The Wildlife Society. Bismark, ND. Poster.
27. Alston[#], M., J. Allen, S. Barbosa, S. Galla, A. Melton, L. Waits, and **T. Seaborn**. 2025. Evaluating recent trends in the integration of conservation genetics into at-risk species recovery planning. North Dakota Chapter of The Wildlife Society. Bismark, ND. Poster.
28. Whaley[#], Z., C. Bahnson^x, L. Newediuk, K. LaSharr^x, M. Carstensen^x, and **T. Seaborn**. 2025. Where the elk herd roams: genomics and simulations reveal the status of connectivity between small, isolated herds. North Dakota Chapter of The Wildlife Society. Bismark, ND. Poster.
29. Christensen*, A., M. Carstensen^x, T. Hovick, E. Latch, and **T. Seaborn**. 2025. Utilizing Novel Genetic Resources to Evaluate Effectiveness of Culling to Manage CWD in Endemic Areas. CWD [USDA APHIS] Cooperative Agreement Stakeholder and Tribal Nations Meeting. Virtual. Talk.
30. Christensen*, A., M. Carstensen^x, T. Hovick, E. Latch, and **T. Seaborn**. 2024. Hunting vs. Culling: Using Genomics to Assess Strategies for Managing Chronic Wasting Disease in White-Tailed Deer Populations. NDSU School of Natural Resource Sciences Symposium. Fargo, ND. Talk.
31. Hall*, R., J. Harmon, C. Otto^x, and **T. Seaborn**. 2024. Buzz and flow: bumblebees in changing landscapes. NDSU School of Natural Resource Sciences Symposium. Fargo, ND. Talk.
32. Hall*, R., J. Harmon, C. Otto^x, and **T. Seaborn**. 2024. Bee-yond the Horizon: Unraveling Bumble Bee Dynamics in the Northern Great Plains. North Dakota EPSCoR Annual Meeting. Grand Forks, ND. Poster.
33. Priest*, A., **T. Seaborn**, M. Alston, A. Fraik^x. 2024. Using integrated modeling tools to investigate endemic and invasive salmonid fishes in working landscapes. North Dakota State University All Agricultural Affairs Conference and the School of Natural Resource Sciences Symposium. Fargo, ND. Poster.
34. Whaley[#], Z. and **T. Seaborn**. 2024. Assessing the influence of dispersal capability on functional connectivity in elk. North Dakota State University All Agricultural Affairs Conference and the School of Natural Resource Sciences Symposium. Fargo, ND. Poster.
35. Christensen*, A., M. Carstensen^x, T. Hovick, E. Latch, and **T. Seaborn**. 2024. Hunting vs. Culling: Using Genomics to Assess Strategies for Managing Chronic Wasting Disease in White-Tailed Deer Populations. North Dakota State University All Agricultural Affairs Conference and the School of Natural Resource Sciences Symposium. Fargo, ND. Poster.

36. Hall*, R. J. Harmon, C. Otto^x, **T. Seaborn**. 2024. Buzzing through change: landscape ecology to unravel bumble bee dynamics in the Northern Great Plains. North Dakota State University All Agricultural Affairs Conference and the School of Natural Resource Sciences Symposium. Fargo, ND. Poster.
37. Alston[#], M., M. Youngwirth⁺, A. Fraik^x, P. Hohenlohe, and **T. Seaborn**. June 2024. Understanding Yellowstone cutthroat trout hybridization and connectivity within the Teton River system. North Dakota State University All Agricultural Affairs Conference and the School of Natural Resource Sciences Symposium. Fargo, ND. Poster.
38. Yetter*, J. B. Geaumont, T. Hovick, **T. Seaborn**, and J. Kolar^x. 2024. Habitat use and survival of ring-necked pheasants are affected at multiple scales during critical seasons. North Dakota State University All Agricultural Affairs Conference. Fargo, ND. Poster.
39. Coffelt*, B., K. Sedivec, T.J. Hovick, **T. Seaborn**, J.R. Hendrickson^x. 2024. Snowpack manipulations reduce Kentucky bluegrass abundance. North Dakota State University All Agricultural Affairs Conference. Fargo, ND. Poster.
40. Christensen*, A., M. Carstensen^x, T. Hovick, E. Latch, and **T. Seaborn**. 2024. Hunting vs. Culling: Using Genomics to Assess Strategies for Managing Chronic Wasting Disease in White-Tailed Deer Populations. The Wildlife Society. Baltimore, MD. Talk.
41. **Seaborn, T.** and M. Kinnison. September 2024. Molecular metacoupling: applying genetic approaches to scale and connectivity challenges of fisheries CHANS. Symposium: Fisheries as Coupled Human and Natural Systems (CHANS) to Improve Management. American Fisheries Society. Honolulu, HI. Talk.
42. Hall*, R., J. Harmon, C. Otto^x, and **T. Seaborn**. April 2024. Buzzing Through Change: Using Landscape Ecology to Unravel Bumble Bee Dynamics in the Northern Great Plains. NDSU Student Research Day. Fargo, ND. Poster
43. Christensen*, A., M. Carstensen^x, E. Latch, and **T. Seaborn**. April 2024. Exploring Novel Genetic Resources: Evaluating Effectiveness of Culling to Manage CWD. NDSU Student Research Day. Fargo, ND. Poster
44. **Seaborn, T.**, M. Calahan*, S.J. Galla. February 2024. Forecasting eco-evolutionary responses (FEER) to changing environments in subspecies of Sharp-tailed Grouse. North Dakota Chapter of The Wildlife Society. Bismark, ND. Poster
45. Christensen*, A., M. Carstensen^x, E. Latch, and **T. Seaborn**. February 2024. Exploring Novel Genetic Resources: Evaluating Effectiveness of Culling to Manage CWD. North Dakota Chapter of The Wildlife Society. Bismark, ND. Poster
46. Coffelt*, B., K. Sedivec, T. Hovick, **T. Seaborn**, and J. Hendrickson^x. February 2024. Influence of Row Crops and Rangelands on Amphibian Communities in Wetlands of the Prairie Pothole Region. North Dakota Chapter of The Wildlife Society. Bismark, ND. Poster
47. Coffelt*, B.M., K. K. Sedivec, T.J. Hovick, **T.J. Seaborn**, J.R. Hendrickson^x. February 2024. Impacts of Snowpack Reduction on Kentucky bluegrass. Society of Range Management. Sparks, NV. Poster.

48. Randall^x, R., L.M. Keating^x, R. Stanton, C. McCormack, M. Lucid, **T. Seaborn**, S.J. Converse, S. Canessa, and A. Moehrenschrager^x. November 2023. Asking “whether” rather than “how” when considering a conservation translocation. International Conservation Translocation Conference. Fremantle, Western Australia. Poster.
49. **Seaborn, T.**, K. Ledger^{*}, Y. Su^{*}, J.Y. Jeon^{*}, A. Fullerton^x, D. Kuligowski^x, T. Bennett^x, K. Denton^x, M. McHenry^x, J. McMillan^x, J.H. Anderson^x, T.R. Seamons^x, G. Pess^x, K.M. Nichols^x, G. McKinney^x, and A.K. Fraik^x. June 2023. Comparative riverscape genetics identifies variable genetic responses to dam removal across species and their life-history forms. American Fisheries Society Coastwide Salmonid Genetic Conference. Boise, ID. Talk.
50. Alston[#], M., M. Youngwirth⁺, A. Fraik^x, P. Hohenlohe, and **T. Seaborn**. June 2023. Understanding Yellowstone cutthroat trout hybridization and connectivity within the Teton River system, a combined genomics and modeling approach. American Fisheries Society Coastwide Salmonid Genetic Conference. Boise, ID. Poster.
51. Caudill, C.C., **T. Seaborn**, Z. Chen, J. Masingale^{*}, S. Narum, A. Ringleman^{*}, E. Keeley, L. Huang, K. Andrews^x, T. Link, E. Du, K. Griswold, B. Kline^{*}, P. Hohenlohe, L. Waits, D. Pradhan, A. Wooding^{*}, and B. Small. June 2023. Toward empirical assessment of adaptive capacity in aquatic populations across scales: from genomes to landscapes in native rainbow trout populations in Idaho. Freshwater Sciences. Brisbane, Australia. Talk.
52. Caudill, C.C., **T. Seaborn**, Z. Chen, J. Masingale^{*}, S. Narum, A. Ringleman^{*}, E. Keeley, L. Huang, K. Andrews, T. Link, E. Du, K. Griswold, B. Kline^{*}, P. Hohenlohe, L. Waits, D. Pradhan, A. Wooding^{*}, and B. Small. May 2023. Toward empirical assessment of adaptive capacity in aquatic populations across scales: from genomes to landscapes in native rainbow trout populations in Idaho. Western Division and Idaho Chapter of the American Fisheries Society Joint Annual Meeting. Boise, ID. Talk.
53. Lutter^{*}, T.J., T.J. Hovick, E. Trumbo, B. Geaumont, **T. Seaborn**, and D. Toledo^x. April 2023. Migrant and Breeding Birds Along the Red River Corridor. North Dakota State University Student Research Day. Fargo, ND. Poster.
54. Lutter^{*}, T.J., T.J. Hovick, E. Trumbo, B. Geaumont, **T. Seaborn**, and D. Toledo^x. February 2023. Preliminary Data on Migrant and Breeding Birds Along the Red River Urban Woods and Prairies Corridor. North Dakota Chapter of The Wildlife Society Annual Meeting. Mandan, ND. Poster.
55. Galla, S., P.J. Olsoy, **T. Seaborn**, E.M. Holdrige, N. Byer, K.M. Everson, S.B. Tekaya, and J. Forbey. November 2022. The Postdoc Integration Team: Empowering postdoctoral researchers through peer-led community building and professional training. National EPSCoR Annual Meeting. Portland, ME. Poster.
56. **Seaborn, T.** October 2022. Upstream flow: simulations of human impacted landscapes and the shifting eco-evo processes of trout. Idaho EPSCoR Annual Meeting. Boise, ID. Talk.
57. **Seaborn, T.**, E.L. Landguth, and C.C. Caudill. Climate Change, Behavioral Plasticity, and Local Adaptation Impacts on Redband Trout Eco-Evo Dynamics. August 2022. American Fisheries Society. Spokane, WA. Talk.

58. Andrews, K.R., **T. Seaborn**, J.P. Egan, M.W. Fagnan, D.D. New, Z. Chen, P.A. Hohenlohe, L.P. Waits, C.C. Caudill, and S.R. Narum^x. Whole Genome Resequencing Identifies Local Adaptation for Redband Trout. American Fisheries Society. August 2022. Spokane, WA. Talk.
59. Crespi, E.J., **T. Seaborn**, E.H. LeSage^x, and D.M. Schock. Health assessment of wood frog (*Rana sylvatica*) populations in the Athabasca Oil Sands Region, Alberta, Canada. August 2022. Global Amphibian and Reptile Disease Conference. Knoxville, TN. Poster.
60. Youngwirth⁺, M., A. Fraik, P. Hohenlohe, and **T. Seaborn**. Using RAD Sequencing and Bioinformatics to Quantify the Frequency and Dynamics of Hybridization of Yellowstone Cutthroat and Rainbow Trout in the Teton River Basin. July 2022. Idaho Conference on Undergraduate Research. Poster. Virtual.
61. **Seaborn, T.**, and C.C. Caudill. Authentic Climate Change and Genetics Research in the Virtual Classroom through Stakeholder Collaboration. March 2022. Biennial Conference on University Education in Natural Resources. Talk. Virtual.
62. Caudill, C.C, A. Harrington⁺, and **T. Seaborn**. Evaluating the influence of beaver ponds on nonnative brook trout in Idaho streams using species distribution models. May 2022. Joint Aquatic Sciences Meeting. Grand Rapids, Michigan. Talk.
63. Caudill, C.C, A. Harrington⁺, and **T. Seaborn**. Evaluating the influence of beaver ponds on nonnative brook trout in Idaho streams using species distribution models. March 2022. Idaho Chapter of the American Fisheries Society. Talk. Virtual.
64. Harrington⁺, A., C.C. Caudill, and **T. Seaborn**. Evaluating the influence of beaver ponds on nonnative brook trout in Idaho streams using species distribution models. July 2021. Idaho Conference on Undergraduate Research. Poster. Virtual.
65. **Seaborn, T.**, and C.C. Caudill. Developing a framework for assessing adaptive capacity in stream networks using agent-based models for redband trout. March 2021. Idaho Chapter of the American Fisheries Society. Talk. Virtual.
66. Jossie*, L., **T. Seaborn**, C. Baxter, and M. Burnham. Exploring stream connectivity outcomes for stakeholders and Yellowstone Cutthroat Trout in the Teton River Drainage. March 2021. Idaho Chapter of the American Fisheries Society. Talk. Virtual.
67. Jossie*, L., C. Baxter, m. Burnham, **T. Seaborn**. Integration of mental modeling and agent-based modeling to explore stream connectivity outcomes for stakeholders and Yellowstone cutthroat trout. November 2020. EPSCoR Idaho Annual Meeting. Poster. Virtual.
68. Caudill, C.C., and **T. Seaborn**. Developing a framework for assessing adaptive capacity in Redband Trout using agent-based models. Pacific Northwest Chapter of the Society for Freshwater Science Annual Meeting. November 2020. Talk. Virtual.
69. **Seaborn, T.**, E. Landguth, and C. Caudill. Developing a framework for assessing adaptive capacity in Redband Trout using agent-based models. May 2020. International Association for Landscape Ecology – North America, Poster. Virtual.

70. **Seaborn, T.**, E. Landguth, and C. Caudill. Developing a framework for assessing adaptive capacity in Redband Trout using agent-based models. March 2020. Idaho Chapter of the American Fisheries Society. Poster. Virtual.
71. **Seaborn, T.**, and D. Griffith. Adaptive capacity in conservation biology, genomics, and social-ecological systems science. February 2020. EPSCoR GEM3 Seminar Series. All Idaho Universities via Zoom. Talk. Moscow, Idaho.
72. **Seaborn, T.** Introduction to agent-based models and future applications. September 2019. EPSCoR GEM3 Seminar Series. All Idaho Universities via Zoom. Talk. Moscow, Idaho.
73. **Seaborn, T.** Range shifts in a warming world: projecting patterns of range dynamics in cold-adapted amphibians. April 2019. Seminar Series, School of Biological Sciences. Washington State University. Talk. Pullman, Washington.
74. **Seaborn, T.**, C.S. Goldberg, and E.J. Crespi. Individual-Based Models Predict Loss Of Range And Genetic Diversity In Cold-Adapted Amphibians With Climate Change Due To Dispersal Constraints. January 2019. International Biogeography Society Conference. Lightning Talk and Poster. Malaga, Spain.
75. **Seaborn, T.**, and C.S Goldberg. Genetically informed metapopulation viability analysis to understand effects of translocation on the last Northern leopard frog (*Rana pipiens*) population. October 2017. Washington Cooperative Fish and Wildlife Research Unit 50th Anniversary Symposium. Gil Pauley Award. Poster. Seattle, WA.
76. **Seaborn, T.**, Dawson, K., Schock, D.M., and E.J. Crespi. Integrative Health Assessment of Early Life Stages of Wood Frogs (*Lithobates sylvaticus*). July 2017. International Congress of Comparative Endocrinology and SBS Symposium. Poster. Pullman, WA, USA and Banff, AB, CA.
77. **Seaborn, T.**, S. Hauser, L. Konrade, L.P. Waits, and C.S. Goldberg. Testing landscape genetic hypotheses for the Columbia Spotted Frog (*Rana luteiventris*) under multiple sampling scenarios. May 2016. Landscape genetics distributed graduate seminar synthesis meeting. Talk. Coeur d'Alene, ID.
78. **Seaborn, T.**, Goldberg, C.S., and E.J. Crespi. Designing field techniques to evaluate dispersal distance and variation in juvenile wood frogs (*Lithobates sylvaticus*) to better understand range shifts in response to climate change. February 2016. SBS Symposium. Poster. Pullman, WA.
79. **Seaborn, T.**, and E.J. Crespi. Ecological niche model development of the wood frog, *Lithobates sylvaticus*, including historical and future climate prediction. February 2015. Wiley Research Exposition, SBS Symposium, and EARTHs Conference. Poster. Pullman, WA.
80. **Seaborn, T.**, and K.M. Catley. Abiotic microhabitat parameters of the spruce-fir moss spider, *Microhexura montivaga* Crosby and Bishop 1925 (Araneae: Dipluridae). June 2014. American Arachnological Society Conference. Talk. Newark, OH.
81. **Seaborn, T.**, and K.M. Catley. Developing a Predictive Model and Defining the Autecology of the Spruce-Fir Moss Spider, *Microhexura montivaga*, Crosby and Bishop 2010. April 2014. Western Carolina University Graduate Research Symposium. Talk. Cullowhee, NC.

82. **Seaborn, T.** Macro spatial modeling of the habitat requirements of the federally endangered spider *Microhexura montivaga* Crosby and Bishop 1925. June 2013. American Arachnological Society Conference. Student Competition Second Place. Poster. Johnson City, TN.
83. **Seaborn, T.**, and E. Carrington. Limpets and their algal epibionts: costs and benefits of hosting *Acrosiphonia* spp and *Ulva lactuca* on your back. November 2009. Western Society of Naturalists. Talk. Adviser: Emily Carrington. Monterrey, CA.

MENTORING AND ADDITIONAL TEACHING

POSTDOCTORAL AND PROFESSIONAL MENTORING

NORTH DAKOTA STATE UNIVERSITY

Meggan Alston, *Research Specialist*, Fall 2022-Present

GRADUATE MENTORING

NORTH DAKOTA STATE UNIVERSITY

Principle Investigator:

Travis Berg, *Principal Investigator*, Natural Resource Sciences, Spring 2025-Present
MS Thesis: Within farm landscape genetics of microbial communities
Spring 2025 – Present

A. Priest, *Principal Investigator*, Natural Resource Sciences, Summer 2024-Present
PhD Dissertation: Comparative riverscape genomics of native and nonnative fish species in a complex fragmentation scenario.
Fall 2024 – Present
Awards: NSDU School of Natural Resource Science Symposium 2nd Place Poster
North Dakota Agricultural Experiment Station One-year Graduate Research Fellowship
\$5,715

Rhiannon Hall, *Principal Investigator*, Natural Resource Sciences.
MS Thesis: The Nest and Bee-yond: Exploring Land Use and Climate Effects on Bumble Bee Spatial Ecology and Evolutionary Patterns.
Fall 2023 – Summer 2025. Currently with Georgia Department of Natural Resources Division, Wildlife Resources

Alec Christensen, *Principal Investigator*, Environmental and Conservation Sciences.
MS Thesis: Impacts of hunting and harvest management actions on relatedness and disease susceptibility to Chronic Wasting Disease.
Fall 2023 – Spring 2025. Currently a PhD student at West Virginia University.
Awards: NDSU Environmental Conservation Science Travel Grant x2 (\$800)
NDSU School of Natural Resource Sciences Travel Grant (\$500)

Committee Member:

Zachary Sweep, *Committee Member*, Biology
MS Thesis: Evolutionary Ecology Across an Urban Gradient
Spring 2026 – Present.

Justin Burchill, *Committee Member*, Environmental and Conservation Sciences
MS Thesis: Bat distributions as indicators of aquatic bioindicators
Fall 2025 – Present.

Riley Lawson, *Committee Member*, Natural Resource Sciences.
PhD Dissertation: Game bird habitat and distribution in the upper Great Plains
Fall 2025 – Present.

Bethany Bespoyasny, *Committee Member*, Biology.
MS Thesis: Latitudinal feather structure variation in House Sparrows.
Spring 2025 – Present.

Rachel Bockrath, *Committee Member*, Biology.
PhD Dissertation: Effects of climate change on physiological and behavioral phenotypes of house sparrows.
Spring 2024 – Present.

Bridger Scraper, *Committee Member*, Environmental and Conservation Science.
MS Thesis: Shoshone pupfish (*Cyprinodon nevadensis shoshone*) behavioral response to Odonata.
Spring 2023 – Present.

Carlie Saline, *Committee Member*, Biology.
MS Thesis: Genetic basis for differences in *Junco hyemalis carolinensis* individuals' sensitivities to developmental photoperiod as assessed by seasonal hormone changes.
Fall 2022 – Fall 2024.

Bailey Coffelt, *Committee Member*, Natural Resources Management.
MS Thesis: Snow removal and landscape impacts on invasive species and herpetofauna.
Fall 2022 – Fall 2024.

Jacob Yetter, *Committee Member*, Natural Resources Management.
MS Thesis: Seasonal ecology of Ring-necked Pheasants in a Great Plains agroecosystem.
Fall 2022 – Fall 2024.

Tucker Lutter, *Committee Member*, Natural Resources Management,
MS Thesis: A survey of migratory and breeding birds in urban green spaces / Using citizen surveys to understand the value of urban parks and wildlife.
Fall 2022 – Fall 2024.

NDSU College Teaching Certificate Field Supervisor: Justin Clark, Spring 2023 - Spring 2025

BOISE STATE UNIVERSITY

Morgan Calahan, Biological Sciences.
PhD Dissertation: Conservation and landscape genomics of sharp-tailed grouse.
Spring 2025 - Present

UNIVERSITY OF IDAHO

Anna Chase, Fish and Wildlife Sciences.

MS Thesis: Novel Method for Improving Visibility of Growth Rings in Thin Sections of six Genera of Bivalve Shells and Comparing *Margaritifera falcata* Dead Shell Morphology and Characteristics Between Streams in Idaho and Washington.
Spring 2020 - Summer 2024. Currently with EcoAnalysts Inc.

IDAHO STATE UNIVERSITY

Elizabeth Jossie, Department of Biological Sciences

M.S. Thesis: Using qualitative and quantitative methods to explore stream connectivity outcomes for stakeholders and Yellowstone cutthroat trout.

Spring 2020 - Spring 2022. Currently with the U.S. Forest Service.

POSTBACCALAUREATE MENTORING

NORTH DAKOTA STATE UNIVERSITY

Paige Cmelik, NSF RAMP Program, CHANGE Network for Research and Mentoring. Doing Better at Home: Does local adaptation explain performance differences in hatchery strains of walleye?
Summer 2025 – Present.

Zachary Whaley, NSF RAMP Program, CHANGE Network for Research and Mentoring. How the elk herd roams: investigating population structure and connectivity using genetics. Summer 2024 – Summer 2025. Currently at University of Nebraska Lincoln Graduate School.

UNDERGRADUATE MENTORING AND ADVISING

NORTH DAKOTA STATE UNIVERSITY

Undergraduate advisor

2023-Present: 9 students

Elliot Magcalas, Natural Resource Sciences, 2026

NDSU EXPLORE Undergraduate Researcher: landscape genomics of walleye

Thomas Banley, Natural Resource Sciences, 2026

Undergraduate research credit: elk inbreeding and demographic histories in North Dakota

UNIVERSITY OF IDAHO

Michael Youngwirth, Biological Sciences, 2022-2023

NSF Summer Authentic Research Experience Program: Yellowstone cutthroat trout landscape genetics. Co-advisors: Alexandra Fraik and Paul Hohenlohe.

Autumn Harrington, Fish and Wildlife Sciences, 2021

NSF Summer Authentic Research Experience Program: Beaver and Trout Multispecies Distribution Modeling with Idaho Fish and Game. Co-advisor: Christopher Caudill.

WASHINGTON STATE UNIVERSITY

Corrine Connors, School of the Environment, March 2017 - May 2018

Honor's thesis research, nominated Pass with Distinction

Presented Poster at Showcase for Undergraduate Research and Creative Activities (SURCA) of Columbia spotted frog ecology at Washington State University

Ariel Medeiros, School of the Environment, March - August 2017

Ignite Scholar Internship for groups underrepresented in STEM

Columbia spotted frog ecology

Krysta Dawson, School of Biological Sciences, April 2015 - August 2016

Presented Poster at SURCA of Fort McMurray research: wood frog physiology and disease ecology at Washington State University

Kyle Dorosh, School of Biological Sciences, August 2016 - March 2017

Presented Poster at SURCA of Fort McMurray research: wood frog behavior

WESTERN CAROLINA UNIVERSITY

Diana Kuzmich, Molecular Biology, September 2012 - April 2013

Honors project: microclimate measurements of rocky outcrops

SOFTWARE AND DATA CARPENTRY OFFICIAL INSTRUCTOR

University of Idaho: Advanced Geospatial Modeling, Helper, April 2022

Also listed above as a course for students

University of Idaho: Advanced Geospatial Modeling, Helper, April 2021

Also listed above as a course for students

University of Idaho: Unix, Git, Python Workshop, Instructor, January/February 2021

Also listed above as a course for student

Center for Advanced Energy Studies (CAES) / Idaho National Laboratory (INL) / Boise State

University C3 Computational Training: Multiple R and Unix Workshops,

Helper/Moderator/Instructor across different sections, June and August 2020

University of Idaho: Geospatial Modeling, Instructor, April 2020

Also listed above as a course for students

University of Idaho: Reproducible Science in R, Helper, February 2020

Also listed above as a course for students

GUEST LECTURES

North Dakota State University, Natural Resource Management 150: Natural Resource Management Orientation, “An introduction to the genomics, ecology, and modeling (GEM) lab at NDSU”.

October 2024, 2025.

North Dakota State University, Range Science 213: Rangeland Sampling Techniques, “Molecular Ecology for Land Management”. November 2022, 2023, 2024

Gustavus Adolphus College, Biology 385: Evolution

“Adaptive Potential of Chinook Salmon and Yellowstone Cutthroat Trout”, October 2021.

University of Idaho, Fish/Wildlife 501: Department Seminar

“Project and Data Management” for new graduate students, March and October 2021.

University of Idaho, Wildlife 314: Ecology of Terrestrial Vertebrates

“Niche and distribution models of amphibians in North America.” October 2020.

University of Idaho, Fisheries 526: Climate Effects and Conservation

“Understanding cold-adapted amphibian ranges in the face of climate change.” October 2020.

Gustavus Adolphus College, Biology 245: Conservation Biology, May 2020, 2022

“Conservation Tools: Understanding distributions and connectivity by using ecological modeling and genetics”, May 2020, included code demonstration in R.

Gustavus Adolphus College, Biology 101: Principles

“Understanding Amphibian Distributions with Climate Change”, September 2019

Washington State University, Biology 432: Biology of Amphibians and Reptiles: Spring Semesters 2016, 2018, 2020

“Amphibian and Reptile Niches and Ranges.” included follow-up exam questions and assessment through integrated lab work and report for 2016 and 2018. 2020 included code demonstration in R.

Washington State University, Science 102: Dynamic Systems in the Natural World, March 2019
 “History of Life.” 2-part lecture series with multiple types of active learning.

Washington State University, Science 101: Origins in the Natural World: October 2018
 “Introduction to Rivers and Streams.”

Western Carolina University, Highlands Biological Station Lecture: Terrestrial Arthropods: July 2013
 “Introduction to *Microhexura*.”

Western Carolina University, Biology 373: Invertebrate Zoology: November 2013
 “Moss habitat: the microclimate of an endangered species.”

OTHER VOLUNTEER TEACHING, OUTREACH, AND WORKSHOPS

AI in the Classroom: CAFSNR Faculty Panel Participant, March 2026

NDSU Environmental and Conservation Sciences Graduate Professional Development
 2025: An introduction to data and project management best practices to avoid future headaches
 School of Natural Resource Sciences Student Professional Development Series
 2025: AI in Natural Resources
 2024: The publication process
 Project management for long-term success and happiness

North Dakota Chapter of the Wildlife Society Student Talk Judge, February 2025

North Dakota State University Natural Resource Management Graduate Student Organization Co-Mentor

North Dakota Water Resources Institute Geospatial R Workshop,
 August 2024, March 2025, March 2026

River Keepers Lil Anglers Clinic & Derby, Species Identification Activity, August 2024

Nurturing American Tribal Undergraduate Research and Education (NATURE) Sunday Academy,
 2024-2025

NDSU Center for Child Development Critter Week: Meet a Dragon!, June 2024, 2025

Dorothy Dodds Mini Red River Water Festival. Activity: Invaders!, May 2024

North Dakota Chapter of the Wildlife Society Student Poster Judge, February 2024

Red River Water Festival event by River Keepers.
 Activity: Invaders!, September 2023
 Activity: Blue River Watersheds, September 2025

North Dakota Envirothon Volunteer, 2022

UI SACNAS and Randall Women in Science: Stop Imposter Syndrome Panel, November 2021

Idaho EPSCoR Omics-Modeling Group: SLiM Population Genetics Workshop, September 2021-February 2022

University of Idaho EPSCoR Genomics Workshop, October-November 2020

Inchelium High School: Evolution Day and Workshop, November 2019
 8th and 10th graders, students associated with Colville Confederated Tribes

WSU’s Dr. Universe: Interview-A-Scientist, elementary students, July 2019

Science Saturdays at the University of Idaho Arboretum, elementary students, June 2019

Palouse Clearwater Environmental Institute
 STREAM Team 2018, Girls Summer Camp Volunteer: Herps!, 7th-9th grade, August 2018
 Animals of the Night: Herpetology Station, pre-K through high school, October 2018
 Science After Hours Presenter, high school through adults, February 2017 - May 2018
 “Life’s a Niche, be Resilient (or Move)”

Best of Series: “How frogger helps us think about real frogs”
Skype-A-Scientist, 3rd and 6th grades, Fall Semester 2017 - Spring 2018
Moscow Public Library “Science-it!” and “Spooky Science” pre-K through 7th grade, February and October 2018
Palouse Science Discovery Center Developmental Biology Day, November - December 2017
WSU Biology Graduate Student Association:
Annual Biology Graduate Student Association Outdoor Family Funday, pre-K through high school, April 2015-2019
Annual Biology Graduate Student Association Fall Family Open House, pre-K through high school, November 2014-2018
Garfield High School Biology Class Volunteer Teacher’s Aide, 10th grade, September 2008 - March 2009
Intertidal Natural History: Guest Presenter and Field Trip Leader, 1st-6th grade, Friday Harbor, March - June, 2009

PUBLIC/SPECIAL CURRICULUM DEVELOPMENT

New EPSCoR GEM3 Vertically Integrated Program: Models and Mapping of Species’ Spaces. 1-year program cycle with 1 new graduate course, and 1 cross-listed graduate/undergraduate course.

OTHER SYNERGISTIC AND SERVICE ACTIVITIES

Presented in order of the start of involvement

NORTH DAKOTA STATE UNIVERSITY

American Fisheries Society Genetics Section: Best Practices Development Working Group, 2026
NDSU College of Agriculture, Food Systems, and Natural Resources Little-I Event Volunteer, 2026
NDSU SNRS Research, Onboarding, Advising, Retention Committee, August 2025-Present
Co-Chair
NDSU Agriculture AI (Artificial Intelligence) Task Force, August 2025-Present
Teaching taskforce
NDSU College of Agriculture, Food Systems, and Natural Resources AgXperience 4H Event Volunteer, 2025
Post-Tenure Review School of Natural Resource Sciences Development, 2025
Center for Computationally Assisted Science and Technology (CCAST) Advisory Council, 2024-Present (CAFSNR representative)
NDSU Admitted Student Days Volunteer, 2023-Present
Discover NDSU Days Volunteer, 2023-Present
College of Agriculture, Food Systems, and Natural Resources Enrollment Task Force, August 2024-Present
School of Natural Resource Sciences Staff Hiring Committee,
Postdoctoral Scholar (NRCS CIG), Committee, April 2025-May 2025
Administrative Assistance, Committee Chair, August 2024-January 2025
School of Natural Resource Sciences Faculty Hiring Committees,
Applied Honeybee Entomology, May 2024-January 2025
Natural Resource Management, July 2023-March 2024
Direct Student Recruitment Meetings through Admissions: 12. 2023-Present.
North Dakota FFA Convention, School of Natural Resource Sciences Career Table, June 2024
American Fisheries Society Annual Meeting Symposium Organizer “Understanding Fisheries as Coupled Human and Natural Systems (CHANS) to Improve Management”, September 2024

North Dakota State University Office of Teaching and Learning's Avenues of Scientific Discovery Conference, Natural Resources Booth, April 2024
Alexandria High School Visit Day to School of Natural Resource Sciences, April 2024
Hettinger Research and Extension Center Advisory Board, February 2024-Present
North Dakota Agricultural Experimental Station Hatch Proposal Review Committee, April 2023-October 2025
School of Natural Resource Sciences Awards Nomination Committee, September 2022-September 2025
Co-Chair of Committee, September 2023-September 2025
School of Natural Resource Sciences Curriculum Committee Participant, October 2022-September 2025
School of Natural Resources Sciences Graduate Student Organization Faculty Co-Advisor, October 2022-Present
North Dakota State University Homecoming Parade, School of Natural Resources Parade Volunteer, September 2023

UNIVERSITY OF IDAHO

GEM3 Modeling Working Group Workshop, April 2022
Topic: Modeling Integration Across Social-Ecological Systems, Trout, and UAV Products
Northern Leopard frog Boundary Creek Watershed Translocation Feasibility Assessment, 2021
Invited for discussions with Idaho Fish and Game, Wildlife Bureau, and Calgary Zoo
Member of Modeling Working Group
SACNAS: Diversity in STEM Chapter (new chapter)
Interim Co-Advisor / Outreach Chair, 2021-2022
University of Idaho Postdoctoral & Graduate Professional Development Committee Lead Organizer, 2020-2022
GEM3 Modeling Working Group Member and Administrative Coordinator, 2021-2022
GEM3 Data Management Working Group Member, 2021-2022
GEM3 Trout Mechanism Working Group Member, 2021-2022
Administrative Coordinator, 2019-2020
Search Committee Member: NSF GEM3 Postdoctoral Fellow in Scenario Modeling, 2020

WASHINGTON STATE UNIVERSITY

Phoenix Conservancy, Herpetology Survey Consultation, Smoot Hill, September 2017 - October 2018
Palouse Clearwater Environmental Institute
Paradise Creek Clean-Up Volunteer, April 2016
Eastern Washington Regional Science Fair Judge, elementary and secondary ages, March 2017 - March 2019
WSU Biology Graduate Student Association
Treasurer, August 2017 - May 2019
President, August 2016 - May 2017
Secretary, August 2014 - May 2015
WSU Graduate and Professional Student Association
School of Biological Sciences Senator, August 2015 - May 2016
EARTHs Session Moderator and Volunteer, April 2015
WSU Wiley Research Exposition Volunteer, February 2015

WESTERN CAROLINA UNIVERSITY

Annual Western Regional Science and Engineering Fair Judge, March 2013-2014
South Atlantic Landscape Conservation Cooperative Biological Indicator Consultant, January - June 2013
South Atlantic Landscape Conservation Cooperative Blogger, January - June 2013
Darwin Day Volunteer, February 2013

UNIVERSITY OF WASHINGTON

Research at University of Washington Medical Center / Fred Hutchinson Cancer Research Center, October 2006 - March 2009
Global Medical Brigades September - December 2008
Children's Hospital Volunteer August 2006 - June 2007

PROFESSIONAL DEVELOPMENT CONFERENCES, WORKSHOPS, AND SEMINARS

Presented in Chronological Order

NDSU School of Natural Resource Sciences Series.

- How to navigate difficult conversations. Kristine Paranica, NDSU Ombudsperson, February 2026:

NDSU Faculty Series: Artificial Intelligence in the Classroom: Challenges and Opportunities, November 2025

NDSU Teaching and Learning Conference, May 2025

- Learning by Design: Harnessing Games for Engagement and Growth, Chris Gamrat
- Why Course Design Matters in Student Retention, Sharley Kurtz
- Do Flexible Deadlines Actually Help Students? Amanda Haage
- High-Fives and Good Vibes: Connecting Inside and Outside The Classroom

NDSU Office of Teaching and Learning: A Pedagogy of Kindness, Cate Denial, February 2025

NDSU's NSF RaMP Program CHANGE continuing education

- Communication and Expectations, August 2025
- Fostering Independence, December 2024
- Mentee and Mentor Expectations, July 2024

NDSU Office of Teaching and Learning: Utilizing Restorative Practices in Higher Education, Joel Friesz, October 2024

NDSU RCA: Funding Water Research Priorities and Opportunities Ahead, November 2023

NDSU Faculty Advancement Mentoring Network Session: Cultivating Your Network, November 2023

NDSU Recruitment Workshop Series,

- International Student Recruitment, November 2024
- Transfer Student Recruitment, October 2024
- Student Personas and mindsets, November 2023
- Enrolled and canceled survey data and interpretation, October 2023

NDSU Webinar: Funding Your Research – How to Get Started, October 2023

NDSU RCA: New Faculty Program: Communicating Science, NDSU, April 2023

NDSU RCA: Pursuing funding from mission agencies, NDSU, March 2023

Advance FORWARD Advocates group: Men Faculty Allies for Gender Equity: Scenario-based Discussions, NDSU, March, 2023

NSF EPSCoR Research Infrastructure Improvement Programs – Track 2 and Track 4 Workshop, NDSU, March, 2023

NSF CAREER Program Workshop, NDSU, March 2023

NSF Research Traineeship (NRT) Program Workshop, NDSU, March, 2023

NSF Graduate Research Fellowship Program Faculty Workshop, NDSU, March, 2023

New Faculty Program: Early Career Funding Programs and Proposal Tips, NDSU, March, 2023

Using Your Strengths To Lead Workshop, SNRS, March, 2023

Virtual Office Hour - Plan for Safe and Inclusive Working Environments, February, 2023

New Faculty Breakfast: Developing an Independent Research Program, Research and Creative Activity, NDSU, November, 2022

New faculty mentors' advice: campus politics and service, Office of the Provost, NDSU, October, 2022

NDSU Faculty and Staff Academic Conference, August, 2022

- Multiple sessions attended on advising and teaching

Biennial Conference on University Education in Natural Resources, March, 2022

- Mentoring students of color for success in natural resources

SACNAS: The National Diversity in STEM Conference, October, 2021

Example sessions attended:

- Ending the Stigma: A Conversation on Mental Health and Wellness and Our Identities as STEM Researchers
- Environmental Health in Indigenous and Latino Communities: Environmental Justice and Climate Change
- Navigating the NSF through Opportunities, Tools, Resources, and Competitive Proposal
- Chapter Advisor Best Practices Session
- Check Yo'self: Identifying institutional and community strategies and barriers to advancing inclusive academic STEM culture using media

PUI Science Slack Book Club: The Chicago Guide to College Science Teaching

Idaho EPSCoR GEM3 PDI Workshops:

- Summer Authentic Research Experience Faculty Mentor Training, Virtual, May 2021, 2022
- Mentoring and Being Mentored, Boise State University, Virtual, April 2021
- Inclusive recruitment practices of undergraduates to support research, Boise State University, Virtual, April 2021

eLearning Consortium of Colorado (eLCC), the Northwest Managers of Educational Technology (NW/MET), and the Northwest eLearning Community (NWeLearn) Virtual Conference, April 2021

Example sessions attended:

- We are Biased: Algorithms and Applications That Are Biasing Modern Education
- Bringing Real-World Purpose into Education
- Digital Wellbeing: Striving to Model a Balance of Our Technology Usage
- How To Recognize and Support Students with Autism Spectrum Disorder across Teaching Modalities
- Engaging Students in the Virtual Classroom
- Online Microaggressions, Chilly Climates and Trolling in Discussions
- Rapid Response to Social Justice Issues

SACNAS 2020: The National Diversity in STEM Conference, October 2020

Example sessions attended:

- We All Rise: The Power of Mutual Mentoring in Forging a Good Life
- Mental health disparities in higher education
- Anti-Racism and Discrimination
- IGEN Bidirectional Mentoring
- Responding to Harassment & Bullying
- Individual Development Plans
- Benefits of Undergraduate Research Involvement

ESRI MOOCs:

- Do-It Yourself Apps, Certificate August 2020
- Cartography, Certificate May 2020
- Spatial Data Science: The New Frontier in Analytics, Certificate April 2020

Carpentries Instructor Training for Data Carpentry, February 2020

University of Idaho Center for Excellence in Teaching and Learning Workshops, August 2019 – Present

- Many workshops related to implementation of Canvas during the transition from Blackboard
- What do I tell my student: unifying faculty and student expectations and compliance
- What do I tell my student: common syllabus language for a flexible fall
- The Modified Tutorial Model: What it is and Why it Might be Right for Me
- Building a One-Stop Shop for Your Class
- Making HyFlex, Online, and Other Classes accessible and inclusive (UDL)
- HyFlex for Engagement
- Flexing your labs and collaborative education
- All-in on Online
- Labs, Studios, and Fieldwork: creative solutions that work
- I am afraid my students will cheat, what can I do?
- HyFlex Teaching: A How-To-Session
- HyFlex Teaching with Zoom
- Show, Don't Tell: Online Portfolios as Assessments
- Expanding Access to Global Learning through Virtual Exchange
- Diffusing the Bias Bomb in Class: Applied Strategies
- Balancing Learning and Growth for Better Educational Outcomes

DataONE Webinar Series

Tidy-ing Your Data: Simple Steps for Reproducible Research, December 2019

Spatial Machine Learning in ArcGIS Workshop, University of Idaho, November 2019

University of Idaho Preparing Future Faculty Course, August - December 2019:

- Teaching and Learning with Technology
- TILT Method for Transparency in assignments and grading
- Teaching for Learning: How to Engage Students and Enrich the Learning Experience
- Working Relationships: collegiality, egos, and imposter syndrome
- Diversity and Inclusion in Teaching and Learning

Broader Impacts 101: Developing, Implementing and Evaluating BI activities, University of Idaho Workshop, November 2019

University of Idaho Randall Women in Science Inclusion Diversity, Equality Alliance
Pronoun Training from University of Idaho LGBTQA Office, October 2019

USGS Climate Adaptation Webinars, Online, May and September 2018:

Connectivity for Climate Change: Assessing threats and identifying conservation actions
Evaluating the effectiveness of seasonally assisted migration through fish rescue programs

Conservation Biology Institute Webinar Series, Online, 2016-2017:

- Climate Mapping in the Northwest Climate Toolbox. September 2017.
- State-and transition simulation models: a framework for forecasting landscape change. January 2017

- Connectivity analyses accounting for stepping stone patches in fragmented landscapes. September 2016

UCLA/La Kretz Center Conservation Genomics Workshop: Malibu, CA, March 2016

RADSeq Weekend Workshop, University of Idaho: Moscow, ID February 2016

Professional Development Initiative, Washington State University: Pullman, WA 2016

Sessions Attended: Modern Job Search and Networking, November
 Writing Workshop: Literature Reviews, November
 Effective Group Work, October
 The Professor Is In: Dr. Karen Kelsky, February

Teaching Assistant Workshop, Washington State University: Pullman, WA September 2015, 2017

Workshop attended both years offered
Sessions Attended: Leadership in Science Instruction
 Engaging Students in Class

Block Course Design and Syllabus Construction: Western Carolina University, Cullowhee, NC,
Spring Semester, 2013

Mock syllabus created for “Principles of Evolution and Ecology” course