

Jenna Ruoss

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EDUCATION

University of Nebraska- Lincoln – Lincoln, Nebraska expected date of graduation 2026
Ph.D. in Natural Resource Sciences with an emphasis in Applied Ecology

- Advisors: Mark Pegg and Jonathan Spurgeon
- The role of flow dynamics on habitat selection and movement of Pallid Sturgeon in the lower Platte River

Ball State University – Muncie, Indiana 2020
M.A. in Biology

- Advisor: Randall Bernot
- Does land-use affect the host-diversity-begets-parasite-diversity hypothesis?

Kutztown University of Pennsylvania – Kutztown, Pennsylvania 2018
B.Sc. in Environmental Science with an emphasis in Biology (Summa Cum Laude)

PEER-REVIEWED PUBLICATIONS

4. Mapes, C. C., J. Falkowski, G. P. Setliff, K. Gallagher, J. P. **Ruoss**, L. Mortensen, E. Hinkle, R. Beard, and R. Hilger. 2024. Bees nesting in insect galls and a description of a novel nesting site for *Megachile montivaga* Cresson, 1878 (Hymenoptera: Megachilidae) in goldenrod ball galls of *Solidago altissima* L. The Pan-Pacific Entomologist 100(4): 384-393.
3. **Ruoss**, J. P., B. E. Mason, M. R. Wuellner, and K. D. Koupal. 2023. Resetting the clock: how a reconnection event re-shaped cove fish assemblages in a Nebraska reservoir. North American Journal of Fisheries Management 43: 327-338.
2. **Ruoss**, J. P., and R. J. Bernot. 2022. A survey of freshwater fishes and their parasites throughout Delaware County, Indiana. Proceedings of the Indiana Academy of Science 130(2): 156-162.
1. Mapes C. C., J. P. **Ruoss**, and K. Tessier. 2019. The relationship between gall size and sizes of selected inhabitants of the ball gall of *Eurosta solidaginis* on *Solidago altissima*. Formosan Entomologist 38: 78-87.

TECHNICAL REPORTS

6. **Ruoss**, J., C. Pullano, and M. Pegg. 2024. Pallid Sturgeon Biology in the Platte River and its Tributaries Annual Progress Report (Year 3: 2024). Prepared for Governance Committee. Platte River Recovery Implementation Program. University of Nebraska-Lincoln.
5. **Ruoss**, J., C. Pullano, and M. Pegg. 2023. Pallid Sturgeon Biology in the Platte River and its Tributaries Annual Progress Report (Year 2: 2023). Platte River Recovery Implementation Program. Prepared for Governance Committee. University of Nebraska-Lincoln.
4. **Ruoss**, J., C. Pullano, and M. Pegg. 2022. Pallid Sturgeon Biology in the Platte River and its Tributaries Annual Progress Report (Year 1: 2021-2022). Platte River Recovery Implementation Program. Prepared for Governance Committee. University of Nebraska-Lincoln.

3. **Ruoss, J.P., L. Dietrich, and H. Wall.** 2021. Lake McConaughy Fish Kill Report. Nebraska Game and Parks Commission.
2. **Ruoss, J. P., and K. Koupal.** 2021. Stone Ridge Fish Kill Report. Nebraska Game and Parks Commission.
1. **Ruoss, J.P., and K. Koupal.** 2021. Nebraska Field Biologist Guide to Common Fish Parasites. Nebraska Game and Parks Commission.

PROFESSIONAL EXPERIENCE

University of Nebraska-Lincoln

Graduate Research Assistant

Lincoln, NE

January 2022-

Supervisor(s): Dr. Mark Pegg & Dr. Jonathan Spurgeon

Monitoring Pallid Sturgeon in the lower Platte River system using acoustic telemetry. Sampling Pallid Sturgeon using baited trotlines. Surgically implanting acoustic transmitters in Pallid Sturgeon. Deploying and maintaining a passive acoustic receiver array. Active tracking using a VR-100 and omnidirectional hydrophones. Taking water quality measurements using a flow meter, YSI, and turbidity meter. Mapping habitat of Pallid Sturgeon using an acoustic doppler current profiler. Maintaining airboats, pro-drive outboards, gear. Leading crews of two to four people.

Developing ecological models using programs R and MARK to assess Pallid Sturgeon movement (e.g., entry/exit generalized linear models, multistate models). Developing a Soil and Water Assessment Tool model in ArcMap/QGIS for the Platte River basin to model the historical flow regime. Presenting project updates and findings at conferences, technical meetings, and to funding agencies.

Assisting other graduate students with their projects throughout eastern Nebraska such as tote-barge and boat electrofishing, invasive bigheaded carp removal, gillnetting, seining in streams and rivers.

University of Nebraska-Lincoln

Research Technician

Lincoln, NE

November 2021-January 2022

Supervisor(s): Dr. Mark Pegg & Dr. Jonathan Spurgeon

Conducting range tests using an Innovasea VR-100 receiver equipped with a VHTx omnidirectional transponding hydrophone, VR2Tx receiver, V16 and V13 range test transmitters, and Garmin eTrex handheld GPS unit on the Platte River. Determining detection ranges using ArcGIS. Assisting Nebraska Game and Parks Commission Missouri River Crew with surveying Pallid Sturgeon using baited trotlines on the Missouri River. Maintaining boats, motors, trailers, trucks, and other equipment.

Nebraska Game and Parks Commission

Conservation Technician II, Fisheries Division

Kearney, NE

February-October 2021

Supervisor(s): Dr. Keith Koupal & Brad Eifert

Leading a research project concerning how cove connectivity affects fish assemblages in Harlan County Reservoir. Developing a parasites of fishes guide for state-wide use for hatcheries and fisheries biologists. Assisting with standard sampling surveys using backpack electrofishing, boat electrofishing, gillnets, trap-nets and recording lengths and weights. Collecting, identifying, and enumerating larval fish using ichthyoplankton nets. Aging fish using otoliths and scales. Assisting hatcheries with Walleye spawn and stocking. PIT-tagging several fish species for tracking temporal and spatial movements. Collecting water chemistry data such as chlorophyll α , pH, nitrates, phosphates, and turbidity using Van Dorn Sampler, Colorimeter, Aquafluor, and Secchi disk. Building Georgia cubes to deploy as alternative fish

habitat. Selling fishing and hunting licenses as well as providing customer service. Maintaining and repairing boats, trailers, and nets.

Midwest Biodiversity Institute

Fisheries Technician

Supervisor(s): Paul DeRolf

Hilliard, OH

July-October 2020

Conducting fish surveys in lotic systems throughout Illinois and Ohio using backpack, tote-berge, long-line, and boat electrofishing with a 3-person crew. Identifying, weighing, and enumerating all fish species collected. Working 8+ hour days in all weather conditions over rough terrain. In-field fixing of equipment such as soldering electrical wires or patching nets.

Ball State University

Teaching Assistant

Supervisor(s): Dr. Cassie Martin & Dr. Allison Rober

Muncie, IN

August 2018-May 2020

Teaching multiple sections of lab for *Principles of Biology II*. Reinforcing lecture concepts through hands-on activities on subjects ranging from natural selection to dissections of organisms. Assisting lecture during active learning engagement activities. Guiding other teaching assistants on how to successfully teach lab.

Ball State University

Parasite Technician

Supervisor(s): Dr. Randall Bernot

Muncie, IN

May-August 2019

Sampling freshwater fishes throughout Indiana by seining and backpack- or boat electrofishing. Taking water quality data such as water temperature, pH, conductivity, and dissolved oxygen using a Hydrolab Sonde Surveyor. Identifying fish and transporting them alive back to the laboratory. Conducting necropsies on fish under a dissecting scope to look for and identify parasites within or on the fish. Using ArcGIS Pro to categorize land-use. Assisting other graduate students by freshwater mussel surveying with dipnets, sediment sampling using an Ekman Bottom Grab, and gathering water chemistry samples using a Van Dorn Sampler.

Kutztown University of Pennsylvania

Supplemental Instructor

Supervisor(s): Dr. Julie Palkendo & Dr. Carol Mapes

Kutztown, PA

August 2017-May 2018

Tutoring peers for the classes *Introduction to Botany* and *Environmental Analysis*.

Kutztown University of Pennsylvania

Undergraduate Research Assistant

Supervisor(s): Dr. Alexander Hernandez

Kutztown, PA

June-August 2017

Sampling aquatic macroinvertebrates using Surber samples and sieves. Using rose Bengal to sort aquatic macroinvertebrates under a dissecting scope. Collecting and identifying freshwater fishes using backpack electrofishing and seining. Using trail cameras to determine species richness and diversity of terrestrial vertebrates within a local riparian zone.

Philadelphia Zoo

Environmental Education and Animal Behavior Intern

Supervisor(s): Dani Hogan

Philadelphia, PA

January-April 2017

Engaging with zoo patrons at exhibits using “Explorer Stations” and answering questions.
Conducting an observational research project of an animal of choosing that would benefit the zoo’s knowledge of said animal (animal chosen – Western Lowland Gorilla).

COURSES TAUGHT

University of Nebraska-Lincoln

Lincoln, NE

Fisheries Science, NRES-463/863, *Co-Instructor*

Fall 2024

- Lectures: What is a Fishery, History of Fisheries, Fish Collection Methods and Abundance, Population Dynamics, Fisheries Indices, Age and Growth, Habitat for Lentic and Lotic System, Marking/Tagging, Endangered Species
- Field/Lab: How to drive a boat/trailer, setting and pulling gillnets and trap nets, weighing and measuring fish, identifying fish

Ball State University

Muncie, IN

Principles of Biology II Lab, BIO-112L, *Teaching Assistant*

August 2018-May 2020

- Topics covered: natural selection, phylogenetic trees, how to read/create dichotomous keys, dissections of multiple organisms, designing and conducting lab group projects

COMPETITIVE GRANTS FUNDED

David H. & Annie E. Larrick Memorial Travel Fund (\$400)

January 2025

Robert A. Klumb Student Travel Award (\$400)

March 2024

Ball State University ASPIRE Student Travel Award (\$450)

January 2020

Kutztown University Research Fund (\$900)

February 2018

Kutztown University BEARS Grant (\$2,000)

May 2017

ORAL PRESENTATIONS

Ruoss, J. C. Pullano, J. Spurgeon, M. Pegg, and K. Steffensen. Navigating the Currents: Investigating Environmental Cues for Pallid Sturgeon Immigration and Emigration for a Missouri River Tributary. 85th Midwest Fish and Wildlife Conference, St. Louis, Missouri. January 2025.

Ruoss, J. Flowing Through History: SWAT Modeling of the Lower Platte River. Nebraska Cooperative Fish and Wildlife Research Unit Annual Meeting, Lincoln, Nebraska. August 2024.

Ruoss, J., C. Pullano, M. Pegg, J. Spurgeon, and K. Steffensen. Investigating environmental cues for Pallid Sturgeon entry and exit for a Missouri River tributary. Missouri River Natural Resources Conference, Nebraska City, Nebraska. March 2024.

Ruoss, J. Assessing Pallid Sturgeon Habitat in the Lower Platte River. Nebraska Cooperative Fish and Wildlife Research Unit Annual Meeting, Lincoln, Nebraska. September 2023.

Ruoss, J. Monitoring Pallid Sturgeon in the Lower Platte River. Nebraska Cooperative Fish and Wildlife Research Unit Annual Meeting, Lincoln, Nebraska. September 2022.

Ruoss, J., B. Mason, M. Wuellner, and K. Koupal. Reversing what time has taken away: Mother Nature’s experiment with Cove Connection in Harlan County Reservoir, Nebraska. Nebraska American Fisheries Society Annual Meeting, Grand Island, Nebraska. January 2022.

- Ruoss, J., and A. Hernandez.** An assessment of terrestrial vertebrate biodiversity and population density in a riparian zone along Sacony Creek, Berks County. Kutztown University's Environmental Conference, Kutztown, Pennsylvania. April 2018.
- Ruoss, J., and A. Hernandez.** An assessment of terrestrial vertebrate biodiversity and population density in a riparian zone along Sacony Creek, Berks County. Commonwealth of Pennsylvania University Biologists 49th Annual Meeting, Mansfield, Pennsylvania. April 2018.

POSTER PRESENTATIONS

- Ruoss, J., C. Pullano, M. Pegg, J. Spurgeon, and K. Steffensen.** Pallid Sturgeon movement in the lower Platte River and its tributaries: Year 2 update. 84th Midwest Fish and Wildlife Conference, Sioux Falls, South Dakota. January 2024.
- Pullano, C., J. Ruoss, J. Spurgeon, M. Pegg.** Monitoring Pallid Sturgeon in the lower Platte River and its Tributaries. 83rd Midwest Fish and Wildlife Conference, Kansas City, Missouri. February 2023.
- Pullano, C., J. Ruoss, J. Spurgeon, M. Pegg.** Monitoring Pallid Sturgeon in the lower Platte River and its Tributaries. Nebraska American Fisheries Society Annual Meeting, Ponca, Nebraska. January 2023. **Best Student Poster Presentation.**
- Ruoss, J. and R. Bernot.** Does land-use affect the host-diversity-begets-parasite-diversity hypothesis? 80th Midwest Fish and Wildlife Conference, Springfield, Illinois. January 2020.
- Ruoss, J. and R. Bernot.** Does land-use affect the host-diversity-begets-parasite-diversity hypothesis? Ball State Student Symposium, Muncie, Indiana. April 2019.
- Ruoss, J., and C. C. Mapes.** The relationship between gall size and sizes of selected inhabitants of the ball gall of *Eurosta solidaginis* on *Solidago altissima*. Commonwealth of Pennsylvania University Biologists 49th Annual Meeting. Mansfield, Pennsylvania. April 2018. **Best Student Poster Presentation.**
- Ruoss, J., and C. C. Mapes.** The relationship between gall size and sizes of selected inhabitants of the ball gall of *Eurosta solidaginis* on *Solidago altissima*. Undergraduate Research Day at the Capitol, Harrisburg, Pennsylvania. April 2018.
- Ruoss, J., K. Tessier, and C. Mapes.** The relationship between gall size and sizes of selected inhabitants of the ball gall of *Eurosta solidaginis* on *Solidago altissima*. 7th International Symposium on Cecidology, Taiwan. March 2018.

SERVICE

Manuscript Reviewer

North American Journal of Fisheries Management, Prairie Naturalist, Fisheries

Invited Guest Lectures

- Sampling Pallid Sturgeon in the Lower Platte River and its Tributaries. Biological Perspectives class at University of Nebraska at Kearney. Kearney, Nebraska. December 2022, 2023, 2024.
- Pallid Sturgeon Biology in the Lower Platte River and its Tributaries. State University of New York College of Environmental Science and Forestry American Fisheries Society Chapter. Syracuse, New York [Zoom]. November 2024.
- Monitoring Pallid Sturgeon in the lower Platte River. Ichthyology class at University of Nebraska-Lincoln. Lincoln, Nebraska. April 2023.

Oh My Cod – My Journey to Fisheries! Wilson High School. Reading, Pennsylvania [Zoom]. November 2021.

Parasites – They Are What You Eat. Conrad Weiser Science Research Institute. Robeson, Pennsylvania [Zoom]. July 2019.

Community

East Central Indiana Science Fair, *Judge*

February 2019, 2020

Rinard Orchid Greenhouse, *Docent*

July-September 2019

Kutztown University's Annual Earth Day Celebration, *Organizer*

April 2018

CERTIFICATIONS

First Aid/CPR, *Pulse Finders*

January 2024

Motorboat Operator Certification Course (Airboat), *USGS*

March 2022

In/Over the Water Safety, *USGS*

November 2021

Motorboat Operator Certification Course (General), *USGS*

November 2021

Watercraft Inspection and Decontamination II, *PSMFC*

May 2021

BoatU.S. Foundation's Online Boating Safety Course

July 2020

RELATED SKILLS

- Use and maintenance of trotlines, gillnets, trap nets, seine nets, trammel nets
- Boat, backpack, and long-line electrofishing
- Passive Integrated Transponder, acoustic, and radio tagging
- Installing and maintaining acoustic telemetry arrays
- Scale and otolith collection, preparation, and aging
- ESRI Software (ArcGIS Pro, QGIS), Microsoft Office applications, R/R Studio, Fathom, Vue