

EMILY LAUREN MENSCH

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EDUCATION

PhD in Ecology

September 2022 – Present

University of California Davis, Davis, CA

MS in Fisheries and Wildlife

August 2019 – May 2022

Michigan State University, East Lansing, MI

GPA: 4.0

BS in Biological Sciences

August 2012 – May 2016

Concentration in Ecology, Minor in Conservation Biology

Colorado State University, Fort Collins, CO

GPA: 3.4

RESEARCH EXPERIENCE

Scientist: Protection of Ecosystem Services

June 2022 – Present

Radmantis, Toledo, OH

Focus: Adapting uncrewed aquaculture management to control sea lamprey (*Petromyzon marinus*) & protect wild Salmonid fisheries in the Laurentian Great Lakes

- Testing the efficacy of a field-deployable trapping device equipped with AI technology on sea lamprey capture in raceway stream flumes.

Graduate Research Assistant

June 2019 – May 2022

Advisor: Dr. Michael Wagner

Michigan State University, East Lansing, MI

Focus: Behaviorally guided chemical characterization of a natural sea lamprey (*Petromyzon marinus*) deterrent

- Lead a study on the chemical structure of sea lamprey alarm cues. Tested compounds to determine the role of odor in sea lamprey life history and its application for invasive species management.
- Supervised a field research team for behavioral assays in raceway laboratory and natural streams.

Research Experience for Undergraduate Students

May 2015 – May 2016

Advisors: Dr. Lisa Angeloni and Dr. Chris Funk

Colorado State University, Fort Collins, CO

Focus: Effects of divergent immigrants on small populations

- Designed, implemented, and led an mesocosm study of the effects of mating behavior on reproductive success of the Trinidadian Guppy (*Poecilia Reticulata*) to determine if behavior plays a role in the success of augmentation techniques as a conservation tool. This study resulted in evidence that behavior may be able to improve the outcome of augmentation by increasing genetic admixture.

Honors Undergraduate Research Scholar

May 2012 – May 2016

Advisor: Dr. Shane Kanatous

Colorado State University, Fort Collins, CO

Focus: Extreme physiology and dive response in marine mammals

- Assisted graduate and post-doc research with data collection through mammalian and bacterial cell cultures, protein assays and PCR.
- Aided teaching college and high school students vertebrate anatomy through hands-on labs and dissections.

PUBLICATIONS

Mensch EL, Dissanayake AA, Nair MG, Wagner CM (In Review) The effect of putrescine on space use and activity in sea lamprey. *Scientific Reports*.

Mensch EL, Dissanayake AA, Nair MG, Wagner CM (In Review) Progress toward chemical identification of the sea lamprey alarm cue. *Journal of Chemical Ecology*

Mensch EL, Kronenberger JA, Broder ED, Fitzpatrick SW, Funk WC, Angeloni LM. (2019) A potential role for immigrant reproductive behavior in the outcome of population augmentations. *Animal Conservation*, 22(5), 463-471.

PRESENTATIONS

Mensch EL, Wagner CM, Nair MG, Dissanayake AA (2021). Bottling fear: novel methods for invasive species management and conservation of fishes. Oral presentation at American Fisheries Society's 151st Annual Meeting.

Mensch EL, Wagner CM, Nair MG, Dissanayake AA (2021). Chemical characterization of the sea lamprey alarm cue. Invited oral presentation for USGS Great Lakes Science Center's *Science Seminar Series*.

Mensch EL, Wagner CM, Nair MG, Dissanayake AA (2020). Crying wolf in sheep's clothing: can we bottle "fear" to trick invasive species and achieve conservation outcomes? Oral presentation at Michigan State University's *Fisheries and Wildlife Graduate Student Organization Symposium*.

Mensch EL, Kronenberger JA, Broder ED, Funk WC, Angeloni LM (2016). The effects of immigration on mating behavior in Trinidadian guppies. Poster presentation at Colorado State University's *Celebrate Undergraduate Research and Creativity Showcase*.

Mensch EL, Kronenberger JA, Broder ED, Funk WC, Angeloni LM (2016). The effects of immigration on mating behavior in Trinidadian guppies. Poster presentation at Colorado State University's *Front Range Student Ecology Symposium*.

AWARDS

"Best Prospective Research Talk", MSU Fisheries and Wildlife Graduate Student Organization Symposium (2020)
 "High Honors" (Top 10% of undergraduate research presentations), CSU Celebrate Undergraduate Research and Creativity Showcase (2016)

GRANTS AND FELLOWSHIPS

Michigan Chapter of American Fisheries Society Annual Meeting Travel Grant (\$500)

Michigan Sea Grant-MSU Extension Graduate Fellowship (\$500)

SERVICE AND LEADERSHIP ACTIVITIES

Outreach and Engagement Committee

January 2020 – May 2022

GSO Symposium Co-Chair

August 2020 – February 2021

Spotlight Magazine Design Committee

August 2019 – March 2020

Programs and Invitations Committee: GSO Symposium

August 2019 – February 2020

Fisheries and Wildlife Graduate Student Organization
 Michigan State University, East Lansing, MI

OUTREACH AND COMMUNICATION ACTIVITIES

Guest speaker: Skype-a-Scientist, Greenwood Elementary School

January 2022

Podcast interview: Journeys of Scientists

February 2021

Magazine article: Spotlight Magazine, "Sea Lamprey: Monsters or Misunderstood?"

January 2021

Podcast interview: The Sci-Files – Impact 89 FM

November 2020

PROFESSIONAL ORGANIZATIONS

American Fisheries Society
American Fisheries Society Michigan Chapter
Women in Nature Network

ADDITIONAL PROFESSIONAL EXPERIENCE

Classroom Assistant

August 2018 – June 2019

Austin Montessori School, Austin, TX

Assisted teaching Montessori preschool class and led a middle school afterschool program

- Managed classrooms, planned lessons, and coordinated pick-up procedures
- Led middle school student after-school activities including field trip planning and execution

Disaster Response Team Member

September 2017 – August 2018

Texas Conservation Corps, Austin, TX

Completed year-long AmeriCorps term involving conservations projects across the state of Texas and responding to state and federal disasters.

- Acted as strike team leader during disaster deployments to St. Thomas, USVI and St. Croix, USVI after hurricanes Irma and Maria
- Acted as strike team leader during deployment to Hidalgo County, TX after severe flooding
- Completed various initiatives in Texas, including invasive plant species removal, chain sawing shaded fuel breaks, and constructing trails and boardwalks

Associate Instructional Specialist

October 2016 – August 2017

4-H CAPITAL, Austin, TX

Completed year-long AmeriCorps term serving at-risk youth in the Austin community through hands-on science engagement.

- Planned and implemented hands-on science curriculums, educational field trips, and guest speakers for kindergarten to middle school aged children. Focus areas included STEM, natural resources, and gardening.
- Outreach coordinator for five colleges in the Austin metro area, running informational booths and recruiting new AmeriCorps members.
- Teaching assistant for 5th grade science classroom, aiding with teaching and planning lessons and tutoring.
- Completed over 50 hours of additional volunteer community service

Bird Rehabilitation Intern

May 2016 – August 2016

Greenwood Wildlife Rehabilitation Center, Boulder, CO

Assisted wildlife rehabbers and veterinary technicians in feeding, diagnosing, and treating wild birds and waterfowl

- Administered medications and subcutaneous injections
- Performed necropsies to determine causes of death and aided in euthanasia procedures

CERTIFICATIONS AND ADDITIONAL QUALIFICATIONS

- **Red Cross Certifications:** Wilderness First Aid, CPR/AED, Bloodborne Pathogens
- **Field-relevant Certifications:** PADI Open Water SCUBA, UTV/ATV Operator
- **Field-relevant Experience:** Chainsaw tree felling, herbicide application
- **Laboratory Software/Programming:** Microsoft Office, R, SAS, and ImageJ

REFERENCES

Dr. Michael Wagner
Department of Fisheries and Wildlife
Michigan State University
East Lansing, MI, USA
mwagner@msu.edu

Dr. Cindy Baker
National Institute of Water and
Atmospheric Research
Hamilton, NZ
cindy.baker@niwa.ca.nz

Dr. Brian Roth
Department of Fisheries and Wildlife
Michigan State University
East Lansing, MI, USA
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