

# EMILY LAUREN MENSCH

Davis, CA

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## **EDUCATION**

### **PhD in Ecology**

University of California, Davis, CA

September 2022 – Present

### **MS in Fisheries and Wildlife**

Michigan State University, East Lansing, MI

GPA: 4.0

August 2019 – May 2022

### **BS in Biological Sciences**

#### **Concentration in Ecology, Minor in Conservation Biology**

Colorado State University, Fort Collins, CO

GPA: 3.4

August 2012 – May 2016

## **RESEARCH EXPERIENCE**

### **Scientist: Protection of Ecosystem Services**

Radmantis, Toledo, OH

June 2022 – September 2022

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

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

### **Graduate Research Assistant**

Advisor: Dr. Michael Wagner

Michigan State University, East Lansing, MI

June 2019 – May 2022

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**

Advisors: Dr. Lisa Angeloni and Dr. Chris Funk

Colorado State University, Fort Collins, CO

May 2015 – May 2016

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**

Advisor: Dr. Shane Kanatous

Colorado State University, Fort Collins, CO

May 2012 – May 2016

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 Press) Sea lamprey alarm cue comprises water- and chloroform- soluble components. *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 151<sup>st</sup> 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**

|   |                             |
|---|-----------------------------|
| <b>Outreach and Engagement Committee</b>  | January 2020 – May 2022     |
| <b>GSO Symposium Co-Chair</b>   | August 2020 – February 2021 |
| <b>Spotlight Magazine Design Committee</b>  | August 2019 – March 2020    |
| <b>Programs and Invitations Committee: GSO Symposium</b>  | August 2019 – February 2020 |
| Fisheries and Wildlife Graduate Student Organization<br>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 |
| Guest speaker: Bloomingdale Middle School                                       | March 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 5<sup>th</sup> 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](mailto:mwagner@msu.edu)

Dr. Cindy Baker  
National Institute of Water and  
Atmospheric Research  
Hamilton, NZ  
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Dr. Brian Roth  
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