

# Abby J. Vaughn

## Extension Associate

Mississippi State University  
Coastal Research and Extension Center  
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### Education

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#### **Master of Science in Wildlife, Fisheries and Aquaculture**

*Mississippi State University, Starkville, MS*

August 2020 – December 2022

Advisor: Dr. Peter J. Allen

**Thesis Title: Understanding the relationship among cool temperatures, growth, metabolism, and energy use of *Ictalurus* spp.**

GPA: 4.0

#### **Bachelor of Science in Biology**

##### **Minor in Chemistry**

##### **Concentration in Aquatic Biology**

*Eastern Kentucky University, Richmond, KY*

August 2016 – December 2019

Advisor: Dr. Sherry L. Harrel

GPA: 3.8, Magna Cum Laude

### Employment

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#### **Extension Associate**

*Mississippi State University*

*Marine Fisheries Ecology Program, Biloxi, MS*

January 2023 – Present

- Supervised by Dr. J. Marcus Drymon
- Coordinate and manage the *Deepwater Horizon* Bluefin Tuna Restoration Project in collaboration with the NOAA Restoration Center
- Conduct outreach, education, and Extension events to communicate science to the public and to fisheries stakeholders
- Conduct traditional and applied fisheries research
- Aid in offshore bottom longline survey throughout the northern Gulf of Mexico
- Author blogs, newsletters, Extension publications, social media content, and peer-reviewed journal articles
- Assist with annual intern supervision and management

### **Algebra & Geometry Intervention Teacher**

*Anderson County Board of Education*

*Anderson County High School, Lawrenceburg, KY*

August 2022 – December 2022

- Supervised by principals Chris Glass, Josh White, Dustin Fore, and Kayla Smith
- Co-taught Biochemistry courses of 30+ students and aided in classroom management
- Intervened in Algebra and Geometry while collecting data records for individual students' progress
- Planned interactive and engaging lessons for Algebra and Geometry concepts
- Tutored students in AP and dual-credit Chemistry curricula

### **Technician**

*Kentucky Department of Fish and Wildlife Resources*

*Center for Mollusk Conservation, Frankfort, KY*

May 2019 – July 2019, December 2019 – August 2020

- Supervised by Dr. Monte A. McGregor
- Aided in the restoration and propagation of 70+ endangered and threatened freshwater mussels
- Performed mussel diet preparation, mussel and glochidium cleaning, water quality testing, and aquaculture system maintenance
- Participated in annual mussel surveys and habitat assessments of Kentucky rivers and streams
- Assisted with glochidia infestations of freshwater host fishes, daily fish feedings, and water changes
- Conducted husbandry for hellbenders (*Cryptobranchus alleganiensis*)

### **Biological Intern**

*Thomas More University*

*Thomas More University Biology Field Station, California, KY*

May 2018 – August 2018

- Supervised by Dr. Christopher N. Lorentz
- Analyzed the biota and habitat near various power plants along the Ohio River
- Collected fish vouchers from the Ohio River via hoop nets, gill nets, and electroshocking
- Obtained water quality parameters throughout sections of the Ohio River
- Led outreach and education events for K-12 children focused on biological sampling protocols, aquatic ecosystems, and boating safety

## Biological Student Employee

Eastern Kentucky University

Department of Biological Sciences, Richmond, KY

January 2017 – May 2017

- Supervised by Dr. Sherry L. Harrel
- Collected samples via backpack electrofishing for the Buck Darter Research Project
- Restructured and maintained preserved freshwater fish specimens within the research museum

## Project Management Experience

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2023 – Present      NOAA Fisheries Office of Habitat Conservation's Restoration Center.  
*Restoring for bluefin tuna via fishing depth optimization.* PI: Drymon JM.  
Total funding: \$2,074,200.

## Research Experience

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### Graduate Research Assistant

Mississippi State University, Starkville, MS

August 2020 – December 2022

- Investigated the relationships among cool temperatures, growth, metabolism, and energy use of cultured catfishes
- Assisted with other research projects that involved the following study species: Atlantic tarpon, invasive cichlids, peacock bass, saltwater catfishes, and Atlantic sturgeon
- Maintained recirculating aquaculture systems (RAS)
- Conducted daily fish husbandry
- Supervised and mentored two undergraduate assistants

## Peer-Reviewed Publications

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1. **Vaughn AJ**, Street GM, Boudreau MR, Allen PJ. **2024**. The relationship among acceleration, metabolism, and tail beat frequency of channel catfish (*Ictalurus punctatus*) during critical swimming speed tests. *Aquaculture* 580(1):740280.  
<https://doi.org/10.1016/j.aquaculture.2023.740280>
2. **Vaughn AJ**, Coffill-Rivera ME, Mischke CC, Allen PA. **In Review**. Understanding the energy use of juvenile channel (*Ictalurus punctatus*), blue (*I. furcatus*), and hybrid catfish (*I. punctatus* × *I. furcatus*) at low temperatures through metabolic scope, swimming performance, and blood metabolites. *Aquaculture*.

## Extension Products

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1. **Vaughn AJ**, Jargowsky AE, Drymon JM. **2023**. Gulf Coast Fishermen Newsletter, Issue 31, [Let's Talk Tuna](#). Mississippi-Alabama Sea Grant Consortium publication MASGP-23-001-03.
2. Osowski AR, **Vaughn AJ**, Jargowsky AE, Drymon JM. **2023**. Gulf Coast Fisherman Newsletter, Issue 30, [Saltwater Fishing Apps](#). Mississippi-Alabama Sea Grant Consortium publication MASGP-23-001-02.
3. **Vaughn AJ**. **2023**. [MSU Marine Fisheries program offers FISHERS course](#). Mississippi State University Extension Outdoors article.

## Conference Presentations

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1. Allen PJ, Gerhart BJ, **Vaughn AJ**, Daulong AJ, Wang S, Dahlgren C, Dinh TT, Yamamoto FY. **2024**. Assessing optimal temperature ranges for Ictalurid catfishes based on comparative physiological performance. The 15<sup>th</sup> International Congress on the Biology of Fish. Ann Arbor, MI.
2. **Vaughn AJ**, Piko AA, Reinhardt JF, Foster DG, Orbesen ES, Hendon JR, Dance MA, Wells RJD, Rooker JR, Jargowsky AE, Drymon JM. **2023**. Restoring bluefin tuna using fishing depth optimization in the Gulf of Mexico's pelagic longline industry. 75<sup>th</sup> Annual Meeting of the Gulf and Caribbean Fisheries Institute. Nassau, Bahamas.
3. Daulong AJ, **Vaughn AJ**, Wang S, Dahlgren C, Dinh TTN, Yamamoto FY, Allen PJ. **2023**. Effects of low temperature on physiological performance and tissue energy storage in catfish. Aquaculture America. New Orleans, LA.
4. **Vaughn AJ**, Allen PJ. **2022**. The effects of low temperature on growth and metabolic processes of juvenile channel *Ictalurus punctatus*, blue *Ictalurus furcatus*, and hybrid catfish *I. furcatus* x *I. punctatus*. Aquaculture 2022: World Aquaculture Society Triennial Meeting with the American Fisheries Society Fish Culture Section and the National Shellfisheries Association. San Diego, CA.
5. **Vaughn AJ**, Allen PJ. **2022**. The effects of low temperature on growth and metabolic processes of juvenile *Ictalurus* spp. Mississippi State University's Graduate Research Symposium. Starkville, MS.
6. Daulong AJ, **Vaughn AJ**, Dinh TTN, Yamamoto FY, Allen PJ. **2022**. Effects of low temperature on liver and muscle energy storage and condition in catfish. Mississippi State University's Undergraduate Research Symposium. Starkville, MS.

7. **Vaughn AJ**, Allen PJ. **2021**. Understanding the relationship between cool temperatures and metabolic rate of channel (*Ictalurus punctatus*), blue catfish (*I. furcatus*) and hybrid catfish (*I. furcatus* x *I. punctatus*) in different culture and environmental conditions. 47<sup>th</sup> Annual Meeting of the American Fisheries Society, Mississippi Chapter. Virtual.
8. Carrus E, **Vaughn AJ**, Lorentz CN. **2019**. Detecting microplastics in aquatic ecosystems using zebra mussels (*Dreissena polymorpha*). Eastern Kentucky University Biological Sciences Honors Day Ceremony. Richmond, KY.
9. Carrus E, **Vaughn AJ**, Lorentz CN. **2019**. Detecting microplastics in aquatic ecosystems using zebra mussels (*Dreissena polymorpha*). The 34<sup>th</sup> Annual Scientific Symposium of Ohio River Basin Consortium for Research & Education (ORBCRE) and Ohio River Basin Alliance (ORBA) Summit. Crestview Hills, KY.

## **Outreach Experience**

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### **Earth Day Celebration at Hattiesburg Zoo**

2024

### **Shark and Ray Diversity at the Coastal Research and Extension Center's Homeschool Friday**

2024

### **Mobile Boat Show**

2024

### **Marine Discovery Day at the Mississippi Museum of Natural Sciences**

2024, 2023

### **Shark and Ray Diversity at Three Rivers Elementary School**

2024

### **Summer Reading Program at Jerry Lawrence Memorial Library**

2024

### **75<sup>th</sup> Mississippi Deep Sea Fishing Rodeo**

2023

### **Sharks and Rays Booth at My Two Boots**

2023

### **Shark Dissection Class at the Old School Learning Depot**

2023

**Sharks and Rays Booth at Sand Jam**

2023

**Shark and Ray Diversity at St. Martin Gifted Center**

2023

**Shark and Ray Diversity at The Blake at Biloxi**

2023

**Shark and Ray Diversity at Vancleave, MS Elementary and Middle Schools**

2023

**Shark Week at Gulf State Park Pier**

2023

**Fish Diversity at Lawrenceburg, KY Elementary School**

2022

**Mississippi State University's American Fisheries Society Veteran Family Fishing Event**

2022

**Continuing Education**

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**Statistical Analysis, R Programming Language Intensive Workshop**

*Mississippi State University*

*Department of Wildlife, Fisheries and Aquaculture*

Starkville, MS

August 9<sup>th</sup> – 13<sup>th</sup>, 2021

Instructor: Dr. Melanie Boudreau

**Elasmobranch Advanced Field Skills Course**

*Field School*

Miami, FL

August 2<sup>nd</sup> – 8<sup>th</sup>, 2019

**Elasmobranch Field Skills Course**

*Field School*

Miami, FL

January 3<sup>rd</sup> – 9<sup>th</sup>, 2019

**Certifications**

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**Professional Association of Diving Instructors Open Water Dive Certification**

2018

## **Academic Awards**

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### **Aquaculture 2022, Physiological Insights Towards Improving Fish Culture** 2022

- Second place Student Presentation Competition

### **Mississippi State University Graduate School Travel Award** 2022

### **Mississippi State University Graduate Research Symposium** 2022

- Third place Oral Presentation, Forest Resources and Veterinary Medicine Master's Students

### **Eastern Kentucky University's Department of Biological Sciences Dan R. Varney Memorial Scholarship** Spring 2019

- Based on academic achievement, leadership and service, and potential for professional achievement

### **The 34<sup>th</sup> Annual Scientific Symposium of Ohio River Basin Consortium for Research & Education (ORBCRE) and Ohio River Basin Alliance (ORBA) Summit** Fall 2018

- Best Student Poster Presentation Recipient

### **Eastern Kentucky University Retention Scholarship** Fall 2018

- Minimum 2.0 GPA and a grade of "C" or better in all coursework, including developmental courses

### **Eastern Kentucky University Nancie Stone Endowed Scholarship** Spring 2018, Spring 2017

- Female, resident of KY, OH, WV, employed off-campus with minimum of 10 hrs., and minimum 3.0 GPA

### **Arthur and Frieda Bingham Prize** Spring 2017

- Eastern Kentucky University Department of Biological Sciences
- Awarded to a rising sophomore or junior who, as a major in Biology (not enrolled in the Pre-Med emphasis), has demonstrated outstanding academic performance

## Professional Societies

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### **American Fisheries Society**

February 2023 – Present

### **Mississippi Chapter of the American Fisheries Society**

February 2023 – Present

### **Mississippi State University's Student Sub-Unit of the American Fisheries Society**

Secretary

August 2021 – August 2022

## Computer Skills

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- **R Programming Language**
- **SAS**
- **ArcGIS**
- **Microsoft Office** (Word, Excel, PowerPoint)
- **Adobe** (Lightroom, Illustrator, Photoshop, Premiere Pro, Creative Cloud)
- **Canva/Prezi**

## Social Media & Communications

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### **Marine Fisheries Ecology [Facebook page](#) and [Instagram page](#)**

*Mississippi State University*

*Marine Fisheries Ecology Program, Biloxi, MS*

January 2023 – Present

- Manage and create content for social media pages

### **Fishermen Invested in Science, Healthy Ecosystems, and Sustainability [Facebook page](#)**

*Mississippi State University*

*Marine Fisheries Ecology Program, Biloxi, MS*

January 2023 – Present

- Manage and create content for social media page



## References

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**Dr. J. Marcus Drymon** (Current Supervisor)

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Marine Fisheries Specialist, Mississippi-Alabama Sea Grant Consortium  
Mississippi State University Coastal Research and Extension Center  
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