

# Mariah C. Livernois

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## EDUCATION

### Texas A&M University at Galveston, Galveston, TX

- Ph.D. in Marine Biology, anticipated 2022
- Shark Biology and Fisheries Science Lab (Advisor: Dr. R.J. David Wells)

### University of South Alabama, Mobile, AL

- M.S. in Marine Science, 2018
- Fisheries Ecology Lab, Dauphin Island Sea Lab (Advisor: Dr. Sean P. Powers)
- *GPA*: 4.0
- *Thesis*: Ecological interactions and resource partitioning of two estuarine predators, Red Drum (*Sciaenops ocellatus*) and Spotted Seatrout (*Cynoscion nebulosus*)

### Northeastern University, Boston, MA

- B.S. in Environmental Science, summa cum laude, 2015
- *Concentration*: Marine Science
- *GPA*: 3.97
- *Honors*: William J. Alcott Jr. Cooperative Education Award 2015, Sears B. Condit Academic Achievement Award 2015, Honors in Marine and Environmental Science 2015
- *Honors Thesis*: Habitat fragmentation alters *Zostera marina* seed abundance and distribution

## RESEARCH EXPERIENCE

### UNC-Chapel Hill, Institute of Marine Sciences, Morehead City, NC

January-July 2016

#### *Research Technician: Fodrie Lab, Fisheries Ecology and Oceanography*

- Explored data from written and verbal surveys of North Carolina waterfront homeowners, fishermen, and general state-wide residents
- Analyzed data pertaining to questions on state fisheries status, environmental issues, and shoreline hardening infrastructure
- Aided in assorted field surveys investigating the function of estuarine habitats, oyster reef restoration, fish habitat use, and the ecological impacts of aquaculture

### Dauphin Island Sea Lab, Dauphin Island, AL

May-December 2015

#### *Internship: Powers Lab, Fisheries Ecology*

- Participated in field sampling of marine teleosts, elasmobranchs, and invertebrates
  - Gear types used: vertical and bottom longline, trawl, gillnet, seine, hook and line
- Collected otoliths, gonads, and muscle samples from teleost fishes
- Identified and examined marine fishes and invertebrates from estuarine, coastal, and offshore ecosystems
- Analyzed video footage from remotely operated vehicle surveys of offshore artificial reefs and associated fishes
- Assisted in sidescan sonar surveys to locate natural and artificial offshore reefs

UNC-Chapel Hill, Institute of Marine Sciences, Morehead City, NC February-July 2014  
*Research Assistant: Fodrie Lab, Fisheries Ecology and Oceanography*

- Assisted in field sampling, data collection, and lab processing for projects related to oyster reef, fish, seagrass, and marsh ecology
- Planned and executed the building of an oyster reef and saltmarsh “living shoreline”
- Designed and executed a field experiment in seagrass ecology

*Research Assistant: Rodriguez Lab, Coastal Geology*

- Collected sediment cores in marsh, oyster reef and beach shoreline systems
- Processed sediment cores for temporal data by sieving and performing grain size analysis

Woods Hole Oceanographic Institution, Woods Hole, MA January-June 2012  
*Research Assistant: Anderson Lab, Biology Department*

- Performed molecular laboratory work including DNA extraction and purification, PCR amplification, gel electrophoresis, and bacterial cloning while researching the genetic variations of toxic algae populations
- Participated in water sampling and whole-cell specimen collection efforts
- Assumed responsibility of caring for hundreds of live specimen cultures

## **TEACHING EXPERIENCE**

Dauphin Island Sea Lab, Dauphin Island, AL July-August 2017  
*Teaching Assistant*

- Assisted teaching a short course for undergraduate students: Marine Vertebrate Zoology
- Prepared course materials for lectures and exams, both written and practical, and delivered one guest lecture
- Organized field sampling trips to collect and observe various estuarine fishes in AL and FL
- Provided support to students during labs, primarily focusing on fish identification skills

Northeastern University Marine Science Center, Nahant, MA January-June 2013  
*Outreach Program Assistant*

- Taught students grades pre-K through 12 topics in marine ecology, oceanography and research methods
- Developed and prepared curriculum for programs and classes, both on-site and at schools
- Oversaw students performing scientific surveys of the rocky intertidal zone while teaching data collection and handling of marine animals
- Maintained live aquaria, including crustaceans, mollusks, and echinoderms

## **PUBLICATIONS**

- Livernois, M.C., Fodrie, F.J., Heck, Jr., K.L., and Powers, S.P. In review. Emergent intraspecific multiple predator effects shape estuarine trophic dynamics across a gradient of habitat complexity.
- Livernois, M.C., Grabowski, J.H., Poray, A.K., Gouhier, T.C., Hughes, A.R., O’Brien,

K.F., Yeager, L.A., and Fodrie, F.J. 2017. Effects of habitat fragmentation on *Zostera marina* seed distribution. *Aquatic Botany* 142:1-9.

## ACCOMPLISHMENTS

- Honorable Mention, National Science Foundation Graduate Research Fellowship Program, April 2016
- Texas A&M University at Galveston Marine Biology Interdisciplinary Program Competitive Award – Graduate Research Assistantship, September 2018

## PRESENTATIONS

- Livernois, M.C., Powers, S.P., Fodrie, F.J., and Heck Jr., K.L. 2018. Habitat complexity and species assemblage shape predator-prey interactions in a model estuarine ecosystem. **Benthic Ecology Meeting**, Corpus Christi, TX.
- Livernois, M.C., Powers, S.P., Fodrie, F.J., and Heck Jr., K.L. 2018. Habitat complexity and species assemblage shape predator-prey interactions in a model estuarine ecosystem. **Gulf of Mexico Graduate Student Symposium**, Dauphin Island, AL.
- Livernois, M.C. and Powers, S.P. 2018. Co-occurrence and habitat associations of two estuarine sportfish, Red Drum and Spotted Seatrout, in coastal Alabama. **Alabama Chapter of the American Fisheries Society Annual Meeting**, Fort Payne, AL.
- Livernois, M.C., Powers, S.P., Fodrie, F.J., and Heck, K.L., 2017. Ecological Interactions and Resource Partitioning of Two Estuarine Predators, Red Drum (*Sciaenops ocellatus*) and Spotted Seatrout (*Cynoscion nebulosus*). Poster Presentation, **American Fisheries Society Annual Meeting**, Tampa, FL.
- Livernois, M.C., Bosarge, G.S., and Powers, S.P. 2016. Utilization of a coastal estuary by a demersal finfish family (Sciaenidae): Implications for habitat associations and ecological interactions. **MS-AL Sea Grant Bays and Bayous Symposium**, Biloxi, MS.
- Livernois, M.C., Poray, A.K., Fodrie, F.J., Hughes, A.R., Grabowski, J.H. 2015. Effects of fragmentation on reproductive effort and short-distance seed dispersal in *Zostera marina* beds. **Benthic Ecology Meeting**, Quebec City, QC, Canada.
- Livernois, M.C., Poray, A.K., Fodrie, F.J., Hughes, A.R., Grabowski, J.H. 2015. Effects of habitat fragmentation on reproductive effort and seed distribution in *Zostera marina* beds. **Honors Senior Thesis Defense**, Northeastern University Marine Science Center, Nahant, MA.

## PROFESSIONAL SOCIETIES & SERVICE

- Manuscript referee: *Aquatic Botany* – 2018
- American Fisheries Society (AFS) member – 2017-18
- Alabama Chapter of the AFS (AL AFS) member – 2018

## VOLUNTEERING AND OUTREACH

- Northeastern University Alumni Mentor (Informational Interviews) – 2017, 2018
- Girls Exploring Math and Science – November 2017

- Alabama Coastal Cleanup – September 2016, 2017
- Dauphin Island Sea Lab Discovery Day – April 2017, 2018
- National Ocean Sciences Bowl Judge – April 2016
- Northeastern University College of Science Student Ambassador – 2013, 2014, 2015
- Northeastern University Marine Science Center Open House – October 2013, 2014