

Mariah C. Livernois

University of South Carolina, Baruch Marine Field Laboratory
2306 Crabhall Road, Georgetown, SC 29440
mariah@baruch.sc.edu 843.904.9025

EDUCATION

- Ph.D., Marine Biology** **Texas A&M University, 2022**
Dissertation: Ecological dynamics and connectivity within an assemblage of predatory fishes in coastal Texas
- M.S., Marine Science** **University of South Alabama, 2018**
Thesis: Ecological interactions and resource partitioning of two estuarine predators, red drum (*Sciaenops ocellatus*) and spotted seatrout (*Cynoscion nebulosus*)
- B.S., Environmental Science** **Northeastern University, 2015**
Honors Thesis: Habitat fragmentation alters *Zostera marina* seed abundance and distribution

PROFESSIONAL APPOINTMENTS

- Postdoctoral Researcher** 2024 – Present
University of South Carolina, Baruch Marine Field Laboratory
Leading interdisciplinary research on plastic-free coastal restoration and management
- Adjunct Faculty** 2024 – Present
University of South Carolina, School of the Earth, Ocean and Environment
Instructor of undergraduate courses
- Affiliate Faculty** 2024 – Present
College of Charleston, Department of Environmental and Sustainability Studies
Primary advisor for M.S. student in Environmental and Sustainability Studies
- Postdoctoral Researcher** 2022 – 2024
University of New Hampshire, Department of Biological Sciences
Researched movements of aquatic animals via collaborative acoustic telemetry networks
- Graduate Research Assistant** 2016 – 2022
Texas A&M University at Galveston, Marine Biology Department
University of South Alabama, Dauphin Island Sea Lab
Studied the ecology of coastal fishes and habitats in the field and laboratory
- Research Technician** 2014, 2016
University of North Carolina at Chapel Hill, Institute of Marine Sciences
Researched seagrass reproduction, assisted with research on coastal ecology and geology
Analyzed social science surveys regarding views of ecological health and coastal hazards
- Research Technician** 2015
Dauphin Island Sea Lab
Used various gears to sample populations of estuarine and marine fishes and invertebrates
- Research Technician** 2012
Woods Hole Oceanographic Institution
Performed molecular laboratory work to examine the genetic variations of toxic algae

PUBLICATIONS

- [10] **Livernois, M.C.**, Ogburn, M.B., Legett, H.D., Richie, K.D., Aguilar, R., Heggie, K., & Furey, N.B. 2024. Tracking animal movements via collaborative acoustic telemetry networks: multiscale habitat use, phenology, and management insights. *Journal of Fish Biology* 2024:1-20. doi.org/10.1111/jfb.15952
- [9] Ogburn, M.B., Legett, H.D., Aguilar, R., Furey, N.B., Heggie, K., **Livernois, M.C.**, & Richie, K.D. 2024. Acoustic telemetry captures the full annual migration of alewife between Chesapeake Bay and the Gulf of Maine. *Marine Ecology Progress Series* 745:115-124. doi.org/10.3354/meps14676
- [8] **Livernois, M.C.**, Rezek, R.J., & Wells, R.J.D. 2024. Spatial and Ontogenetic Trophic Dynamics of Co-occurring Predatory Fishes in a Northern Gulf of Mexico Estuary. *Estuaries and Coasts* 47:1119-1138. doi.org/10.1007/s12237-024-01361-8
- [7] **Livernois, M.C.**, Mohan, J.A., TinHan, T.C., Richards, T.M., Falterman, B.J., Miller, N.R., & Wells, R.J.D. 2021. Ontogenetic patterns of elemental tracers in the vertebrae cartilage of coastal and oceanic sharks. *Frontiers in Marine Science* 8:704134. doi.org/10.3389/fmars.2021.704134
- [6] Gittman, R.K., Scyphers, S.B., Baillie, C.J., Brodmerkel, A., Grabowski, J.H., **Livernois, M.**, Poray, A.K., Smith, C.S., & Fodrie, F.J. 2021. Reversing a tyranny of cascading shoreline-protection decisions driving coastal habitat loss. *Conservation Science and Practice* 2021:e490. doi.org/10.1111/csp2.490
- [5] **Livernois, M.C.**, Fujiwara, M., Fisher, M., & Wells, R.J.D. 2021. Seasonal patterns of habitat suitability and spatiotemporal overlap within an assemblage of estuarine predators and prey. *Marine Ecology Progress Series* 668:39-55. doi.org/10.3354/meps13700
- [4] **Livernois, M.C.**, Powers, S.P., Albins, M.A., & Mareska, J.F. 2020. Habitat Associations and Co-Occurrence Patterns of Two Estuarine-Dependent Predatory Fishes. *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science* 12:64-77. doi.org/10.1002/mcf2.10104
- [3] Fujiwara, M., Martinez-Andrade, F., Wells, D., Fisher, M., Pawluk, M., & **Livernois, M.** 2019. Climate-related factors cause changes in the diversity of fish and invertebrates in subtropical coast of the Gulf of Mexico. *Communications Biology* 2(403). doi.org/10.1038/s42003-019-0650-9
- [2] **Livernois, M.C.**, Fodrie, F.J., Heck, Jr., K.L., & Powers, S.P. 2019. Emergent intraspecific multiple predator effects shape estuarine trophic dynamics across a gradient of habitat complexity. *Journal of Experimental Marine Biology and Ecology* 511:120-128. doi.org/10.1016/j.jembe.2018.12.004
- [1] **Livernois, M.C.**, Grabowski, J.H., Poray, A.K., Gouhier, T.C., Hughes, A.R., O'Brien, K.F., Yeager, L.A., & Fodrie, F.J. 2017. Effects of habitat fragmentation on *Zostera marina* seed distribution. *Aquatic Botany* 142:1-9. doi.org/10.1016/j.aquabot.2017.05.006

MANUSCRIPTS IN PREPARATION

- Johnson, E.M., Matich, P., Martinez-Andrade, F., Sanchez, P.S.D., Hernandez, A.G., Li, C., **Livernois, M.C.**, & Wells, R.J.D. Species composition, relative abundance, and environmental effects on demersal fishes in the northwestern Gulf of Mexico. *In review*
- Silverio, A.C., **Livernois, M.C.**, Geeslin, D., Furey, N.B., & White, E.R. Assessing the resistance and resilience of recreationally important fish species to extreme events in coastal Texas. *In review*
- TinHan, T.C., **Livernois, M.C.**, Rooker, J.R., & Wells, R.J.D. Ontogenetic and seasonal trends in use of a subtropical estuary by juvenile bull sharks (*Carcharhinus leucas*). *In prep*

GRANTS AND AWARDS

Coastal and Estuarine Research Federation

Early Career Travel Award (\$300) 2023

Texas A&M University at Galveston

Erma Lee and Luke Mooney Research Excellence Award (\$1000) 2022

Boost Award (1-yr Graduate Research Assistantship) 2021 – 2022

Bernice E. Powell Maritime Education Scholarship (\$5000) 2021 – 2022

Dr. Sammy Ray Marine Biology Scholarship (\$1000) 2021 – 2022

Erma Lee and Luke Mooney Graduate Student Travel Grant (\$1000) 2019, 2021

Marine Biology (MARB) Travel Grant (\$500) 2018

TAMUG MARB Program Award (1-yr Graduate Research Assistantship) 2018 – 2019

Texas Sea Grant

Grants-in-Aid of Graduate Research Award (\$2500) 2019

American Fisheries Society

Southern Division Alligator Gar Technical Committee Scholarship (\$500) 2022

Texas Chapter Student Scholarship (\$1500) 2019

Dauphin Island Sea Lab

Graduate Student Research Support (\$1100) 2017

National Science Foundation

Honorable Mention, NSF Graduate Research Fellowship 2016

Northeastern University

William J. Alcott Jr. Cooperative Education Award 2015

Sears B. Condit Academic Achievement Award 2015

TEACHING

Instructor

Field and Laboratory Investigations in Marine Science, University of South Carolina 2024 –2025
2 credits: Experiential education in field and lab settings, materials designed independently
Spring 2024 (1 section), Spring 2025 (2 sections)

Teaching Assistant

Fisheries Techniques, Texas A&M University at Galveston (2 semesters) 2019 – 2020

Marine Vertebrate Zoology, Dauphin Island Sea Lab 2017

Guest Lecturer

Sharks and Bony Fishes, University of New Hampshire 2022, 2023
Acoustic telemetry; Trophic ecology of fishes

Environmental Biology, University of New Hampshire 2023
Animal telemetry on land and in water

Conservation Behavior, University of New Hampshire 2022
What does a career in biological sciences look like?

Ichthyology, Texas A&M University at Galveston 2019, 2022
Research presentation; Physical and biological traits of estuaries

Marine Ecology, Texas A&M University at Galveston Importance of seagrass ecosystems	2021
Fisheries Techniques, Texas A&M University at Galveston Research presentation	2018, 2020
Outreach Program Assistant Northeastern University Marine Science Center	2013

MENTORING

Primary Advisor <i>Lexi Watson, College of Charleston</i> MS in Environmental and Sustainability Studies	2024 – Present
Thesis Committee Member <i>Ana Silverio, University of New Hampshire</i> MS in Marine Biology	2022 – 2024
Supervisor, University of Dayton Ethos Program 2 undergraduate students <i>Outcomes:</i> Presented on research and community engagement	2024
Mentor, TAMUG Graduate Student 1 M.S. graduate student <i>Outcomes:</i> Current Ph.D. student in marine biology	2021 – 2022
Advisor, Texas Institute of Oceanography Summer Internship 1 undergraduate student <i>Outcomes:</i> Presented at TAMUG Research Symposium	2021
Advisor, TAMUG Undergraduate Research Scholars Program 2 undergraduate students <i>Outcomes:</i> Completed and presented undergraduate thesis & 1 completed M.S., marine science	2019 – 2020
Supervisor, TAMUG Undergraduate Student Research Volunteers 20 undergraduate students <i>Outcomes:</i> Four completed M.S., one current Ph.D. student in aquatic sciences	2018 – 2021

INVITED SEMINARS

-
- Johnson C. Smith University Natural Sciences Seminar. 2024. Promoting healthy coastal ecosystems through research and education at the Baruch Marine Field Laboratory. Charlotte, NC.
- Keynote Speaker, South Carolina Sea Grant Consortium Marine Debris Educator Workshop: From Micro to Macro. 2024. From blue-gray to blue-green: facilitating the transition to non-plastic natural material use within the coastal zone economy. Georgetown, SC.
- Smithsonian Environmental Research Center Spring Seminar Series. 2023. Leveraging acoustic telemetry networks to assess phenology and habitat use patterns of Chesapeake Bay Fishes. Edgewater, MD.
- University of New Hampshire Department of Biological Sciences Seminar Series. 2023. Leveraging acoustic telemetry networks to assess phenology and habitat use patterns of Chesapeake Bay Fishes. Durham, NH.
- University of New England Marine Science Seminar Series. 2023. Exploring niche partitioning and functional redundancy of coastal fishes using stable isotope analysis and acoustic telemetry.

Biddeford, ME.

Southern Division of the American Fisheries Society Alligator Gar Technical Committee Webinar. 2022. Habitat use, movements, and trophic ecology of Alligator Gar in Galveston Bay, TX. virtual.

PRESENTATIONS

- Livernois, M.C.** 2024. From Blue-Gray to Blue-Green: Facilitating the Transition to Non-Plastic Natural Material Use Within the Coastal Zone Economy. NOAA Sea Grant Marine Debris Symposium, Silver Spring, MD.
- Livernois, M.C.**, Pfirrmann, B., White, S.A., Schneider, S., Saari, B., Robinson, J., Pedigo, S., Lovelace, S., Lowe, R., Guthrie, A., Gorstein, M., Dugo, M., Carbajales-Dale, M., and Strosnider, W. 2024. Natural materials as non-plastic alternatives in coastal sectors: Engineering solutions with traditional ecological knowledge. American Ecological Engineering Society Annual Conference, Blacksburg, VA.
- McKercher, L.M., **Livernois, M.C.**, Kimball, M.E., and Strosnider, W.H.J. 2024. Something's fishy here: considering the role of coastal stormwater retention ponds as habitat for fish. American Ecological Engineering Society Annual Conference, Blacksburg, VA.
- Livernois, M.C.**, Pfirrmann, B., White, S.A., Schneider, S., Saari, B., Robinson, J., Pedigo, S., Lovelace, S., Lowe, R., Guthrie, A., Gorstein, M., Dugo, M., Carbajales-Dale, M., and Strosnider, W. 2024. Facilitating the transition to non-plastic natural material use within the coastal zone. South Carolina Sea Grant Microplastics in the Coastal Region Conference, Charleston, SC.
- Livernois, M.C.**, Ogburn, M.B., Legett, H.D., Richie, K.D., and Furey, N.B. 2023. Leveraging acoustic telemetry networks to assess phenology and habitat use patterns of Chesapeake Bay fishes. Coastal and Estuarine Research Federation Biennial Conference, Portland, OR.
- Livernois, M.C.**, Ogburn, M.B., Legett, H.D., Richie, K.D., and Furey, N.B. 2023. Movements of Chesapeake Bay fishes reveal multi-scale habitat use, migrations, and implications for fishery management. Chesapeake Bay Program Sustainable Fisheries Goal Implementation Team Meeting, virtual.
- Livernois, M.C.**, Ogburn, M.B., Legett, H.D., Richie, K.D., and Furey, N.B. 2023. Leveraging multi-species and multi-year telemetry datasets to examine metrics of movement and phenology of Chesapeake Bay fishes. Atlantic Cooperative Telemetry Network Meeting, virtual.
- Livernois, M.C.**, Ogburn, M.B., Legett, H.D., Richie, K.D., and Furey, N.B. 2023. Leveraging multi-species and multi-year telemetry datasets to examine metrics of movement and phenology of Chesapeake Bay fishes. Poster, Southern New England Chapter – Northeast Division of the American Fisheries Society (AFS) Joint Meeting, Boston, MA.
- Livernois, M.C.**, Rooker, J.R., TinHan, T.C., Jensen, C., and Wells, R.J.D. 2022. Multi-scale movement and habitat use patterns of estuarine fishes in the Gulf of Mexico with varying life histories. Gulf of Mexico Graduate Student Symposium, Ocean Springs, MS.
- Livernois, M.C.**, Wells, R.J.D., and Rooker, J.R. 2021. Acoustic and satellite telemetry of fishes along the Texas coast. Laguna Madre Binational Seminar, virtual.
- Livernois, M.C.**, Mohan, J.M., TinHan, T., Richards, T., Falterman, B., Miller, N., and Wells, R.J.D. 2021. Ontogenetic patterns of elemental tracers in the vertebrae cartilage of coastal and oceanic sharks. AFS Annual Meeting, Baltimore, MD.
- Livernois, M.C.**, Rooker, J., TinHan, T., and Wells, R.J.D. 2021. Multi-scale movement and habitat use patterns of estuarine fishes in the Gulf of Mexico with varying life histories. Poster, AFS Annual

Meeting, Baltimore, MD.

- Livernois, M.C.,** Rooker, J., Steffen, C., Stephens, S., TinHan, T., and Wells, R.J.D. 2020. Movements and habitat use patterns of coastal fishes in Galveston Bay, TX examined using acoustic telemetry. Galveston Bay Estuary Program State of the Bay Symposium, Galveston, TX.
- Livernois, M.C.** and Wells, R.J.D. 2020. Ecological dynamics and connectivity of predatory fishes in coastal Texas. Texas A&M University MARB Program Retreat, Galveston, TX.
- Livernois, M.C.,** Fujiwara, M., Rooker, J., Fisher, M., and Wells, R.J.D. 2020. Influence of abiotic and biotic factors on the distribution and co-occurrence patterns of estuarine predators and prey. Texas Chapter of the AFS Annual Meeting, Waco, TX.
- Fujiwara, M., Martinez-Andrade, F., Wells, R.J.D., Fisher, M., Pawluk, M., and **Livernois, M.C.** 2020. Climate change and diversity of fishes and invertebrates along the Texas coast. Texas Chapter of the AFS Annual Meeting, Waco, TX.
- Livernois, M.C.,** Fisher, M., Fujiwara, M., Rooker, J., and Wells, R.J.D. 2019. Habitat associations and spatiotemporal overlap of an assemblage of estuarine predators and prey. Coastal and Estuarine Research Federation Biennial Conference, Mobile, AL.
- Livernois, M.C.,** Powers, S.P., and Albins, M.A. 2019. Habitat associations and co-occurrence patterns of two estuarine-dependent predatory fish species in coastal Alabama. Southern Division of the AFS Annual Meeting, Galveston, 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. 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 AFS Annual Meeting, Fort Payne, AL.
- Gittman, R.K., Fodrie, F.J., Grabowski, J.H., **Livernois, M.C.,** Poray, A.K., Scyphers, S., and Smith, C.S. 2017. Preference for hardened shorelines outweighs environmental values and impedes conservation and restoration of coastal habitats. Coastal and Estuarine Research Federation Biennial Conference, Providence, RI.
- 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, AFS 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.

OUTREACH

Pathways to Possibilities SC Exhibitor	2025
Day as a Scientist Lesson Plan Leader (Durham, NH)	2023
University of New Hampshire Ocean Discovery Day Presenter	2023

Texas Coastal Brigades Youth Leadership Camp Presenter	2019 – 2021
Galveston Graduate Student Association Event Organizer and Speaker	2019
Middle School Science Fair Judge (Galveston, TX)	2019
Dolphin Challenge Judge (Regional Ocean Sciences Bowl, TX)	2019
Dauphin Island Sea Lab Discovery Day Guide	2017 – 2018
Girls Exploring Math and Science Session Leader (Mobile, AL)	2017
Alabama Coastal Cleanup Volunteer (Dauphin Island, AL)	2016 – 2017
National Ocean Sciences Bowl Judge (Morehead City, NC)	2016
Northeastern University Marine Science Center Open House Guide	2013 – 2014

PROFESSIONAL SERVICE

Manuscript referee: <i>Aquatic Botany</i> (1), <i>Marine Ecology Progress Series</i> (4), <i>PLOS ONE</i> (1), <i>Journal of Fish Biology</i> (1), <i>Southeastern Naturalist</i> (1), <i>Estuaries and Coasts</i> (1)	
UNH Commission for Community, Equity, and Diversity Member	2022 – 2023
UNH Postdoctoral Association Representative	2022 – 2023
UNH Postdoctoral Research Day Organizer	2023
TAMUG MARB Interdisciplinary Program Graduate Student Representative	2020 – 2021
Galveston Graduate Student Association Secretary	2019 – 2021
TAMUG Graduate and Professional Education Committee Member	2020
TAMUG Marine Biology Journal Club Leader	2019
Northeastern University College of Science Student Ambassador	2013 – 2015

PROFESSIONAL DEVELOPMENT

Bias Awareness and Bystander Intervention Workshop	2022
University of New Hampshire PowerPlay and Inclusion Works, Inc.	
Advancing Learning through Evidence-Based STEM Teaching	2022
Center for the Integration of Research, Teaching & Learning at Texas A&M	
Academy for Future Faculty Fellow	2021 – 2022
Texas A&M University Center for Teaching Excellence	

SOCIETY MEMBERSHIPS

American Fisheries Society	2017 – 2025
Southern Division	2025
Southern New England Chapter	2023
Texas Chapter	2018 – 2022
Alabama Chapter	2018
American Ecological Engineering Society	2024 – 2025
Coastal and Estuarine Research Federation	2023 – 2025
Fisheries Society of the British Isles	2023 – 2025
Friend of MISS (Minorities in Shark Science)	2021 – 2024