

# Natasha Johnson Breaux

Harte Research Institute for Gulf of Mexico Studies  
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## **Education**

M.S., Marine Biology, Texas A&M University-Corpus Christi, Corpus Christi TX, August 2017

Thesis Title: *Ecosystem resilience following salinity change in a hypersaline estuary*

B.S., Wildlife Ecology and Conservation, University of Florida, Gainesville FL, May 2009

## **Professional Experience**

Project Manager II, Coastal Conservation and Restoration Group  
Harte Research Institute for Gulf of Mexico Studies- Texas A&M University,  
Corpus Christi, TX • 2022 to present

- Oversee laboratory operations, ensuring efficient functioning
- Manage and coordinate research projects to achieve organizational goals and objectives
- Track deliverables and milestones for the research group, ensuring timely completion and adherence to project timelines
- Provide supervision and guidance to students and technicians, ensuring high-quality work through QA/QC measures and comprehensive training
- Standardize techniques and procedures in both lab and field settings to enhance efficiency
- Lead hiring processes and task assignment for undergraduate employees and full-time staff, fostering a collaborative and productive work environment
- Contribute strategic insights to oyster shell recycling program daily operations and program growth
- Co-author reports, white-papers, and peer-reviewed manuscripts
- Coordinate and conduct field sampling activities, ensuring data collection aligns with project objectives.
- Manage procurement and maintenance of equipment and supplies necessary for research activities

Research Specialist II, Coastal Conservation and Restoration Group  
Harte Research Institute for Gulf of Mexico Studies- Texas A&M University,  
Corpus Christi, TX • 2019 to 2022

- Led lab operations including student and technician training
- Facilitated efficiency in the lab and field by standardizing techniques
- Supervised and coordinated undergraduate employee hiring and tasks
- Managed shell recycling program daily operations
- Organized educational outreach events
- Contributed to publication of reports and peer-reviewed manuscripts
- Coordinated and conducted field sampling
- Procured and maintained equipment and supplies

Research Associate, Coastal Conservation and Restoration Ecology Laboratory  
Texas A&M University, Corpus Christi, TX • 2017 to 2019

- Lead field sampling efforts for benthic and water quality projects
- Processed biological samples

- Worked with incoming students to establish and maintain effective sampling protocols
- Synthesized data and completed progress/ final reports for field sampling projects
- Prepared proposals for future project funding
- Developed and coordinated community outreach events
- Maintained laboratory and field equipment

Graduate Research Assistant, Coastal Conservation and Restoration Ecology Laboratory  
Texas A&M University, Corpus Christi, TX • 2015 to 2017

- Coordinated sampling events within our laboratory and partnering entities
- Analyzed benthic core samples for macrofaunal abundance, diversity and biomass
- Processed biological and sediment samples for stable isotope analyses
- Maintained database and complete statistical analyses of biological and physical data collected
- Created lasting sampling partnerships with commercial anglers and state officials
- Planned and participated in numerous outreach events with a variety of age groups

Graduate Teaching Assistant, Marine Ecology  
Texas A&M University, Corpus Christi, TX • Spring 2016

- Planned and facilitated numerous laboratory and field experiences for students
- Independently tutored students on concepts and techniques in Marine Ecology
- Organized 24-hour diurnal sampling event requiring cooperation among various groups

Marine Fisheries Biologist, Louisiana Department of Wildlife and Fisheries  
New Orleans, LA • 2011 to 2015

- Used both dependent and independent sampling methods to establish records of the fishery
- Effectively communicated fisheries projects, goals, and status to the public
- Served as State representative for NRDA sampling
- Acted as study area liaison for federal Menhaden aging and commercial (TIPS) programs
- Safely and efficiently operated sampling vessels and equipment including trawls, tongs and dredges; seine, gill, and trammel net

Veterinary Assistant, Metairie Small Animal Hospital  
Metairie, LA • 2010 to 2011

- Aided in clinic, laboratory and pharmaceutical practices
- Independently ran a variety of diagnostic laboratory tests to allow for prompt reporting to clients
- Maintained patient records by precisely recording treatments and test results

Undergraduate Research Assistant, Ecosystem Ecology Laboratory  
University of Florida, Gainesville, FL • 2008 to 2009

- Processed soil and plant samples for pH and nutrient values
- Worked independently and in conjunction with staff and students on various extraction techniques
- Maintained a clean, orderly, and well-stocked laboratory setting

Gopher Tortoise Relocation/Research Intern, Nokuse Plantation  
Bruce, FL • Summer 2007

- Worked with Field Biologists to take in, tag, and track Gopher Tortoises
- Analyzed land area for suitable habitat using GPS and GIS mapping systems

## Scholarships and Awards

Outstanding Teaching Assistant Award and Research Grant, Texas A&M University College of Graduate Studies, 2017

Henry Hildebrand Memorial Scholarship, Texas A&M University Center for Coastal Studies, 2016

Millicent Quammen Memorial Scholarship, Texas A&M University Center for Coastal Studies, 2015

Student Success Scholarship, Texas A&M University, 2015

Bright Futures Medallion Scholarship, State of Florida, 2005-2009

New College of Florida Presidential Scholarship, New College of Florida, 2005

## Selected Scientific and Professional Conference Presentations

**Breaux, N.J.**, Palmer, T.A., Gilmore, J., Avalos, A., Beseres Pollack, J. May 2022. Serpulid Worm Reefs: Importance, Extent, and Potential for Restoration. Coastal Bend Bays and Estuaries Program Baffin Bay Symposium. Corpus Christi, Texas.

Comba, D., Palmer, T.A., **Breaux, N.J.\***, Beseres Pollack, J. March 2022. Evaluating biodegradable alternatives to plastic mesh for oyster reef restoration Texas Plastic Pollution Symposium. Port Aransas, Texas.

**Breaux N.**, Palmer, T.A., Lebreton, B., Avalos, A., Guillou, G., Beseres Pollack, J. November 2021. Importance of Serpulid reefs in a hypersaline estuary. Coastal and Estuarine Research Federation Conference. Virtual.

**Breaux, N.**, Palmer, T, Lebreton, B and J.B. Pollack. March 2018. Serpulid Reef Communities as Critical Habitat for Invertebrate Prey Resources. Benthic Ecology Meeting. Corpus Christi, Texas.

**Breaux, N.**, Palmer, T, Lebreton, B and J.B. Pollack. November 2017. Evaluating Effects of Extreme Salinity Change on a Benthic Predator. Coastal and Estuarine Research Federation Conference. Providence, Rhode Island.

**Breaux, N.**, Palmer, T, Lebreton, B and J.B. Pollack. April 2017. Evaluating Effects of Extreme Salinity Change on a Benthic Predator. Benthic Ecology Meeting. Myrtle Beach, South Carolina.

**Breaux, N.**, Palmer, T, Lebreton, B and J.B. Pollack. January 2017. Evaluating Macrofaunal Response to Salinity Disturbance. TAMU Marine Biology Interdisciplinary Program Retreat. Galveston, Texas. **Breaux, N.**, Palmer, T, Lebreton, B and Pollack, JB. December 2016. Evaluating Ecosystem Response to Salinity Disturbance in a Hypersaline Estuary. Marine Science Graduate Student Organization Student Research Forum. Corpus Christi, Texas.

Thomas, J, **Breaux, N.**, Palmer, T, Lebreton, B, and J.B. Pollack. December 2016. Salinity Disturbance and Benthic Macrofauna in Baffin Bay, TX. Marine Science Graduate Student Organization Student Research Forum. Corpus Christi, Texas. \**Third Place: Undergraduate Poster Presentation*

**Breaux, N.**, Palmer, T, Lebreton, B and J.B. Pollack. September 2016. Evaluating Ecosystem Response to Salinity Disturbance in a Hypersaline Estuary. TAMU Pathways Research Symposium. Prairie View, Texas. \**Second Place: Master's Level Environmental Sciences Poster Presentation*

Smykla, L, **Breaux, N.**, Palmer, T, Lebreton, B and J.B. Pollack. September 2016. Understanding Black Drum Resource Use in a Hypersaline System. TAMU Pathways Research Symposium. Prairie View, Texas \**First Place: Undergraduate Life Sciences Poster Presentation*

- Beseres Pollack, J, Stunz G, Ajemian M, Wetz M, Palmer T, Lebreton B, Mendenhall K, and **Breaux N.** June 2016. Linking benthic food resources, water quality, and black drum in Baffin Bay, Texas. Coastal Bend Bays and Estuaries Program Baffin Bay Symposium. Corpus Christi, Texas.
- Beseres Pollack, J, Stunz, G, Ajemian, M, Wetz, M, Palmer, T, Lebreton, B, Mendenhall, K and **Breaux, N.** April 2016. Linking benthic food resources, water quality & Black Drum in Baffin Bay, TX. Texas Bays and Estuaries Meeting. Port Aransas, Texas.
- Breaux, N,** Palmer, T, Lebreton, B and Pollack, JB. April 2016. Evaluating Ecosystem Resilience Following a Salinity Disturbance in Baffin Bay, TX. Texas Bays and Estuaries Meeting. Port Aransas, Texas. *\*First Place: Poster Presentation*
- Breaux, N,** Palmer, T, Lebreton, B and JB Pollack. March 2016. Ecosystem Resilience Following a Salinity Disturbance in a Hypersaline Estuary. Benthic Ecology Meeting. Portland, Maine.
- Breaux, N.** December 2015. Ecosystem Resilience Following a Salinity Disturbance in a Hypersaline Estuary. Marine Science Graduate Student Organization Student Research Forum. Corpus Christi, Texas.

## **Publications**

### ***Peer-Reviewed Journal Articles***

#### *In Review*

- Neffinger, A. J., **Breaux, N. J.**, Margo, A. D., Palmer, T. A., Trackenberg, S. N., Beseres Pollack, J. *In review.* Developing a bioassessment framework to inform tidal stream management along a hydrologically variable coast. *Ecological Indicators*. Revisions submitted November 2023.

#### *In Print*

- Breaux, N.**, Avalos, A., Gilmore, J., Palmer, T. A., Beseres Pollack, J. 2023. Recruitment dynamics of Serpulid worms in Baffin Bay, Texas: implications for habitat restoration in a hypersaline estuary. *Estuaries and Coasts*. DOI: 10.1007/s12237-023-01233-7
- Comba, D., Palmer, T.A., **Breaux, N. J.**, Beseres Pollack, J. 2022. Evaluating biodegradable alternatives to plastic mesh for small-scale oyster reef restoration. *Restoration Ecology*, DOI: 10.1111/rec.13762
- Martinez, M.J., Palmer, T.A., **Breaux, N. J.**, Beseres Pollack, J. 2022. Dynamics of restored and natural oyster reefs after a hurricane. *Frontiers in Ecology and Evolution-Conservation and Restoration Ecology*, DOI: 10.3389/fevo.2022.791739
- Marshall, D.A., Casas, S.M., Walton, W.C., Rikard, F.S., Palmer, T.A., **Breaux, N.**, La Peyre, M.K., Beseres Pollack, J., Kelly, M., La Peyre, J. F. 2021. Divergence in salinity tolerance of northern Gulf of Mexico eastern oysters under field and laboratory exposure. *Conservation Physiology*, DOI: 10.1093/conphys/coab065
- Palmer, T.A., **Breaux, N.**, Lebreton, B., Guillou, G., Beseres Pollack, J. 2021. Importance of Serpulid Reef to the Functioning of a Hypersaline Estuary. *Estuaries and Coasts*, DOI: 10.1007/s12237-021-00989-0

**Breaux, N.,** Lebreton, B., Palmer, T. A., Guillou, G., Pollack, J. B. 2019. Ecosystem resilience following salinity change in a hypersaline estuary. *Estuarine, Coastal and Shelf Science*, DOI: 10.1016/j.ecss.2019.106258

### ***Published Datasets***

- Beseres Pollack, J., **Breaux, N.,** Palmer, T. A., Savage, K.B., DeSantiago, K., Downey, D. 2022. Monitoring of Perkinsus marinus (Dermo disease) infection intensity in Crassostrea virginica, and water quality in the Mission-Aransas Estuary, 2014-2021. Distributed by: Gulf of Mexico Research Initiative Information and Data Cooperative (GRIIDC), Harte Research Institute, Texas A&M University– Corpus Christi. doi:10.7266/JJZYJ9AT
- Martinez, M. J., Beseres Pollack, J., Palmer, T. A., **Breaux, N.** (2021) Monitoring of oyster and epifauna populations at a constructed oyster reef (Big Tree Reef), St Charles Bay, Texas from 2017 to 2019. Distributed by: Gulf of Mexico Research Initiative Information and Data Cooperative (GRIIDC), Harte Research Institute, Texas A&M University–Corpus Christi. doi:10.7266/4M7E26BH
- Beseres Pollack, J., Palmer, T. A., De Santiago, K., Marshall, D., Williams, A., **Breaux, N.** (2021) Monitoring of oyster and epifauna populations at a constructed oyster reef (Half Moon Reef), Matagorda Bay, Texas from 2014 to 2019. Distributed by: Gulf of Mexico Research Initiative Information and Data Cooperative (GRIIDC), Harte Research Institute, Texas A&M University–Corpus Christi. doi:10.7266/BQ5QBXJ0
- Beseres Pollack, J., Palmer, T., **Breaux, N.** 2019. Comparison of oyster populations sampled by dredge and quadrat. Distributed by: Gulf of Mexico Research Initiative Information and Data Cooperative (GRIIDC), Harte Research Institute, Texas A&M University–Corpus Christi. DOI:10.7266/DRCEDRM3
- Pollack, J., Palmer, T., Lebreton, B., **Breaux, N.,** Rubio, K. 2019. Stable isotope composition of organic matter, benthic macrofauna, and fish in Baffin Bay and Laguna Madre, Texas, from 2015-04-21 to 2017-08-11. The Gulf of Mexico Research Initiative Information and Data Cooperative (GRIIDC), Harte Research Institute, Texas A&M University–Corpus Christi. DOI: 10.7266/PJ139ZRD
- Pollack, J., Palmer, T., **Breaux, N.,** Rubio, K. 2019. Benthic macrofauna abundance and biomass data collected in Baffin Bay and Laguna Madre, Texas from 2014-03-20 to 2017-07-11. The Gulf of Mexico Research Initiative Information and Data Cooperative (GRIIDC), Harte Research Institute, Texas A&M University–Corpus Christi. DOI: 10.7266/ZNMDE1P0

### ***Book Chapter***

Beseres Pollack, J., **Breaux, N.,** Withers, K. 2023. Open Bay. In Withers, K., Chapman, B. R., Tunnell, J. W., Judd, F. W. (Eds.). *The Laguna Madre of Texas and Tamaulipas – Revised Edition* (pp. 136-150). Texas A&M University Press.

### **Journal Reviewer**

Integrated Environmental Assessment and Management

### **Certifications/ Professional Skills**

Microsoft Office Suite, Primer v7, and RStudio v1.4.1106  
Multivariate Analysis in Ecology using PRIMER v7  
Safe Boater certified with 10+ years of experience trailering and operating small vessels  
PADI Open Water SCUBA Diver with Rescue, Enriched Air Nitrox, and Underwater Navigator specialization/ certifications  
AAUS Scientific Diver  
HazMat Cylinder Handling  
DAN Diving First Aid for Professional Divers (First Aid, CPR, AED, BBP, O2 Administration, Neurological and First Aid for Hazardous Marine Life)  
Preparation of samples for Stable Isotope analysis  
Stable Isotope Mixing Models using SIBER, SIAR, MixSIAR  
Dermo disease detection via Ray's Fluid Thioglycollate Medium method  
Identification and handling of fish and macroinvertebrates  
Calibration, maintenance and deployment of various models of water quality sondes

### **Selected Service and Outreach**

Invited speaker/ volunteer for 'Sink Your Shucks™' Oyster Recycling Program Events (including public and private schools, summer camps, and various local and regional clubs and societies) – 2016 - Present  
Evaluator- Marine Science Graduate Student Organization Research Forum – 2017-2023  
Speaker and Exhibitor- Leadership Women Texas TX – June 2021  
Invited Speaker-Coastal Ecosystem Functioning, University of La Rochelle – March 2021  
Panelist- Texas Seagrass Baffin Bay Townhall Meeting – March 2021  
Science Fair Judge- Incarnate Word Academy – February 2017  
Sampling volunteer- Texas Parks and Wildlife Department Summer 2015  
Volunteer with Florida DEP- Beach Restoration Projects – 2008

### **Professional Memberships and Affiliations**

TAMUCC Dive Control Board (2024 - present)  
Coastal & Estuarine Research Federation  
Benthic Ecology Meeting Society  
South Walton Artificial Reef Association- Board Member (2019-2023)  
Harte Research Institute Researchers Group Steering Committee (2019-2023)