

SHANNON DUNNIGAN KIMMEL

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Environmental researcher with 7+ years experience managing a long-term water quality monitoring program with reporting staff. Experience with data management, coordinating field teams, building interactive data visualizations, reports and websites through R Markdown and Quarto. Areas of expertise include environmental monitoring, data management, R programming with tidyverse, coastal habitat ecology, and higher education instruction.

SKILLS

Languages and Tools - R, Git, PRIMER-e, tidyverse, Adobe InDesign

Industry Knowledge - Data visualization, trailering and operating boats, data analysis, environmental monitoring (including continuous monitoring stations), ecology, fisheries, time management, research, higher education, field work and coordination

Interpersonal Skills - Team coordination, leadership, public speaking, communication, project management

EXPERIENCE

GTM Research Reserve

Apr 2017-Present

System-Wide Monitoring Program Manager

Ponte Vedra Beach, FL

Position contracted through the University of North Florida as Coordinator of Research Program Services.

- managed staff and coordinated with external researchers and volunteers;
- **deployed and maintained long-term monitoring equipment and infrastructure for water quality and emergent vegetation;**
- **coordinated fieldwork for water quality research;**
- **served as Data Manager on a [NERRS Science Collaborative Project](#) with 13 participating reserves;**
- **co-authored two scientific papers, several internal water quality reports, and designed the [GTM Research Reserve 20-Year Anniversary Guide](#);**
- served as a “technical expert” within the National Estuarine Research Reserve System;
- performed rigorous quality assurance and quality control for water quality data;
- created dynamic reports using R (RMarkdown, Quarto, and tidyverse) for dissemination;
- **trailered and operated boats up to 30ft;**
- created and maintained the [GTMNERR GitHub organization](#);
- developed workflows with GitHub for report writing within team;
- **led and developed five workshops on R programming and tidyverse for environmental scientists, one of which was at an international conference.**

University of North Florida

Jan 2016-Dec 2021

Adjunct Instructor, Department of Biology

Jacksonville, FL

Taught laboratory sections of Principles of Biology (non-major biology), General Biology 1, General Biology 2, Ichthyology, and Advanced Ichthyology (graduate)

Florida Department of Environmental Protection

Nov 2015-Apr 2016

Environmental Scientist I

Ponte Vedra Beach, FL

Served as the Oyster Condition Assessment Field Technician with the Northeast Florida Aquatic Preserves for an oyster monitoring project in northeast Florida. Duties included:

- coordinated fieldwork for sampling intertidal oyster reefs in northeast Florida from the St. Mary’s River to the south Matanzas River (covering Nassau, Duval, St. Johns, and Flagler counties);
- led and trained volunteers on oyster reef sampling methods;
- performed data entry, verification, and analysis for reporting;
- trailered and operated boats for fieldwork

CERTIFICATIONS

- Florida Department of Environmental Protection (FDEP) Boat Certification for vessels up to 30 ft
- FDEP ATV and UTV Operation
- FDEP CPR/AED and First Aid
- Professional Association of Diving Instructors (PADI) Divemaster

RELEVANT PUBLICATIONS AND PRESENTATIONS

Brown, M. T., N. Dix, T. Z. Osborne, S. Dunnigan, J. Steward, A. Castle, W. Woodward, and A. Hartnett. A comparison of the influences of dredging and storm events on water quality in a barrier island estuary in northeast florida. *Journal of Coastal Research*.

Dix, N., S. Dunnigan, J. Lee, and J. Tomazinis. 2019. *Guana water quality two-year summary report July 2017 - June 2019*.

Dunnigan, S., P. Marcum, N. Dix, and J. S. Tanner. 2018. Utilizing long-term data sets to evaluate storm impacts to the GTMNERR estuary. Presented at the GTM Research Reserve State of the Reserve Symposium, Ponte Vedra Beach, FL.

Dunnigan, S., K. Petrinec, and N. Dix. 2017. Short-term variability in water quality and weather: The effect of tropical cyclone events in the southeastern United States. Presented at the Southeastern Estuarine Research Society Meeting, Myrtle Beach, SC.

Dunnigan, S., K. Petrinec, J. S. Tanner, and N. Dix. 2022. *The State of the System-Wide Monitoring Program*. Presented at the GTM Research Reserve State of the Reserve Symposium, Ponte Vedra Beach, FL.

Dunnigan, S., K. Petrinec, J. S. Tanner, and N. Dix. 2023. *Guana Tolomato Matanzas National Estuarine Research Reserve 2022 annual weather and water quality monitoring summary report*.

Dunnigan, S., K. St. Laurent, K. Cressman, M. Bundy, and D. Porter. 2017. Local-scale impact of coastal storms using established long-term monitoring networks. Presented at the Coastal and Estuarine Research Federation, Providence, RI.

Schafer, T., N. Dix, S. Dunnigan, K. R. Reddy, and T. Z. Osborne. 2022. Impacts of Hurricanes on Nutrient Export and Ecosystem Metabolism in a Blackwater River Estuary Complex. *Journal of Marine Science and Engineering* 10: 661. <https://doi.org/10.3390/jmse10050661>.

EDUCATION

University of North Florida

Jacksonville, FL

Master of Science: Biology

Thesis: Habitat Value of Restored Intertidal Shoreline for Fish and Macrobenthic Communities in Northeast Florida.

Florida State University

Tallahassee, FL

Bachelor of Science: Biological Science

SYNERGISTIC ACTIVITIES

- **Administrator, GTMNERR GitHub Organization**
- **Data Manager, NERRS Science Collaborative Catalyst Project: “Refining Techniques for High-Frequency Monitoring of Chlorophyll in the NERRS”, 2020-2022**
- **Board Member, Program Chair, Southeastern Estuarine Research Society 2020-2022**
- Formal Student Mentoring, Internship Program GTMNERR
- **Member, Oyster and Water Quality Task Force of the GTM**
- Past Member, Student Promotions Committee, Southeastern Estuarine Research Society
- Board Member, Student Representative, Southeastern Estuarine Research Society 2015-2017
- Member, Coastal and Estuarine Research Federation
- Member, Southeastern Estuarine Research Society