

# Curriculum Vitae

## Jimmy Nelson

*Assistant Professor*

Department of Marine Science University of Georgia

Website: [nelsoncolab.net](http://nelsoncolab.net)

### EDUCATION

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- 2011** Florida State University  
Ph.D., Chemical Oceanography  
Supervisor: Dr. Jeffrey Chanton
- 2004** Florida State University  
B.S., Biology  
*Honors: Certificate in Marine Resource Ecology*

### EMPLOYMENT

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- 2023-Present** Assistant Professor, Department of Marine Science, University of Georgia, Athens, GA
- 2020-2023** Associate Professor, Department of Biology, University of Louisiana, Lafayette, LA
- 2015-2020** Assistant Professor, Department of Biology, University of Louisiana, Lafayette, LA
- 2013-2015** Assistant Research Scientist, Marine Biological Laboratory, Woods Hole, MA
- 2011-2013** Plum Island LTER Postdoctoral Researcher, Northeastern Climate Science Center Postdoctoral Fellow, Ecosystems Center Marine Biological Laboratory, Woods Hole, MA  
Mentored by Dr. Linda Deegan

### PUBLICATIONS

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*All publications listed are peer-reviewed. (\*)Undergraduate Author (+) Graduate Student Author*  
*H-index: 18, i10-index: 26, Total Citations: 975, [Google Scholar Profile](#)*

1. Calhoun-Grosch<sup>+</sup>, S., Foster, E. M. <sup>+</sup>, James, W. R., Santos, R. O., Rehage, J. S., & **Nelson, J. A.** 2023. Trophic Niche Metrics Reveal Long-Term Shift in Florida Bay Food Webs. *Ecosystems*, 1-12.
2. Stallings, C. D., **Nelson, J. A.**, Peebles, E. B., Ellis, G., Goddard, E. A., Jue, N. K., ... & Koenig, C. C. 2023. Trophic ontogeny of a generalist predator is conserved across space. *Oecologia*, 1-12.
3. Gervasi, C. L. <sup>+</sup>, **Nelson, J. A.**, Swart, P. K., Santos, R. O., Rezek, R. J., James, W. R., ... & Rehage, J. S. 2022. Otolith stable isotope micro-sampling to discriminate poorly studied stocks: Crevalle Jack in the eastern gulf of Mexico. *Estuarine, Coastal and Shelf Science*, 278, 108130.
4. James, W. R., Santos, R. O., Rodemann, J. R., Rezek, R. J., Fratto, Z. W., Furman, B. T., ... & **Nelson, J. A.** 2022. Widespread seagrass die-off has no legacy effect on basal resource use of seagrass food webs in Florida Bay, USA. *ICES Journal of Marine Science*.

5. Santos, R. O., James, W. R., **Nelson, J. A.**, Rehage, J. S., Serafy, J., Pittman, S. J., & Lirman, D. 2022. Influence of seascape spatial pattern on the trophic niche of an omnivorous fish. *Ecosphere*, 13(2), e3944.
6. James, W. R. †, Santos, R. O., Rehage, J. S., Doerr, J. C., & **Nelson, J. A.** 2022. E-scape: Consumer-specific landscapes of energetic resources derived from stable isotope analysis and remote sensing. *Journal of Animal Ecology*, 91(2), 381-390.
7. Osland, M. J., Hughes, A. R., Armitage, A. R., Scyphers, S. B., Cebrian, J., Swinea, S. H., **Nelson, J.A.**,... & Bardou, R. 2022. The impacts of mangrove range expansion on wetland ecosystem services in the southeastern United States: Current understanding, knowledge gaps, and emerging research needs. *Global Change Biology*.
8. Lesser, J. S. †, Floyd, O. †, Fedors, K. \*, Deegan, L. A., Johnson, D. S., & **Nelson, J. A.** (2021). Cross-habitat access modifies the ‘trophic relay in New England saltmarsh ecosystems. *Food Webs*, 29, e00206.
9. Babitch, J. W. †, **Nelson, J. A.**, Deegan, L. A., Sullivan, H. †, & Stauffer, B. A. 2021. Resolving Estuarine Nitrogen Use by Phytoplankton Communities Using a Whole Ecosystem Tracer Approach. *Estuaries and Coasts*, 44(7), 1883-1898.
10. Ziegler, S. L., R. Baker, S. C. Crosby, M. A. Barbeau, J. Cebrian, D. D. Colombano, R. M. Connolly, L. A. Deegan, B. L. Gilby, D. Mallick, C. W. Martin, **J. A. Nelson**, J. F. Reinhardt, C. Simenstad, N. J. Waltham, T. A. Worthington, L. P. Rozas. 2021. Geographic variation in salt marsh structure and function for nekton: finding commonality across multiple scales, *Estuaries and Coasts*  
<https://doi.org/10.1007/s12237-020-00894-y>
11. Sloey, T. M., Roberts, B. J., Flaska, S. R., & **Nelson, J. A.** 2021. Critical Research Gaps for Understanding Environmental Impacts of Discharging Treated Municipal Wastewater into Assimilation Wetlands. *Wetlands*, 41(1), 1-14.
12. Pittman, S. J., Yates, K. L., Bouchet, P. J., Alvarez-Berastegui, D., Andréfouët, S., Bell, S. S., **Nelson, J.A.** ... & Young, M. 2021. Seascape ecology: identifying research priorities for an emerging ocean sustainability science. *Marine Ecology Progress Series*, 663, 1-29.
13. **Nelson, J. A.**, J. M Harris<sup>+</sup>, J. S. Lesser<sup>+</sup>, W. R. James<sup>+</sup>, G. M. Suir, W. P. Broussard, 2020. New mapping metrics to test functional response of food webs to coastal restoration, *Food Webs* 25, e00179
14. Rezek, R. J., J.A. Massie, **J.A. Nelson**, R. O. Santos, N. M. Viadero, R. E. Boucek, and J. S. Rehage, 2020. Individual consumer movement mediates food web coupling across a coastal ecosystem, *Ecosphere* 11:12: e03305

15. Bowen, J.L., A. E. Giblin, A. E. Murphy, A. N. Bulseco, L. A. Deegan, D. S. Johnson, **J.A. Nelson**, T. J. Mozdzer, and H. L. Sullivan, 2020. Not all nitrogen is created equal: Differential effects of nitrate and ammonium enrichment in coastal wetlands, *BioScience* 70:12, pg 1108-1119
16. Baker, R., M.D. Taylor, K. W. Able, M. W. Beck, J. Cebrian, D. D. Colombano, R. M. Connolly, W.R. James<sup>+</sup>, J.S. Lesser<sup>+</sup>, **J.A. Nelson**, et al. 2020. Fisheries Rely on Threatened Salt Marshes. *Science*, 370 (6517): 670  
<https://doi.org/10.1126/science.abe9332>.
17. Harris, J.M. <sup>+</sup>, W.R. James<sup>+</sup>, J.S. Lesser<sup>+</sup>, J.C. Doerr, **J.A. Nelson**, 2020. Foundation Species shift alters the energetic landscape of Marsh Nekton, *Estuaries and Coasts*,  
<https://doi.org/10.1007/s12237-020-00852-8>
18. Lesser, J.S. <sup>+</sup>, C. A. Bechtold\*, L. A. Deegan, **J. A. Nelson**, 2020. Habitat decoupling via saltmarsh creek geomorphology alters connection between spatially-coupled food webs. *Estuarine, Coastal and Shelf Science*, Volume 241, 106825,  
<https://doi.org/10.1016/j.ecss.2020.106825>
19. Lesser, J.S. <sup>+</sup>, W.R. James<sup>+</sup>, C.D. Stallings, R.M. Wilson, **J.A. Nelson**, 2020. Trophic niche volume decreases with increasing ecosystem productivity. *Oikos*  
doi:10.1111/oik.07026
20. McClain, C.R., T. Webb, C.C. Nunnally, S.R. Dixon<sup>†</sup>, S. Finnegan, **J.A. Nelson**, 2020. Metabolic Niches and Biodiversity in the Deep Sea. *Frontiers in Marine Science* 7, 216
21. James, W. R.<sup>+</sup>, L.S. Lesser<sup>+</sup>, S.Y. Litvin, **J. A. Nelson**, 2020. Assessment of food web recovery following restoration using resource niche metrics. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2019.134801>
22. Johnson, D.S., C. Crowley<sup>+</sup>, K. Longmire\*, **J.A. Nelson**, B. Williams<sup>+</sup>, S. Wittingham<sup>+</sup>. 2019. The fiddler crab, *Minuca pugnax*, follows Bergmann's rule. *Ecology and Evolution* <https://doi.org/10.1002/ece3.5883>
23. **Nelson, J.A.**, J.S. Lesser<sup>+</sup>, W. Ryan James<sup>+</sup>, D.P. Behringer<sup>+</sup>, V. Furka\*, J.C. Doerr. 2019. Food web response to foundation species change in a coastal ecosystem. *Food Webs*, 21. e00125
24. **Nelson, J.A.**, D.S. Johnson, L.A. Deegan, A.C. Spivak, N.R. Moore\*. 2019. Geomorphology modifies bottom-up control on food webs. *Ecosystems*, 22 (2), 229-242.
25. Harris, J.M. <sup>+</sup>, **J.A. Nelson**, G. Rieucan, W.P. Broussard III. 2019. Use of drones in fisheries science, *Transactions of the American Fisheries Society*, 148 (4), 687-697
26. Eggenberger, C.W.<sup>+</sup>, R.O. Santos, T.A. Frankovich, W.R. James<sup>+</sup>, C.J. Madden, **J.A. Nelson**, J.S. Rehage. 2019. Coupling telemetry and stable isotope techniques to

- unravel movement: Snook habitat use across variable nutrient environments. Fisheries Research, 218, 35-47
27. Dornelas, M., L. H. Antao, F. Moyes, B.E. Bates, A.E. Magurran, D. Adam, . . . , **J.A. Nelson**, ... & Ayyappan, N. 2018. BioTIME: A database of biodiversity time series for the Anthropocene. *Global Ecology and Biogeography*, 27(7), 760-786.
  28. Wilson, R. M., R. B. Tyson, **J. A. Nelson**, B. C. Balmer, J. P. Chanton, and D. P. Nowacek. 2017. Niche Differentiation and Prey Selectivity among Common Bottlenose Dolphins (*Tursiops truncatus*) Sighted in St. George Sound, Gulf of Mexico. *Frontiers in Marine Science* 4, 235
  29. Baker, H. K.\*, **J. A. Nelson**, and H. M. Leslie. 2016. Quantifying Striped Bass (*Morone saxatilis*) Dependence on Saltmarsh-Derived Productivity Using Stable Isotope Analysis. *Estuaries and Coasts* 39 (5), 1537-1542.
  30. Moulton, O. M.<sup>+</sup>, M. A. Altabet, J. M. Beman, L. A. Deegan, J. Lloret, M. K. Lyons, **J. A. Nelson**, and C. A. Pfister. 2016. Microbial associations with macrobiota in coastal ecosystems: patterns and implications for nitrogen cycling. *Frontiers in Ecology and the Environment* 14 (4), 200-208.
  31. **Nelson, J. A.**, L. Deegan, and R. Garritt. 2015. Drivers of spatial and temporal variability in estuarine food webs. *Marine Ecology Progress Series* 533, 67-77.
  32. Stallings, C. D., **J. A. Nelson**, K. L. Rozar, C. S. Adams, K. R. Wall, T. S. Switzer, B. L. Winner, and D. J. Hollander. 2015. Effects of preservation methods of muscle tissue from upper-trophic level reef fishes on stable isotope values ( $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ ). *PeerJ* 3:e874.
  33. Stallings, C. D., A. Mickle\*, **J. A. Nelson**, M. G. McManus, and C. C. Koenig. 2015. Faunal communities and habitat characteristics of the Big Bend seagrass meadows, 2009–2010. *Ecology* 96 (1) 304-304.
  34. Wilson, R., **J.A. Nelson**, B. Balmer, D. Nowacek, and J. Chanton. 2013. Stable isotope variation in the northern Gulf of Mexico constrains bottlenose dolphin (*Tursiops truncatus*) foraging ranges. *Marine Biology* 159, 2967-2980.
  35. **Nelson, J. A.**, C. D. Stallings, W. M. Landing, and J. Chanton. 2013. Biomass Transfer Subsidizes Nitrogen to Offshore Food Webs. *Ecosystems* 16 (6), 1130-1138.
  36. **Nelson, J. A.**, R. M. Wilson, F. C. Coleman, C. C. Koenig, D. DeVries, C. Gardner, and J. Chanton. 2012. Flux by fin: fish mediated carbon and nutrient flux in the northeastern Gulf of Mexico. *Marine Biology* 159, 365-372.
  37. **Nelson, J. A.**, C. W. Hanson, C. C. Koenig, and J. Chanton. 2011. Influence of diet on stable carbon isotope composition in otoliths of juvenile red drum, *Sciaenops ocellatus*. *Aquatic Biology* 13 (1), 89-95.

38. **Nelson, J. A.**, J. P. Chanton, F. C. Coleman, and C. C. Koenig. 2010. Patterns of stable carbon isotope turnover in gag, *Mycteroperca microlepis*, an economically important marine piscivore determined with a non-lethal surgical biopsy procedure. *Environmental Biology of Fishes* 90 (3), 243-252.

## **FUNDING**

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### **2023**

**PI:** “Ecological Function and Recovery of Biological Communities within Sand Shoal Habitats within the Gulf of Mexico (MM-23-01)”, Funded by US Department of the Interior, Bureau of Ocean Energy Management, Award Total: \$1,892,310

**PI:** “Research Infrastructure: Increasing Capacity at the University of Louisiana Lafayette Ecology Center”, Funded by the National Science Foundation, Award Total \$412,064

### **2022**

**PI:** “Effects of nutrient effluent on a forested Louisiana Wetland”

Funded by Louisiana Department of Environmental Quality, Award Total \$514,412

**CoPI:** “LTER: Plum Island Ecosystems, the impact of changing landscapes and climate on interconnected coastal ecosystems” Funded by the National Science Foundation, Award Total \$7,649,999

### **2021**

**PI:** “Restoration of Gulf of Mexico Islands and Beaches for Wildlife: Reducing the Uncertainty”, Funded by NOAA RESTORE Science Program, Award Total \$102,694

**PI:** “CAREER: Integrating Seascapes and Energy Flow: learning and teaching about energy, biodiversity, and ecosystem function on the frontlines of climate change.” Funded by the National Science Foundation, Award Total \$688,849

### **2020**

**PI:** “Effects of dredging on offshore sand shoals for coastal restoration in Louisiana”, Funded by the Coypu Foundation, Award Total \$24,257

**PI:** “Assessment of Ecological Function and Recovery of Biological Communities within a Sand Shoal Habitat in the Gulf of Mexico Subjected to Dredging-Telemetry Study”, Funded by Bureau of Ocean Energy Management, Award Total \$80,000

**CoPI:** “Understanding food resources and winter habitat use of coastal nesting birds to promote better conservation”, Funded by the Coypu Foundation, Award Total \$45,990

**CoPI:** “Optimizing the use of Unmanned Aerial Vehicles (UAVS) to Identify and Track Finfish Schools for the Commercial Fishing Industry”, Funded by Louisiana Sea Grant, Award Total \$49,989

### **2019**

**PI:** “Ecological Function and Recovery of Biological Communities within Sand Shoal Habitats within the Gulf of Mexico (MM-19-01)”, Funded by US Department of the Interior, Bureau of Ocean Energy Management, Award Total \$2,459,995

**CoPI:** “Collaborative Research: TIDE: Legacy effects of long-term nutrient enrichment on recovery of saltmarsh ecosystems”, Funded by National Science Foundation, Award Total \$1,337,907

**PI:** “Early-Career Fellowship”, Funded by National Academies of Sciences, Engineering, and Medicine Gulf Research Program, Award Total \$76,000

**PI:** “2019 Flooding impacts in Wax Lake and Morgan City mapped with drones”, Funded by Louisiana Sea Grant, Award Total \$16,021

**PI:** “LTER: Drivers of Abrupt Change in the Florida Coastal Everglades”  
Funded by National Science Foundation, Award Total \$33,500

### **2018**

**PI:** “Effects of nutrient effluent on a forested Louisiana Wetland”  
Funded by Louisiana Department of Environmental Quality, Award Total \$223,003

**CoPI:** “Effects of freshwater inflows and seagrass die-offs on recreational fisheries: A trophic & movement ecology approach”, Funded by US Department of the Interior, Parks Service, Award Total \$747,300

### **2017**

**PI:** “Core submission; Development of Restoration Assessment Tools and Educational Products with Drones”, Funded by Louisiana Sea Grant, Award Total \$124,000

### **HONORS**

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2021	Outstanding Doctoral Student Mentor College of Sciences UL Lafayette
2021	Excellence in Externally Funded Research UL Lafayette
2020	Outstanding Achievement in Externally Funded Research UL Lafayette
2020	Fritz Lang BoRSF Endowed Professor of Environmental Biology
2019	National Academies of Sciences, Engineering, and Medicine Gulf Research Program Early Career Fellow
2017	Louisiana Sea Grant LADIA Fellowship
2015	U.S. Department of the Interior Climate Science Center Research Fellow

### **TEACHING**

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<b>Current Courses Taught</b>	<b>Terms</b>
BIOL-446 Ecosystem Ecology & Lab	Fall 2016, 2018, 2020, 2022
BIOL-447 Fish Ecology and Management	Spring 2016-2023
BIOL-646 Quantitative Ecology in R	Fall 2017, 2019, 2021,2023

## **GRADUATE MENTORING**

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### **Ph.D. Students**

	<b>Years</b>
Justin Lesser	2016-2021
W. Ryan James	2016-2021
Herbert Leavitt	2020-
Coy LeBlanc	2021-

### **M.Sc. Students**

David Behringer	2016-2019
Mason Harris	2017-2020
Emelie Foster	2019-2023
Olivia Floyd	2019-2023
Jessica Courson	2020-
Alex Thomas	2021-
Alex Dowes	2021-
Jaqualine Valladeres	2023-

## **UNDERGRADUATE MENTORING**

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### **Capstone Thesis Advisor**

Jessica Moravek, Marine Biological Laboratory, 2014  
Julia McMahon, Marine Biological Laboratory, 2014  
Alison Tucker, Marine Biological Laboratory, 2015  
Henry Baker, Brown University, 2016  
Natalie Sommer, William & Mary, 2017  
Emma Weiser, University of Louisiana Lafayette, 2018  
Laura McDonald, University of Louisiana Lafayette, 2019  
Kaeryel Dowl, University of Louisiana Lafayette 2023

### **NSF REU Mentor**

Plum Island Ecosystems LTER 2011-Present  
University of Louisiana Lafayette 2016-2019

## **PROFESSIONAL ACTIVITIES**

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**Associate Editor** Journal of Experimental Marine Biology and Ecology  
Estuary, Coastal, and Shelf Science

**Faculty Advisor** SEEDS Chapter UL Faculty Coordinator

**Working Groups** Estuarine Ecology Expert- Sediment Diversion Operations Expert  
Working Group- Environmental Defense Fund, Louisiana Marine  
Consortium GAPPLE panel, CERF Odum Award Committee

### **Selected Presentations**

**2017-Present** Coastal and Estuarine Research Federation National Meeting  
Ecological Society of American Annual Meeting  
State of the Coast  
Benthic Ecology Meeting  
Marine Biological Laboratory – Invited Speaker  
Brown University-Invited Speaker  
University of South Florida – Invited Speaker  
Louisiana State University – Invited Speaker

Louisiana Universities Marine Consortium –Invited Speaker

**Selected Peer Review Referee**

**2015-Present** Proceedings of the National Academy of Science, Proceedings of the Royal Society B, Ecology, Frontiers in Ecology and Environment, Nature Communications, Ecology, Marine Biology, National Science Foundation, National Oceanic and Atmospheric Administration, Ecosystems, Oecologia

**UNIVERSITY and COMMUNITY SERVICE**

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**2015-Present** Graduate Faculty Committee, Departmental Search Committees, St. Thomas Moore Fishing Club science advisor, Opelousas Rotary Club Presentation, Milton Elementary and Middle School Presentation, 4H Club/Louisiana Sea Grant Marsh Maneuvers, FIRST LEGO League coach Ascension Episcopal School.