

James W. Morley

East Carolina University, Department of Biology
Coastal Studies Institute, Wanchese, NC
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EDUCATION

North Carolina State University, Ph.D. Zoology, 2013. Advisor: JA Buckel

Overwintering ecology of two intra-annual cohorts of juvenile bluefish and their relative importance to the adult population

North Carolina State University, M.S. Fisheries and Wildlife Science, 2004. Advisor: JA Buckel

*Ecology of juvenile bluefish (*Pomatomus saltatrix*) overwintering off North Carolina*

State University of New York at Cortland, B.S. Biology, 2000. Cum Laude

PROFESSIONAL EXPERIENCE

Assistant Professor

2020 — present

East Carolina University, Department of Biology

Assistant Scientist, Coastal Studies Institute

Postdoctoral Research

University of North Carolina - Chapel Hill

2018 — 2019

Effects of oyster aquaculture on estuarine ecosystem services

Rutgers University

2015 — 2018

Impact of climate variability and ocean warming on marine fish and fisheries

Summer Faculty—*Dauphin Island Sea Lab, AL*

2013 — 2015

Adjunct Biology Faculty—*Craven Community College, NC*

2013 — 2014

Graduate Research Assistant—*North Carolina State University*

2002 — 2010

Chief scientist on trawl (93 days at sea) and beach seine (70 sampling days) surveys

TEACHING AND MENTORING

Instructor

Environmental Biology; East Carolina University, CSI

2021

General Biology; East Carolina University

2020, 2021

Marine Vertebrate Zoology; Dauphin Island Sea Lab

2013, 2014, 2015

Principles of Biology; Craven Community College

2014

Environmental Biology; Craven Community College

2013

General Biology I; Craven Community College

2013

Animal Diversity (TA); North Carolina State University

2001

Postdoctoral Researchers Mentored

- Verena Wang, East Carolina University, began Spring 2021
- Lela Schlenker, East Carolina University, began Fall 2020

Graduate Students Advised

- Caid Menzel, East Carolina University, MS began Fall 2021
- Andrew McMains, East Carolina University, PhD began Fall 2020
- Madeline Johnson, East Carolina University, MS began Fall 2020

Graduate Student Committees

- Adam Nothstein, East Carolina University, MS began Fall 2020
- Reece Warfel, East Carolina University, MS began Fall 2020
- Nina Woodard, East Carolina University, MS began Fall 2020
- Quentin Nichols, East Carolina University, MS began Fall 2019
- Stacy Trackenberg, East Carolina University, PhD began Fall 2018
- Noah Gwynn, East Carolina University, graduated MS Spring 2021

Undergraduate Mentoring

- Dylan Whitt, ECU, Independent Honors Research (BIOL 3504), Fall 2021
- Rahdiaz Delvillar, ECU, Independent Research (BIOL 3504), Summer 2021
- Garrett Sage, ECU, Internship in Coastal Studies (ICS 4050), Spring 2021
- Jordan Holtswarth, Rutgers University, NSF-REU program, Summer 2016
- Morrell Fox, North Carolina State University, AFS Hutton Program, Summer 2006

PROFESSIONAL SERVICE—CONSULTING—SYNERGISTIC ACTIVITY

- NOAA Fisheries Atlantic Coast Science Coordination Workshop, August 2021
- President-elect of the Tidewater Chapter of the American Fisheries Society 2021-2022
- Adjusting Fishery Management as Stocks Shift, Environmental Defense Fund, Virtual roundtable discussion, November 2020
- Technical workshop to develop research objectives for mitigating dredging impacts on Frying Pan Shoals biota, Bureau of Ocean Energy Management, Virtual workshop, October 2020
- Workshop to identify research priorities for shifting marine species, Lenfest Ocean Program, Washington DC, 2019
- South Atlantic Vulnerability Assessment – climate change impacts to fisheries in the southeast U.S., National Marine Fisheries Service, 2019
- Distribution Mapping and Analysis Project (DisMAP), Developing tools and methods to track distribution changes, National Marine Fisheries Service, 2019-2020
- Ecosystem Status Report for the Southeast U.S., NOAA Fisheries, Beaufort, NC, 2018-2019
- Citizen Science Advisory Panel—Data Management Action Team, South Atlantic Fishery Management Council, 2017-present
- Climate Variability and Fisheries Technical Working Group, Fishery Ecosystem Plan II, South Atlantic Fishery Management Council, 2015-2017
- Fisheries consultant for collaborative project with fisherman testing the bycatch efficiency of a novel gear, 2013-2014
- Laboratory specialist analyzing tissue for proximate molecular composition. Contracts with the National Marine Fisheries Service and University of Delaware, 2010-2011
- Seminar Series Coordinator, Center for Marine Sciences and Technology, 2010-2011
- Anonymous Peer Review

Journals: Diversity and Distributions; Ecology and Evolution (2); Environmental Biology of Fishes; Fish and Fisheries; Fisheries Oceanography (3); Fisheries Research; Freshwater Biology; Global Change Biology; ICES Journal of Marine Science; Journal of

Biogeography; Journal of Experimental Marine Biology and Ecology; Marine Biodiversity (2); Marine and Coastal Fisheries; Marine Ecology Progress Series (7); Plos One; Transactions of the American Fisheries Society
Proposals: CA Sea Grant (4); CT Sea Grant; NH Sea Grant; National Estuarine Research Reserve System Science Collaborative; Saltonstall-Kennedy, NOAA (3)

AWARDS AND ACHIEVEMENTS

- Outstanding Young Alumni Award – North Carolina State University (2019)
- Best Student Presentation Award – AFS Tidewater Meeting (2012)
- Dale Ward Scholarship, \$1,000 – Raleigh Saltwater Sportfishing Club (2006)
- George Breen Award for Outstanding Athletic and Scholastic Achievement (1999)
- Tri-Beta National Honor Society (1999)
- SUNY Cortland Swim Team (1995-1999); Team Captain (1998-99)
- **Society memberships:** American Fisheries Society; Coastal & Estuarine Research Federation

AWARDED GRANTS

- Morley JW, Blakeslee AMH, Schlenker LS, Fowler AE (2022), North Carolina Biotechnology Center, **\$19,195** awarded, “Using molecular genetics to identify cryptic infection and potential reservoirs of black gill parasites in wild shrimp: developing an ecosystem monitoring tool for North Carolina's shrimp fishery”
- Morley JW, Ajemian MJ, Archer SK, Ciannelli L, Baskett M, Duffy, E, Nelson MW (2020) Lenfest Ocean Program, The Pew Charitable Trusts, **\$299,335** awarded, “Understanding the role of habitat and life history in fisheries vulnerability to climate change”
- Morley JW, Heck N (2020) North Carolina Sea Grant, **\$60,000** awarded, “The influence of environmental factors and changes to hydrology on brown shrimp recruitment”
- Lohmann KJ, Buckel JA, Morley JW, Naisbett-Jones L (2020) Coastal Recreational Fishing License Fund, **\$232,711** awarded, “Identifying spawning and offshore migration patterns of sheepshead (*Archosargus probatocephalus*) in North Carolina”
- Piehler MF, Fodrie FJ, Morley JW (2020) North Carolina Sea Grant, **\$120,000** awarded, “Impacts of culture technique and location in the estuary on the nutrient removal potential of oyster culture”
- Pinsky ML, Morley JW (2018) Cooperative Institute for the North Atlantic Region, **\$15,000** awarded, “Projecting economic impacts of climate change on North American marine fisheries”
- Fodrie FJ, Morley JW, Taylor JC, Poray AK (2018) North Carolina Sea Grant, **\$120,000** awarded, “Habitat value of oyster leases within estuarine landscapes for finfish and crustaceans”
- Fodrie FJ, Piehler MF, Gittman RK, Morley JW, Taylor JC (2017) North Carolina Policy Collaboratory, **\$66,600** awarded, “Will expanding oyster mariculture help to recover ecosystem services of estuarine landscapes?”
- Morley JW, Buckel JA (2017) North Carolina Marine Resources Fund, **\$144,000** awarded, “Developing indices of abundance, characterizing juvenile habitat and identifying major spawning areas for North Carolina sheepshead”
- Fodrie FJ, Morley JW, McGlade K, Poray AK (2016) North Carolina Sea Grant, **\$150,000** awarded, “Effects of oyster grow-out cages on the condition and ecosystem services of seagrass communities”

Seigler KM, Morley JW (2013) North Carolina Sea Grant, Fishery Resource Grant, \$14,500 awarded, “Lampara seine: alternative fishing opportunities”

PUBLICATIONS

- Baillie C, Fodrie FJ, Morley JW (*in review*) Opportunities and obstacles for sustainable shellfish mariculture in a temperate estuarine human-natural system. *Aquaculture*
- Moore C, Morley JW, Morrison B, Kolian K, Horsch E, Frolicher T, Pinsky ML, Griffis R (2021) Estimating the economic impacts of climate change on 16 major US fisheries. *Climate Change Economics* 2150002
- Pinsky ML, Rogers LA, Morley JW, Frolicher TL (2020) Ocean planning for species on the move provides substantial benefits and requires few trade-offs. *Science Advances*, 6:1-9
- Morley JW, Frolicher TL, Pinsky ML (2020) Characterizing uncertainty in climate impact projections: a case study with seven marine species on the North American continental shelf. *ICES Journal of Marine Science*, 77:2118-2133
- Flanagan PH, Jensen OP, Morley JW, Pinsky ML (2019) Response of marine communities to local temperature changes. *Ecography*, 42:214-224
- Morley JW, Selden RL, Latour RJ, Frolicher TL, Seagraves RJ, Pinsky ML (2018) Projecting shifts in thermal habitat for 686 species on the North American continental shelf. *PLoS ONE*, 13(5):1-28
- Holtswarth JN, San Jose SB, Montes HR, Morley JW, Pinsky ML (2017) The reproductive seasonality and fecundity of yellowtail clownfish (*Amphiprion clarkii*) in the Philippines. *Bulletin of Marine Science*, 93:997-1007
- Batt RD, Morley JW, Selden RL, Tingley MW, Pinsky ML (2017) Gradual changes in range size accompany long-term trends in species richness. *Ecology Letters* 20:1148-1157
- Morley JW, Batt RD, Pinsky ML (2017) Marine assemblages respond rapidly to winter climate variability. *Global Change Biology*, 23:2590-2601
- Morley JW, Buckel JA (2014) Effects of temperature and prey size on predator-prey interactions between bluefish and bay anchovy. *Journal of Experimental Marine Biology and Ecology*, 461:449-457
- Morley JW, Buckel JA, Lankford TE (2013) Relative contribution of spring- and summer-spawned bluefish cohorts to the adult population: effects of size-selective winter mortality, overwinter growth, and sampling bias. *Canadian Journal of Fisheries and Aquatic Sciences*, 70:233-244
- Morley JW, Buckel JA, Lankford TE (2012) Comparing multiple predictors of energy content in juvenile bluefish. *Transactions of the American Fisheries Society*, 141:1109-1116
- Wuenschel MJ, Able KW, Buckel JA, Morley JW, Lankford T, Branson AC, Conover DO, Drisco D, Jordaan A, Dunton K, Secor DH, Woodland RJ, Juanes F, Stormer D (2012) Recruitment patterns and habitat use of young-of-the-year bluefish along the United States east coast: insights from coordinated coastwide sampling. *Reviews in Fisheries Science*, 20:80-102
- Morley JW, Buckel JA, Lankford TE (2007) Winter energy storage dynamics and cohort structure of young-of-the-year bluefish *Pomatomus saltatrix* off North Carolina. *Marine Ecology Progress Series*, 334:273-286

REPORTS AND ARTICLES

- Craig JK, GT Kellison, SM Binion-Rock, SD Regan, M Karnauskas, S.-K Lee, R He, DM Allen, NM Bacheler, H Blondin, JA Buckel, ML Burton, SL Cross, A Freitag, SH Groves, CA Hayes, ME Kimball, JW Morley, RC Muñoz, GD Murray, JJ Reimer, KW Shertzer, TA Shropshire, KI Siegfried, JC Taylor, DL Volkov (2021) Ecosystem Status Report for the U.S. South Atlantic Region. NOAA Technical Memorandum NMFS-SEFSC-753, 145 p. <https://doi.org/10.25923/qmgr-pr03>
- Morley JW (2018) Projecting shifts in thermal habitat for Atlantic species during the 21st century. Habitat Hotline Atlantic. Atlantic States Marine Fisheries Commission
- Morley JW, Seigler KM (2014) Alternative fishing opportunities for white shrimp and menhaden: testing the efficiency of the lampara seine. NC Sea Grant. Fishery Resource Grant. Report #: 13-FEG-03. 20p

PRESENTATIONS AND SEMINARS

35. Observed and projected shifts in fish & invertebrate distributions (2021) *NOAA Fisheries Atlantic Coast Science Coordination Workshop*
34. Impacts of oyster aquaculture on estuarine habitats (2021) *Meet the Scientist Video Series, Coastal Studies Institute, live stream YouTube series*
33. Climate change and shifting species distributions (2021) *Fisheries Science for Fishermen, hosted by North Carolina Sea Grant*
32. The role of habitat and life history in fisheries vulnerability to climate change (2021) *Lenfest Ocean Program: Launch Webinar*
31. Projecting future climate change impacts on marine species of the southeast U.S. (2020) *South Atlantic Climate and Fisheries Workshop, Pew Charitable Trusts*
30. Uncertainty in future projections of climate change impacts: multi-model approaches (2020) *Mid-Atlantic Committee on the Ocean (MACO): Mid-Atlantic Fish Habitat is Changing*
29. Impacts of oyster culture on the habitat function of seagrass beds (2019) *Coastal and Estuarine Research Federation, Biennial Conference, Mobile, AL*
28. How climate variability and ocean warming affect marine assemblages (2019) *Invited seminar, Institute of Marine Sciences, UNC-CH, Morehead City, NC*
27. Impacts of oyster culture on the ecosystem services of estuarine habitats (2019) *Research Applied to Managing the Coast Symposium, Institute of Marine Sciences, UNC, Morehead City, NC*
26. Projecting climate change impacts on marine species: Quantifying uncertainty and identifying vulnerable U.S. fisheries (2019) *Invited seminar, East Carolina University*
25. Projecting the impacts of climate change on the distribution of North American marine species (2018) *Invited seminar, NOAA Beaufort, NC, Web-broadcast on OneNOAA seminar series*
24. Projecting shifts in thermal habitat during the 21st century (2018) *Mid-Atlantic Fishery Management Council, Raleigh, NC*
23. Oyster culture and seagrass habitat: an experimental impact approach in Pamlico Sound (2017) *Albemarle-Pamlico Ecosystem Symposium, Raleigh, NC*
22. Identifying candidate fisheries for climate adaptation from predictions of thermal habitat shifts (2017) *AFS national meeting, Tampa Bay, FL*
21. Predicting geographic range shifts of marine species: identifying priority species for the mid-Atlantic region (2017) *Mid-Atlantic Fishery Management Council, Norfolk, VA*

20. Predicting geographic range shifts of marine species and understanding sources of uncertainty (2017) *Fisheries Leadership and Sustainability Forum, Monterey, CA*
19. Projecting fisheries range shifts along the US east coast: sources of uncertainty and management implications (2016) *International Marine Conservation Congress, St. John's, Newfoundland*
18. OceanAdapt: tools to visualize climate and other impacts on marine animals (2016) *South Atlantic Fishery Management Council, Cocoa Beach, FL*
17. Responses of marine taxa to climate variability in the southeast U.S. (2016) *Ocean Sciences Meeting, New Orleans, LA*
16. Are distributions of marine taxa off the southeast U.S. responding to climate change (2015) *Application of Seasonal to Decadal Climate Predictions for Marine Resource Management Workshop, Princeton University, NJ*
15. The role of citizen and ecosystem science in advancing our understanding of South Atlantic fisheries (2015) *Public discussion panel hosted by Pew Charitable Trusts. South Atlantic Fishery Management Council meeting, St. Simons Island, GA*
14. Overwintering ecology of juvenile bluefish: solving a cohort contribution conundrum (2014) *Invited seminar, Rutgers University, NJ*
13. The evolution and diversity of fishes (2014) *Invited speaker, Carteret Community College*
12. Estimating the importance of different intra-annual cohorts of bluefish to the adult population and the influence of winter mortality (2013) *Invited seminar, SUNY Oswego, NY*
11. The relative contribution of spring- and summer-spawned bluefish to the adult population and the influence of size-selective winter mortality (2012) *AFS Tidewater Chapter meeting, Beaufort, NC*
10. Fate of summer-spawned bluefish during winter (2008) *AFS national meeting, Ottawa, Ontario*
9. Fate of summer-spawned bluefish during winter (2007) *AFS national meeting, San Francisco, CA*
8. Recruitment patterns of juvenile bluefish in North Carolina (2007) *AFS national meeting, San Francisco, CA*
7. Recruitment patterns of juvenile bluefish in North Carolina (2007) *AFS Tidewater Division meeting, DE*
6. Energy dynamics of young-of-the-year bluefish overwintering off North Carolina: the role of feeding and temperature (2005) *ERF national meeting, Norfolk, VA*
5. Energy dynamics of young-of-the-year bluefish overwintering off North Carolina: the role of temperature and prey availability (2005) *AFS national meeting, Anchorage, AK*
4. Overwintering young-of-the-year bluefish: cohort structure, feeding & energetics (2003) *AFS national meeting, Quebec City, Canada*
3. Size-selective winter mortality of young-of-the-year bluefish (2003) *NCSU zoology graduate student symposium, Raleigh, NC*
2. Winter distribution, ecology, & energetics of young-of-the-year bluefish in the South Atlantic Bight (2003) *AFS Southern Division meeting, Wilmington, NC*
1. Winter distribution, ecology, & energetics of young-of-the-year bluefish in the South Atlantic Bight (2002) *AFS national meeting, Baltimore, MD*