Nicholas M. Calabrese, PhD

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Higher Education: University of Massachusetts Dartmouth SMAST Dartmouth, MA Doctor of Philosophy-Living Marine Resource Management GPA 3.87	August 2025
University of Massachusetts Dartmouth SMAST Dartmouth, MA Master of Science-Living Marine Resource Management GPA 3.731	May 2018
Roger Williams University Bristol, RI Bachelor of Science – Marine Biology Minors - Chemistry and Psychology GPA 3.599 Cum Laude	May 2015
Experience: UMASS SMAST Research Associate • Act as principal investigator on fisheries research projects • Supervise project personnel • Lead all aspects of research	2025-Present
Owner and Operator FV Mayhem Sportfishing	2023-Present
 Licensed Captain for charter and commercial rod and reel fishing Writer My Fishing Cape Cod 	2022-Present
 Write science and fishing articles targeting general public audiences UMASS SMAST Senior Fisheries Research Technician Designing underwater electrical systems to support real time video data colle Design and implement fisheries independent optical surveys Lead ventless lobster trap and scallop drop camera surveys Survey data analysis in R Statistical Software and GIS 	2018-2025
 Prepare publications, technical reports, grant proposals, and project budgets MRIP Seasonal Fisheries Technician Collect recreational effort and catch data through fishermen interviews Conduct at sea monitoring of discards 	2016-2018
 UMASS SMAST Research Assistant Offshore drop camera video data collection Image digitizing and processing for entry into SQL database Fish and invertebrate species identification 	2015-2018
 Southern New England Cooperative Ventless Trap Survey Assistant At sea biological sampling with commercial fishermen Data transcription from voice recorder to tablet Fish and invertebrate species identification 	2014-2015
Taylor Research Group Assistant • Sample collection by trawl, seine, and rod and reel	2014-2015

- Species identification, dissection and tissue/organ extraction
- Hg analysis using automated atomic absorption spectroscopy
- · Data analysis using GIS and SAS

Marston Research Group Assistant

2012-2013

- Isolated and sequenced DNA of marine cyanophages
- Monthly sampling and identifying of marine cyanophages
- Allowed for seasonal populations of different strains to be assessed

Roger Williams University Wet Lab Assistant

2011-2012

- Maintained salinity, temperature, ammonia levels and proper feeding for aquarium life
- 3000 Square foot wet lab containing various species of fish and invertebrates
- Allowed for research to be conducted on organisms

Skills:

Computer

- Proficient in R, Python, and Matlab
- Machine learning and AI applications in fisheries science
- Proficient in ArcGIS Pro and spatial analysis
- Proficient in Microsoft Office Suite
- Proficient in SQL database management
- Experience with 3D modeling software
- Experience in electrical wiring for underwater video systems
- Science communication for non-technical audiences

Laboratory and Field

- Fisheries-independent survey design and implementation
- Supervising field crews or students
- Fish and invertebrate species identification
- Dissection and stomach content analysis
- Otolith removal techniques
- Electrical and optical subsea wiring
- Environmental sampling (CTD, ADCP)
- Public speaking and stakeholder engagement
- Trawl gear design and modifications
- Bycatch reduction technology development

Courses Taught:

Catchability and Efficiency. In "Introduction to Fisheries Science" University of Massachusetts Dartmouth School for Marine Science. (2022-2024).

Fisheries Independent Trawl Surveys. In "Introduction to Fisheries Science" University of Massachusetts Dartmouth School for Marine Science. (2021).

MAR 540: Introductory Fisheries Science: (Annual Guest Speaker) This course provides a background on the development of fisheries science and examines the theories and techniques of biology, ecology, oceanography and population dynamics presently employed. Components include fish and shellfish basic population dynamics, early life-history, recruitment, migration, growth, fishery dependent/independent surveys, alternative abundance measurement techniques, habitat considerations and introductory fisheries modeling.

Graduate Students:

I presently serve on one graduate student committee, Helena L. Norton (Masters).

Academic and Professional Honors:

1. 2017-18 Rothschild Scholarship Excellence Award. School of Marine Science and Technology, University of Massachusetts Dartmouth. Received 4 May 2018.

Publications:

- 1. Zavell, M.D., Calabrese, N.M., Delargy, A.J., Merhoff, S.L., Morgan, B.A., Painten, A.E., Shumway, S.E., Wachala, S.N., Stokesbury, K.D.E. 2025. Consequences of differing maturity definitions on management regulations for a gastropod fishery. Marine and Coastal Fisheries (accepted).
- Calabrese, N.M., Merhoff, S.L., Norton, H.L., Stokesbury, K.D.E. 2025. In situ observations of juvenile sea lamprey (*Petromyzon marinus*) in the Gulf of Maine from a noninvasive trawl survey. Marine and Coastal Fisheries 17(5): vtaf028. DOI: 10.1093/mcfafs/vtaf028
- 3. Silva, T.L., Breault, T., Lowery, T.M., Calabrese, N.M., Stokesbury, K.D.E, Wiley, D.N., and Fay, G. 2023. Investigating spatial overlap between northern sand lance (*Ammodytes dubius*) and Atlantic cod (Gadus morhua) with video trawl technology. Fisheries Research 265:106746. DOI: 10.1016/j.fishres.2023.106746
- 4. Stokesbury, K.D.E., Calabrese, N.M., Lowery, T.M. 2019. Windowpane flounder seasonal distribution and survey availability on the southern portion of Georges Bank, USA. Marine and Coastal Fisheries 11:353–361. DOI: 10.1002/mcf2.10088
- 5. Taylor, D.L., Calabrese, N.M. 2018. Mercury content of blue crabs (Callinectes sapidus) from southern New England coastal habitats: contamination in an emergent fishery and risks to human consumers. Marine Pollution Bulletin 126:166–178. DOI: 10.1016/j.marpolbul.2017.10.089
- 6. Stokesbury, K.D.E., Cadrin, S.X., Calabrese, N.M., Keiley, E., Lowery, T.M., Rothschild, B.J., DeCelles, G.R. 2017. Towards a new sampling system for surveying New England groundfish using video technology. Fisheries 42(8):432–439. DOI: 10.1080/03632415.2017.1342630
- 7. DeCelles, G.R., Keiley, E.F., Lowery, T.M., Calabrese, N.M., Stokesbury, K.D.E. 2017. Development of a video trawl survey system for New England groundfish. Transactions of the American Fisheries Society 146(3):462–477. DOI: 10.1080/00028487.2017.1282888

Submitted and Funded Proposals: Total \$4,658,961

- Stokesbury, K.D.E., Calabrese, N.M., Merhoff S.L., Testing the Katchi net system against a traditional commercial trawl on U.S. fishing grounds. Schmidt Family Foundation Marine. \$547,580 November 2024.
- 2. Stokesbury, K.D.E., Calabrese, N.M., FY25 Gulf of Maine Atlantic Trawl Survey. MA Division of Marine Fisheries. \$350,000 August 2024.
- 3. Stokesbury, K.D.E., He, P., Rillahan, C., Calabrese, N.M., Kennedy, W.F., Sundermeyer, M., Lohrenz, S., Gangopadhyay, A., Development of a Fabrication Center at SMAST. Supporting the Blue Economy through Technology & Capital Equipment. \$52,822.01 July 2024

- 4. Stokesbury, K.D.E. and Calabrese, N.M., Advancing the development of real-time trawl monitoring systems for fishery-dependent and fishery-independent data collection. Supporting the Blue Economy through Technology & Capital Equipment. \$393,580 July 2024.
- 5. Stokesbury, K.D.E., Calabrese, N.M., Merhoff, S.L., Lisi, A.D., A seasonal video-trawl survey to assess the population size of yellowtail flounder (*Pleuronectes ferruginea*) and windowpane (*Scophthalmus aquosus*) in Closed Area II. 2023/2024 Atlantic Sea Scallop Research Set Aside. \$403,618 April 2024.
- 6. Stokesbury, K.D.E., Calabrese, N.M., FY24 Gulf of Maine Atlantic Trawl Survey. MA Division of Marine Fisheries. \$350,000 August 2023.
- 7. Stokesbury, K.D.E., and N.M. Calabrese. Developing a real-time visual bycatch monitoring system from the codend of a groundfish trawl net. Environmental Economic Innovation and Resiliency in Marine Fisheries Grant. \$99,290 July 2023.
- 8. Siemann, L., N.M. Calabrese. Surveying commercial fish species and habitat in wind farm areas using a suite of non-lethal survey methods. Offshore Wind Energy Environmental Research and Instrumentation Validation (DE-FOA-0002237). \$395,622 November 2022.
- 9. Stokesbury, K.D.E., Calabrese, N.M., FY23 Gulf of Maine Atlantic Trawl Survey. MA Division of Marine Fisheries. \$350,000 August 2022.
- 10. Stokesbury, K.D.E. and Calabrese, N.M., A seasonal video-trawl survey to assess the population size of yellowtail flounder (*Pleuronectes ferruginea*) and windowpane (*Scophthalmus aquosus*) in Closed Area II. 2021/2022 Atlantic Sea Scallop Research Set Aside. \$362,258 February 2021.
- 11. Stokesbury, K.D.E., Calabrese, N.M., FY22 Gulf of Maine Atlantic Trawl Survey. MA Division of Marine Fisheries. \$350,000 August 2021.
- 12. Stokesbury, K.D.E., and Calabrese, N.M, A seasonal video-trawl survey to assess the population size of yellowtail flounder (*Pleuronectes ferruginea*) and windowpane (*Scophthalmus aquosus*) in Closed Area II. 2020/2021 Atlantic Sea Scallop Research Set Aside. \$304,191 February 2021.
- 13. Stokesbury, K.D.E., Calabrese, N.M., FY21 Gulf of Maine Atlantic Trawl Survey. MA Division of Marine Fisheries. \$350,000 August 2020.
- 14. Stokesbury, K.D.E., Calabrese, N.M., FY20 Gulf of Maine Atlantic Trawl Survey. MA Division of Marine Fisheries. \$350,000 August 2019.

Contributed Papers:

- 1. Calabrese, N.M. Look but don't touch: Minimally Invasive Trawl Technology. Section: Use of Technology and / or Methodologies to Transition from Traditional Survey Techniques, Fisheries and Benthic Monitoring TechSurge, Marine Technology Society, Narragansett, RI, October 2025.
- 2. Calabrese, N.M. Improving the SMAST video trawl survey. CRIMAC Workshop on applying intrawl and towed camera systems to scientific surveys, virtual, March 2025.

- 3. Calabrese, N.M. Look but don't touch: Creating informative non-invasive trawl survey techniques. Section: Fishery-independent surveys: maximizing capabilities and adapting to a changing world, 154th Annual Meeting American Fisheries Society, Honolulu, HA, September 2024.
- 4. Calabrese, N.M., Stokesbury, K.D.E. Drop camera surveys to assess an increasing scallop resource in the Gulf of Maine. Section: Fishery-independent surveys: maximizing capabilities and adapting to a changing world, 154th Annual Meeting American Fisheries Society, Honolulu, HA, September 2024.
- 5. Calabrese, N.M. Technological advancements in the School for Marine Science and Technology (SMAST) video trawl survey. Theme Session: Future of fisheries-independent surveys progress in design, technology, estimation and management, International Council for Exploration of the Sea Annual Science Conference 2023, Bilbao, Spain, September 2023.
- 6. Calabrese, N.M. Improving a video trawl survey. ICES-FAO Working Group on Fishing Technology and Fish Behaviour Meeting, virtual, April 2021.
- 7. Calabrese, N.M., Lowery, T.M., Stokesbury, K.D.E. A video trawl survey for Atlantic cod (*Gadus morhua*) in New England. Theme Session: Survey data products for stock and ecosystem assessments; challenges and future directions, International Council for the Exploration of the Sea Annual Science Meeting 2018, Hamburg, Germany, September 2018.
- 8. Calabrese, N.M., Lowery, T.M., Stokesbury, K.D.E. A video trawl survey for Atlantic cod (*Gadus morhua*) in New England. Southern New England Chapter and Northeast Division of the American Fisheries Society Joint Meeting, Mystic, CT, February 2017.

Contributed Posters:

- 1. Merhoff, S.L., Calabrese, N.M., Stokesbury, K.D.E. Fine-Scale Interactions of Groundfish from Optical Trawl Data Using Artificial Intelligence. 154th Annual Meeting American Fisheries Society, Honolulu, HA, September 2024.
- 2. Calabrese, N.M. Combining mark-recapture techniques with new technologies to improve fish population estimates. Gulf of Maine 2050 Conference, Portland, ME, November 2019.
- Calabrese, N.M., Lowery, T.M., Stokesbury, K.D.E. A video trawl survey for Atlantic cod (Gadus morhua) in New England. National American Fisheries Society Meeting, Tampa Bay, FL, August 2017.
- 4. Calabrese, N.M., Taylor, D.L. Mercury contamination in blue crabs from Rhode Island coastal waters. Benthic Ecology Meeting, Quebec City, Quebec, April 2015.
- **5.** Calabrese, N.M., Taylor, D.L. Mercury contamination in blue crabs from Rhode Island coastal waters. Rhode Island Summer Undergraduate Research Fellows Conference, Kingstown, RI, August 2014.

Seminars:

- 1. Calabrese, N.M. Look but Don't Touch: Minimally Invasive Trawl Survey Techology. Doctoral Dissertation Defense, University of Massachusetts Dartmouth, School for Marine Science and Technology, New Bedford, Massachusetts. May 2025.
- 2. Calabrese, N.M. A video trawl survey of Atlantic cod in the Gulf of Maine. Cape Cod Salties Fishing Club Meeting, Cape Cod, Massachusetts. Speaking Invitation, August 2023.
- 3. Calabrese, N.M. A video trawl survey of yellowtail flounder in Closed Area II Access Area. Transboundary Resource Assessment Committee, Assessment of Georges Bank Yellowtail Flounder, Spring Meeting, July 2023.
- Calabrese, N.M. A video trawl survey of yellowtail flounder in Closed Area II Access Area. Northeast Fisheries Science Center, Research Track Assessment of Yellowtail Flounder, Spring Meeting, June 2023.
- 5. Calabrese, N.M. Shark fishing from the beach. My Fishing Cape Cod Seminar Series, Cape Cod, Massachusetts. Speaking Invitation, April 2023.
- 6. Calabrese, N.M. A video trawl survey of Atlantic cod in the Gulf of Maine. My Fishing Cape Cod Meeting, Cape Cod, Massachusetts. Speaking Invitation, March 2022.
- 7. Calabrese, N.M. A video trawl survey of Atlantic cod in the Gulf of Maine. 2023 Gulf of Maine Cod Research Track Assessment. March 2022.
- 8. Calabrese, N.M. A video trawl survey of yellowtail flounder in Closed Area II Access Area. Transboundary Resource Assessment Committee, Assessment of Georges Bank Yellowtail Flounder, Spring Meeting, June 2021.
- 9. Calabrese, N.M. Combining mark-recapture techniques with new technologies to improve fish population estimates. Doctoral Dissertation Proposal Defense, University of Massachusetts Dartmouth, School for Marine Science and Technology, New Bedford, Massachusetts. January 2021.
- 10. Calabrese, N.M. A video trawl survey for Atlantic cod (*Gadus morhua*) in New England. Master's Thesis Defense. University of Massachusetts Dartmouth, School for Marine Science and Technology, New Bedford, MA. May 2018.
- 11. Calabrese, N.M., K.D.E. Stokesbury, and T. Lowery. A video trawl survey for Atlantic cod (*Gadus morhua*) in New England. Stellwagen Bank Charter Boat Association Meeting, Marshfield, Massachusetts. Invited Speaker March 2017.
- **12.** Calabrese, N.M. Developing a video trawl system to survey Gulf of Maine cod. Dock-U-Mentaries Series, Fishing Heritage Museum, New Bedford, Massachusetts. Invited Speaker May 2016.

Reports:

1. Calabrese, N.M. Look but Don't Touch: Minimally Invasive Trawl Survey Techology. Doctoral Dissertation. University of Massachusetts Dartmouth, School for Marine Science and Technology, New Bedford, MA, July 2025.

- 2. Stokesbury, K.D.E., Calabrese, N.M. Developing a real-time visual Bycatch Monitoring System from the Codend of a Groundfish Trawl Net. Submitted to Massachusetts Division of Marine Fisheries, June 2025.
- 3. Stokesbury, K.D.E., Calabrese, N.M., Merhoff, S.L. 2024-2025 Groundfish Video Trawl Survey. Submitted to Massachusetts Division of Marine Fisheries, June 2025.
- 4. Stokesbury, K.D.E., Calabrese, N.M., Merhoff, S.L. 2023-2024 Groundfish Video Trawl Survey. Submitted to Massachusetts Division of Marine Fisheries, June 2024.
- 5. Stokesbury, K.D.E., Calabrese, N.M., Merhoff, S.L. 2022-2023 Groundfish Video Trawl Survey. Submitted to Massachusetts Division of Marine Fisheries, June 2023.
- 6. Calabrese, N.M., Merhoff, S.L. A review of the fishery, biology, and life history of the Atlantic bonito (*Sarda sarda*) in the Northwest Atlantic. Submitted on behalf of the American Saltwater Guides Association to the ASMFC Spring Meeting, Arlington, VA, May 2023.
- 7. Calabrese, N.M., Merhoff, S.L. 2023. A review of the fishery, biology, and life history of the little tunny (*Euthynnus alletteratus*) in the Northwest Atlantic. Submitted on behalf of the American Saltwater Guides Association to the ASMFC Spring Meeting, Arlington, VA, May 2023.
- 8. Stokesbury, K.D.E., Calabrese, N.M. 2021-2022 Groundfish Video Trawl Survey. Submitted to Massachusetts Division of Marine Fisheries, August 2022.
- Stokesbury, K.D.E., Calabrese, N.M.C. A seasonal video-trawl survey to assess the population size of yellowtail flounder (*Pleuronectes ferruginea*) and windowpane (*Scophthalmus aquosus*) in Closed Area II. 2021/2022 Atlantic Sea Scallop Research Set Aside. NOAA Grant Number: NA21NMF4540013. June 2022.
- 10. Stokesbury, K.D.E., Calabrese, N.M.C. A seasonal video-trawl survey to assess the population size of yellowtail flounder (*Pleuronectes ferruginea*) and windowpane (*Scophthalmus aquosus*) in Closed Area II. 2020/2021 Atlantic Sea Scallop Research Set Aside. NOAA Grant Number: NA20NMF4540033. March 2022.
- 11. Stokesbury, K.D.E., Perez, P.J., Calabrese, N.M. 2020-2021 Groundfish Video Trawl Survey. Submitted to Massachusetts Division of Marine Fisheries, October 2021.
- 12. Calabrese, N.M., Perez, P.J., Stokesbury, K.D.E. 2021. Georges Bank yellowtail flounder estimates from the SMAST video trawl surveys of Closed Area II AA. Submitted to the 2021 Transboundary Resource Assessment Committee, Eastern Georges Bank Yellowtail Flounder Stock Assessment, July 2021.
- 13. Stokesbury, K.D.E., Calabrese, N.M, Lowery, T.M., Perez, P.J. A seasonal video-trawl survey to assess the population size of yellowtail flounder (*Pleuronectes ferruginea*) and windowpane (*Scophthalmus aquosus*) in Closed Area II. Northeast Fisheries Management Council, Scallop Plan Development Team. 2021 Scallop Research Share Day Short Report, 12 May 2021.
- 14. Stokesbury, K.D.E., Lowery, T.M., Calabrese, N.M. 2019-2020 Groundfish Video Trawl Survey. Submitted to Massachusetts Division of Marine Fisheries, September 2020.
- 15. Stokesbury, K.D.E., Lowery, T.M., Calabrese, N.M. 2018-2019 Groundfish Video Trawl Survey. Submitted to Massachusetts Division of Marine Fisheries, November 2019.

- 16. Stokesbury, K.D.E., Lowery, T.M., Calabrese, N.M. 2017-2018 Groundfish Video Trawl Survey. Submitted to Massachusetts Division of Marine Fisheries, November 2018.
- 17. Calabrese, N.M. 2018. A video trawl survey for Atlantic cod (*Gadus morhua*) in New England. Master's thesis. University of Massachusetts Dartmouth, School for Marine Science and Technology, New Bedford, MA
- 18. Stokesbury, K.D.E., Cadrin, S.X, Lowery, T.M., Calabrese, N.M. 2016-2017 Groundfish Video Trawl Survey. Submitted to Massachusetts Division of Marine Fisheries, November 2017.
- 19. Stokesbury, K.D.E., Cadrin, S.X, DeCelles, G., Lowery, T.M., Calabrese, N.M. 2015-2016 Groundfish Video Trawl Survey. Submitted to Massachusetts Division of Marine Fisheries, November 2016.

Additional Qualifications and Memberships:

American Institute of Fishery Research Biologists The American Fisheries Society Marine Technology Society

Certified DAN Dive CPR
Coast Guard Certified Drill Instructor
Fishermen's Safety Training
100-Ton Master Captain's License
NITCO Hydraulic Lift Certification

Professional Activities in Support of Research and Publication:

Member of the ICES Working Group on Fish Behavior and Fishing Technology Member of the ICES Stock Assessment Review Group 2017 Anonymous Peer Reviewer For

1. Reviews in Fisheries Science and Aquaculture (1)

University Service:

- Coordinated the development of the SMAST prototyping center.
- Coordinated the reorganization and cleaning of the SMAST East High Bay storage area.
- Hosted and supervised interns from New Bedford High School in the summer of 2023 and 2024.
- Hosted and supervised two interns through the Tribal Academy program, completing AI related projects.
- Host table at career day for the School of Engineering annually.
- Hosted table at career day for the College of Arts and Sciences annually.
- UMass Dartmouth Student Spotlight October 2020.
- Currently supervisong one PhD and one master's student in the development of their projects.
- Acted as Captain for a Masters student's shark tagging thesis.
- Represented SMAST at the Boston Seafood Festival multiple years.

Represented SMAST at Seafood Day in Boston multiple years.

Public Service:

- Hosted marine science workshop for Gir Scouts Geek is Glam Event, Worcester Polytechnical Institute, October 2025.
- Continue to present research to the general public through both oral presentations (6) and magazine articles (2).
- Continue to present research to the fishing industry at Scallop Steering Committee meetings.
- Worked collaboratively with commercial fishermen to develop a video system that can help limit cod bycatch, and the patent process is currently underway.
- Worked with the American Saltwater Guides Association to develop two white papers on Bonito and Little Tunny, which are now the basis for new management measures.
- Presented to the Gulf of Maine Cod Research Track Assessment Working Group 2022.
- Presented to the Transboundary Resource Assessment Committee on the Stock Assessment of Eastern Georges Bank Yellowtail 2021 and 2022.

News and Media:

Published Media:

- Calabrese, N.M. <u>UMass Dartmouth Researchers Use Innovative Video Trawl Survey to Observe Rare and Endangered Marine Species</u>, The Northeast Fish Rapper, Spring 2025, American Fisheries Society.
- 2. Calabrese, N.M. <u>2025 Marine Research Job Opportunities</u> My Fishing Cape Cod Online Magazine. Published November 21st, 2024.
- 3. Calabrese, N.M. Winter Shark Fishing the North Carolina Surf. My Fishing Cape Cod Online Magazine. Published January 28th, 2023.
- Calabrese, N.M. <u>Using Video Cameras to Survey Cod Populations</u>. My Fishing Cape Cod Online Magazine. Published August 19th, 2022.

Work Featured In:

- 1. <u>Calabrese nets good news for cod.</u> Plumbing the Depth, News, Cape Cod Commercial Fishermen's Alliance. Published September 27, 2022.
- 2. Gathering Storm, Episode 2: Cold Ocean Killer, National Geographic. Aired July 27, 2020.
- 3. <u>Stellwagen Bank's Sand Eel Population</u>, On the Water, Willy Goldsmith. Published May 17th, 2020.
- 4. <u>Confronting Climate Change, Fishermen Collect Data on Changing Oceans</u>, CAI, Local National Public Radio for Cape Cod and the Islands. Published November 13th, 2018.

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5. <u>A much needed revolution in fishery stock assessment,</u> Commercial Fisheries News. Published October 2016.