

Robert D. Murphy Jr.

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Northeastern University
Marine Science Center
430 Nahant Road
Nahant, MA 01908

EDUCATION

Ph.D. in Ecology, Evolution and Marine Biology, Northeastern University 2018 (expected)
Dissertation advisor: Dr. Jonathan Grabowski

B.S. in Marine Biology, Northeastern University (*Magna Cum Laude*) 2012

RESEARCH INTERESTS

- Informing marine policy, specifically fisheries management, through applied research projects
- The behavior and feeding ecology of fishery species and their interactions with prey communities
- The perceptions, attitudes, and motivations of fishery stakeholders as they apply to developing holistic marine policy
- How the implementation of policy can impact the behavior of fishers and the resultant effects on successful fisheries management

RESEARCH EXPERIENCE

Dissertation Research 2013-present

- “Social and ecological dimensions of the Striped Bass fisheries in southern New England.” My graduate work takes an interdisciplinary approach to examining the recreational and commercial Striped Bass fisheries in New England and their connections to other fisheries, like the American Lobster fishery. Components of this dissertation involve ecological surveys, laboratory work, and human-dimensions research to examine how the Striped Bass, embedded within a complex social-ecological system, interacts with the ecosystem, resource users, and governance system.

Research Assistant, Northeastern University 2014-present

- Graduate student collaborator on a National Oceanic and Atmospheric Administration funded project titled “Assessing social impacts in groundfish fishing communities.” This study examined the impacts of a groundfish fishery failure on Northeast fishing communities.
- Lead author and graduate student collaborator on a National Oceanic and Atmospheric Administration funded project titled “Engaging commercial, recreational, and subsistence fishers to improve management of Striped Bass fisheries in New England.” This research explores the socio-economic and behavioral impacts of fisheries policy change and aims to enable adaptive co-management by engaging multiple stakeholder groups and fishery managers in participatory modeling to promote transparency, cultural consensus and trust and to facilitate learning and communication between stakeholder groups.

Fisheries Research Technician, Northeastern University 2012-2013

- Carried out stable isotope analysis of mud crabs and oysters in laboratory setting
- Led a meta-analysis on the potential connection between biodiversity and fisheries catch
- Synthesized video of the underwater environment in the Gulf of Maine

- Participated in an oyster transplant experiment, an Atlantic Cod acoustic tagging project, and a mesocosm experiment that observed snail behavior in the presence/absence of a crab predator
- Conducted an undergraduate research project that examined the feeding ecology of Striped Bass

Biology Research Technician, University of Massachusetts 2011

- Assisted a graduate student on research that evaluated the diets and mercury levels of large pelagic fish. Tasks included; sample collection, fish dissections, stomach content analysis, image analysis, fish identification, and otolith mounting and identification.

Experiential learning program (Three Seas Program) through Northeastern University 2010-2011

- As an undergraduate, I participated in a year-long, experiential program that consisted of Masters-level class work, laboratory and intensive field work in three locations; Marine Science Center in Nahant, MA, the Smithsonian Tropical Research Institute in Bocas Del Toro, Panama and the Friday Harbor Laboratories on the San Juan Islands, WA. Example research topics included; coral biology, marine bird surveys, fish-prey analysis, snail predatory cues and responses, underwater mapping using GIS software.

GRANTS and AWARDS

- *Saltonstall-Kennedy (NOAA) grant* - “Engaging commercial, recreational, and subsistence fishers to improve management of Striped Bass (*Morone saxatilis*),” \$240,859 (Collaborating graduate student) 2017
- Northeastern University Graduate Dissertation Research Grant, \$2,750 2017
- Best Student Presentation, NU Marine Science Center Graduate Student Symposium 2017
- Marine Science Center Travel Award 2017, 2015, 2014
- Northeastern University, College of Science Travel Grant 2017, 2015, 2014
- Honorable Mention, National Science Foundation Graduate Research Fellowship 2015, 2014
- Crowd-funded project (Experiment.com) - “Striped Bass diet, health, and movement patterns; Using science to inform management,” \$10,000 2015
- Dean Scholarship, Northeastern University 2008 - 2012

TEACHING EXPERIENCE

Teaching Assistant

- Marine Conservation, Friday Harbor Laboratory, Washington state 2014-2016
- Marine Birds and Mammals, Friday Harbor Laboratory, Washington state 2014-2016
- Marine Ecology, Northeastern University 2013
- Oceans and Coastal Processes, Smithsonian Tropical Research Institute, Panama 2013
- Coral Reef Ecology, Smithsonian Tropical Research Institute in Panama 2013

Guest lecturer

- Conservation Biology, Northeastern University 2014-2015

SOCIETY MEMBERSHIP

- National Society for Collegiate Scholars
- American Academy of Underwater Sciences
- American Fisheries Society (Southern New England Chapter)
- Northeastern University, Marine Science Center Graduate Student Association

ACADEMIC SERVICE

- Northeastern University Diving Control Board
- Northeastern University, College of Science Graduate Student Council – representative for Marine and Environmental Sciences department
- *PLoS Journal* reviewer
- *ICES Journal of Marine Science* reviewer
- Reviewed potential faculty hires at the Northeastern University Marine Science Center
- Volunteer for The Trustees of the Reservations (50+ hours annually)
- Volunteer for Northeastern University Marine Science Center Outreach program (15+ hours annually)

PUBLICATIONS

Murphy RD, Scyphers SB, Grabowski JH (2015) Assessing Fishers' Support of Striped Bass Management Strategies. *PLoS ONE* 10(8)

MANUSCRIPTS IN PREP

Murphy R, S Scyphers, J Grabowski. Local ecological knowledge predicts support for management initiatives in the recreational Striped Bass fishery

PRESENTATIONS

- “Ontogenetic variation in diet and the implications of prey selection in an anadromous fish species”, Benthic Ecology Annual Meeting in Myrtle Beach, SC 2017
- “The role of local ecological knowledge in angler support for fisheries management”, Graduate Student Symposium, Northeastern University 2017
- “Ontogenetic variation in diet and the implications of prey selection in an anadromous fish species”, Graduate Student Symposium, Northeastern University 2016
- “Recreation Specialization, Knowledge, and Management Support Among Striped Bass Anglers in Southern New England,” American Fisheries Society in Portland, OR 2015
- “Perceptions of recreational and commercial Striped Bass anglers in southern New England,” American Fisheries Society in Quebec City 2014
- Guest speaker, Newton South High School, “Overfishing and Sustainable Seafood” 2014

TECHNICAL SKILLS

- Statistical analysis using the software JMP and R
- Extensive background identifying marine fishes from whole specimens and otolith morphology
- Experience with otolith sectioning techniques using a high-precision saw
- Skilled in the use of compound and dissecting microscopes
- Expertise working with large datasets, parametric and non-parametric analytical techniques including ANOVA, generalized mixed models, linear and logistic regression, cluster analysis, and principal component analysis
- Proficient in Geographic Information Systems (GIS) and Microsoft Office Suite
- Experience in acoustic telemetry with multiple species including Striped Bass, Cusk, and Monkfish
- First Aid, CPR certified and an emergency oxygen provider
- SCUBA and dry-suit certified with over 140 hours of underwater time with experience in many locations including Massachusetts, Washington state, and Panama
- Boating license obtained in Washington state

PRACTICAL SKILLS

- Work closely with recreational and commercial fishers in collaborative settings
- Provide feedback and commentary on colleagues' manuscripts
- Field experience on trawl surveys with the Massachusetts Division of Marine Fisheries
- Experimental design – expertise in both field and controlled settings
- Extensive experience sampling and surveying in intertidal habitats
- Knowledgeable of underwater research techniques in temperate and tropical environments
- Provide guidance and mentorship to undergraduate students at Northeastern University

RELEVANT COURSE WORK

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| • Fisheries Population Dynamics | • Marine Ecology |
| • Geographical Information Systems | • Experimental Design in Marine Ecology |
| • Biological Oceanography | • Diving Research Methods |
| • Ecology | • Biology and Ecology of Fishes |
| • Environmental Ethics | • Marine Conservation Biology |
| • Marine Biology | • Ecological Economics |

PERSONAL INTERESTS

- Avid fishermen and hunter, nature photographer, snowboarder, lifelong hockey player, woodworker and furniture-maker