

AVERY BYRD PAXTON

University of North Carolina at Chapel Hill
Department of Biology
Institute of Marine Sciences
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EDUCATION

- 2012 – 2018 PhD – Biology, University of North Carolina at Chapel Hill, NC (expected)
Topic: Species-habitat relationships and community structure of reef fishes associated with temperate reefs of North Carolina, USA
Advisor: Dr. Charles ‘Pete’ Peterson.
- 2011 Benthic Ecology of Salish Sea Research Apprenticeship, University of Washington, Friday Harbor Laboratories, Friday Harbor, WA
Advisors: Dr. Kenneth Sebens and Dr. H. Gary Greene
- 2007 – 2011 BS – Environmental Science, University of Virginia, Charlottesville, VA
Specialization: Environmental and Biological Conservation
Advisors: Dr. Carleton Ray and Dr. Howard Epstein
- 2010 Sea Semester, Oceans and Climate Study Abroad Program, Woods Hole, MA and Central Pacific Ocean. Advisors: Dr. Jeffery Schell
- 2003 – 2007 High School Diploma, Western Albemarle High School, Crozet, VA
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PROFESSIONAL APPOINTMENTS

- 2017 – pres. UNC Royster Society of Fellows – Carol and Edward Smithwick Dissertation Fellow, University of North Carolina at Chapel Hill, Institute of Marine Sciences, Morehead City, NC
- 2015 – 2017 NSF Graduate Research Fellow, University of North Carolina at Chapel Hill, Institute of Marine Sciences, Morehead City, NC
- 2014 – 2015 Graduate Research Assistant, University of North Carolina at Chapel Hill, Institute of Marine Sciences, Morehead City, NC
- 2013 – 2014 NSF Graduate Research Fellow, University of North Carolina at Chapel Hill, Institute of Marine Sciences, Morehead City, NC
- 2012 – 2013 Teaching Assistant, University of North Carolina at Chapel Hill, Chapel Hill, NC

- 2012 – pres. Research Associate, Albanian Center for Marine Research, Saranda, Albania.
- 2012 Subtidal Ecology Research Technician, University of Washington, Friday Harbor Laboratories (Supervisor: Dr. Kenneth P. Sebens), Friday Harbor, WA
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FELLOWSHIPS AND AWARDS

- 2017 – 2018 UNC Royster Society of Fellows - Carol and Edward Smithwick Dissertation Fellowship (**\$21,000** plus tuition, fees, benefits), Dissertation completion fellowship within the Royster Society of Fellows for the academic year.
- 2015 – 2016 P.E.O. Scholar Award (**\$15,000**), International merit-based scholarship for women pursuing a doctoral degree in any field.
- 2015 – 2016 UNC Global Partnership Award (**\$1,000**), Support for travel to Albania to conduct research in marine protected area near Sazani Island with colleagues from the Albanian Center for Marine Research.
- 2012 - 2017 National Science Foundation Graduate Research Fellowship (**\$132,000**), Three years stipend plus tuition awarded for academic merit and hard substrate research proposal, to be used over a period of five years.
- 2011 Distinguished Major with High Distinction, High distinction for undergraduate distinguished majors thesis.
- 2009 – 2011 NOAA Hollings Scholar (**\$20,000**), Scholarship for academic merit and fellowship for shipwreck research.
- 2007 – 2011 Echols Scholar, University of Virginia Honors Program, 1 of 200 selected from class of 3,000 incoming students.
- 2007 Great Value Merit Scholarship (**\$1,000**), Scholarship for academic merit
- 2006 National Federation of Independent Business – Virginia Leadership Council Young Entrepreneur Award (**\$1,000**), Scholarship for founding and operating baking business during high school
- 2004 American Natural History Museum Young Naturalist Award Semifinalist, Recognition for research on turkey vulture search and rescue
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PEER-REVIEWED PUBLICATIONS

Refereed Articles and Submissions

6. **Paxton, A.B.**, L.W. Revels, R.C. Rosemond, R. Gaesser, H.R. Lemoine, J.C. Taylor, and C.H. Peterson. *In review*. Convergence of fish community structure between a newly deployed and an established artificial reef along a five-month trajectory. *Ecological Engineering*.
5. R.C. Rosemond, **A.B. Paxton**, H.L. Lemoine, S.R. Fegley, and C.H. Peterson. *In review*. Fish use of reef structures and contiguous sand flats: implications for selecting minimum buffer zones between new artificial reefs and existing reefs. *Marine Ecology Progress Series*.
4. **Paxton, A.B.** and D.M. Smith. *In review, following revision*. Underwater optical illusion doubled demersal fish use of artificial reef. *Marine & Freshwater Research*.
3. **Paxton, A.B.**, C.H. Peterson, J.C. Taylor, A.M. Adler, and E.A. Pickering. *In review, following revision*. Artificial and natural reefs are not created equal: subtropical and tropical reef-associated fishes prefer deep artificial reefs; temperate fishes prefer natural reefs. *Global Change Biology*.
2. **Paxton, A.B.**, E.A. Pickering, A.M. Adler, J.C. Taylor, and C.H. Peterson. *In press*. Flat and complex temperate reefs provide similar support for fish: evidence for a unimodal species-habitat relationship. *PLOS ONE*.
1. **Paxton, A.B.**, J.C. Taylor, D.P. Nowacek, J. Dale, E. Cole, C.M. Voss, and C.H. Peterson. 2017. Seismic survey noise disrupted fish use of a temperate reef. *Marine Policy* 78: 68-73. DOI: 10.1016/j.marpol.2016.12.017.

Technical Reports (Federal and/or State Agency Reviewed)

4. **Paxton, A.B.**, J.C. Taylor, D.P. Nowacek, J. Dale, E. Cole, C.M. Voss, B. Degan, E. Ebert, and C.H. Peterson. 2016. Documenting fish response to seismic surveying and establishing a baseline soundscape for reefs in Onslow Bay, North Carolina. U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs, Herndon, VA. OCS Study BOEM 2017. 60 p.
2. Taylor, J.C., **A.B. Paxton**, C.M. Voss, B. Sumners, C.A. Buckel, J. Vander Pluym, E.F. Ebert, T.S. Viehman, S.R. Fegley, E.A. Pickering, A.M. Adler, C. Freeman, C.H. Peterson. 2016. Benthic Habitat Mapping and Assessment in the Wilmington-East Wind Energy Call Area. U.S. Department of the Interior, Bureau of Ocean Energy Management (BOEM), Atlantic OCS Region, Sterling, VA. OCS Study BOEM 2016-003 and NOAA Technical Memorandum 196. 208 p.
1. **A.B. Paxton**, E.A. Pickering, A.M. Adler, and C.H. Peterson. 2015. Trends in fish utilization of low- vs. high-relief natural and of artificial hardbottom as a function of sedimentation dynamics and benthic community composition – relevance to wind power development. The University of North Carolina at Chapel Hill, Institute of Marine Sciences, Morehead City, NC. Coastal Recreational Fishing License Grant #5115, Final Report, 88 p.

Undergraduate Thesis (Committee Reviewed)

Paxton, A.B. May 2011. Establishing a biological baseline for shipwrecks in North Carolina coastal waters. Undergraduate Distinguished Majors Thesis, Department of Environmental Science, University of Virginia.

GRANTS AND CONTRACTS

- 2016 – 2017 National Geographic Society / Waitt Grants Program (**\$10,321**), ‘Integrating the history and ecology of shipwrecks with on-demand remote sensing: digital conservation of the Ghost Fleet of Malloys Bay’, co-PI with D.W. Johnston, C.R. Newton.
- 2015 – 2017 North Carolina Coastal Resource Fishing License Grant (**\$223,190**), ‘Improving the fish production of artificial reefs by testing the most widely-recognized and pressing questions about reef design and function,’ PhD candidate and lead scientist with C.H. Peterson (PI).
- 2015 – 2016 Bureau of Ocean Energy Management Contract (**\$100,000**), ‘Documenting the marine soundscape at selected reefs in Onslow and Long Bays, NC,’ PhD candidate with C.M. Voss, C.H. Peterson, J.C. Taylor.
- 2015 Kenan-Biddle Partnership Fund (**\$5,000**), ‘Connections that last: ensuring a sustainable future for the Scientific Research and Education Network (SciREN),’ Co-PI with A.A. Larkin, H.L. Heenehan, J.T. Ridge, and E.J. Theuerkauf.
- 2014 Henry Van Peters Wilson Memorial Fund for Marine Biology (**\$500**), ‘Fish use of artificial reefs and surrounding seagrass meadows in Ksamil Bay, Albania,’ PI.
- 2013 – 2015 North Carolina Coastal Resource Fishing License Grant (**\$207,195**), ‘Fish utilization of low- and high- relief natural and complex artificial hard bottom habitat,’ PhD student and lead scientist with C.H. Peterson (PI).
- 2013 – 2015 Bureau of Ocean Energy Management Contract (**\$733,618**), ‘Studies towards fulfillment of the Outer Continental Shelf Lands Act offshore of North Carolina: Stakeholder uses and essential fish habitat in wind energy call areas,’ PhD student and lead scientist for seasonal diving surveys with C.H. Peterson, C.M. Voss, J.C. Taylor, C. Freeman, and S. Fegley (Co-PIs).
- 2013 – 2014 Waitt Foundation Rapid Ocean Conservation Grant (**\$9,640**), ‘Protecting Ksamil Bay: Fostering Marine Conservation and Sustainable Tourism on the ‘Albanian Riviera,’ Co-PI with D.M. Smith.
- 2010 University of Virginia Harrison Research Grant (**\$3,000**), ‘Biological Aspects of North Carolina Shipwrecks,’ PI.

2009 University of Virginia College of Arts and Sciences - Small Research Grant (\$500), 'Biology of Shipwrecks of North Carolina,' PI.

PRESENTATIONS

Professional Societies and Conferences

- Paxton, A.B.**, C.H. Peterson, J.C. Taylor, A.M. Adler, and E.A. Pickering. 13 April 2017. Artificial and natural reefs are not created equal: subtropical and tropical fish prefer deep artificial reefs; temperate fish prefer natural reefs. *Benthic Ecology Meeting*, Myrtle Beach, SC, USA. (Oral Presentation)
- Paxton, A.B.**, E.A. Pickering, A.M. Adler, J.C. Taylor, and C.H. Peterson. 10 April 2017. Flat and complex temperate reefs provide similar support for fish: evidence for a unimodal species-habitat relationship. *US – International Association for Landscape Ecology*, Baltimore, MD, USA. (Oral Presentation)
- Paxton, A.B.**, L.W. Revels, J.C. Taylor, and C.H. Peterson. 24 March 2017. Convergence of fish communities between a newly deployed and an established artificial reef occurred over five months and along a distinct trajectory. *Coastal Carolina Scientific Diving Association – Scientific Diving Symposium*, Beaufort, NC, USA. (Oral Presentation)
- Paxton, A.B.**, J.C. Taylor, D.P. Nowacek, J. Dale, E. Cole, C.M. Voss, and C.H. Peterson. 16 February 2017. Seismic survey noise disrupted fish use of a temperate reef. *NC American Fisheries Society*, New Bern, NC, USA. (Oral Presentation)
- Lemoine, H.L., **A.B. Paxton**, R.C. Rosemond, and C.H. Peterson. November 2016. Metal ships, concrete modules, and rocky reefs: Quantifying how reef type influences fish communities. *Western Society of Naturalists*, Monterey, CA, USA. (Poster Presentation)
- Paxton, A.B.**, E.A. Pickering, A.M. Adler, J.C. Taylor, and C.H. Peterson. 28 June 2016. Existing natural and artificial temperate reefs provide valuable insights into future offshore renewable energy development. *International Temperate Reef Symposium*, Pisa, Italy. (Oral Presentation)
- Paxton, A.B.**, J.C. Taylor, D.P. Nowacek, E.B. Ebert, C.M. Voss, and C.H. Peterson. 4 March 2016. Opti-sonic instrument arrays illuminate how underwater sound influences reef fish. *Coastal Carolina Scientific Diving Association – Scientific Diving Symposium*, Pine Knoll Shores, NC, USA. (Oral Presentation)
- Paxton, A.B.**, J.C. Taylor, D.P. Nowacek, J. Dale, E. Cole, C.M. Voss, and C.H. Peterson. 26 February 2016. Seismic survey noise disrupted fish use of a temperate reef. *UNC Curriculum for the Environment and Ecology Research Symposium*, Chapel Hill, NC, USA. (Oral Presentation)

- Theuerkauf, E.J., J.T. Ridge, H.L. Heenehan, A.L. Larkin, and **A.B. Paxton**. November 2015. Enhancing geoscience in the K-12 classroom by building a network that connects educators with local, cutting-edge research. *Geological Society of America*, Baltimore, MD, USA. (Poster Presentation)
- Paxton, A.B.**, A.L. Larkin, H.L. Heenehan, J.T. Ridge, and E.J. Theuerkauf. October 2015. SciREN Portal: An interactive tool that connects researchers and educators. *Kenan-Biddle Poster Session*, Chapel Hill, NC, USA. (Poster Presentation)
- Granzotti, R.V., **A.B. Paxton**, and C.H. Peterson. 21 September 2015. Influence of prey and predator presence on habitat selection by the temperate reef fish *Centropristis striata* (black sea bass). *XII Brazilian Congress of Ecology*, Brazil. (Oral Presentation; also Poster Presentation)
- Paxton, A.B.**, J.C. Taylor, D. Nowacek, J. Dale, E. Cole, C.M. Voss, B. Degan, E. Ebert, and C.H. Peterson. 12 September 2015. *In situ* response of reef-associated fish to a marine seismic survey. *Institute of Marine Sciences, Graduate Student Symposium*, Morehead City, NC, USA. (Oral Presentation)
- Paxton, A.B.** and D.M. Smith. 27 February 2015. Mirror, Mirror on the Reef: Fish Utilization of Novel Perceived Habitat on an Artificial Reef in Albania. *Aquatic Sciences Meeting – Association for the Sciences of Limnology and Oceanography*. Granada, Spain. (Oral Presentation)
- Paxton, A.B.**, A.A. Larkin, H.L. Heenehan, J.T. Ridge, and E.J. Theuerkauf. 24 February 2015. Scientific Research and Education Network (SciREN): A Novel Approach to Connecting Local STEM Researchers and Educators. *Aquatic Sciences Meeting – Association for the Sciences of Limnology and Oceanography*. Granada, Spain. (Oral Presentation)
- D.M. Smith and **A.B. Paxton**. 16 November 2014. Mirror, mirror on the reef: a study of visual cues in fish communities on an artificial reef in Albania. Western Society of Naturalists, Tacoma, WA, USA. (Oral Presentation)
- Heenehan, H.L., A.L. Larkin, **A.B. Paxton**, J.T. Ridge, and E.J. Theuerkauf. October 2014. The Scientific Research and Education Network (SciREN): Bringing current and local scientific research into K-12 classrooms. *Bridging the Gap*, Raleigh, NC, USA. (Poster Presentation)
- Paxton, A.B.** and C.H. Peterson. 27 September 2014. Fish use of temperate hard-bottom reefs given structural complexity. *UNC – Institute of Marine Sciences, Graduate Student Symposium*. Morehead City, NC, USA. (Oral Presentation)
- Paxton, A.B.** and N. Lee. 8 December 2011. Documenting the Relationship Between Substrate Angle and Invertebrate Assembly Patterns: An Approach for Assemblage Identification. *University of Washington - Friday Harbor Laboratories, Research Symposium*, Friday Harbor, WA, USA. (Oral Presentation)

Paxton, A.B. April 2011. Establishing a Biological Baseline for Shipwrecks in North Carolina. *Harrison Research Grant Symposium*, Charlottesville, VA, USA. (Poster Presentation)

Academic Audience

Paxton, A.B. Ecological effects of marine urbanization. 31 March 2017. *NC Marine & Coastal Consortium Graduate Student Symposium*, Beaufort, NC, USA. * Faculty nominated speaker.

Paxton, A.B., C.H. Peterson, J.C. Taylor, A.M. Adler, and E.A. Pickering. 2 March 2017. Artificial and natural reefs are not created equal. *UNC – Institute of Marine Sciences, Think Tank*. Morehead City, NC, USA. (Oral Presentation)

Paxton, A.B. 11 April 2016. Offshore energy development and reef fish. *East Carolina University, Biology Department, Research in Progress Seminar Series*, Greenville, NC, USA. (Oral Presentation)

Paxton, A.B. 22 March 2016. Offshore energy development – what about our reef fish? *Brown Bag Lunch Seminar*, Morehead City, NC, USA. (Oral Presentation)

Paxton, A.B. and D.M. Smith. 23 October 2014. Mirror, Mirror on the Reef and Other Tales from Albania. *UNC – Institute of Marine Sciences, Think Tank*. Morehead City, NC, USA. (Oral Presentation)

Paxton, A.B. April 2011. Establishing a Biological Baseline for Shipwrecks in North Carolina Coastal Waters. *University of Virginia, Distinguished Majors Symposium*. Charlottesville, VA, USA. (Oral Presentation)

Policymakers and Practitioners

Paxton, A.B., J.C. Taylor, D.P. Nowacek, C.H. Peterson, and C.M. Voss. 7 October 2015. Fish use of artificial structures and fish response to a seismic survey. *Meeting with BOEM Director and Leadership*, Beaufort, NC, USA.

Paxton, A.B. July 2010. Biological Aspects of North Carolina Shipwrecks. *Hollings Scholar Symposium*. Silver Spring, MD, USA. (Oral Presentation)

TEACHING

Courses

2017 Fall Estuarine and Coastal Marine Ecology (ENEC 448, MASC 448), Co-Lecturer with. C.H. Peterson, N. Lindquist, J.H. Rosman, J. Fodrie, University of North Carolina – Institute of Marine Sciences.

- 2017 Fall Scientific Diving Course, Guest Lecturer, University of North Carolina – Institute of Marine Sciences.
- 2016 Fall Estuarine and Coastal Marine Ecology (ENEC 448, MASC 448), Co-Lecturer with C.H. Peterson, N. Lindquist, J.H. Rosman, University of North Carolina – Institute of Marine Sciences.
- 2015 Fall Estuarine and Coastal Marine Ecology (ENEC 448, MASC 448), Co-Lecturer with C.H. Peterson, N. Lindquist, J.H. Rosman, S.R. Fegley, University of North Carolina – Institute of Marine Sciences.
- 2014 Fall Estuarine and Coastal Marine Ecology (ENEC 448, MASC 448), Co-Lecturer with C.H. Peterson, N. Lindquist, J.H. Rosman, S.R. Fegley, University of North Carolina – Institute of Marine Sciences.
- 2014 Fall Scientific Diving Course, Guest Lecturer, University of North Carolina – Institute of Marine Sciences.
- 2013 Spring Biology Laboratory (BIOL 101L), Graduate Teaching Assistant, University of North Carolina at Chapel Hill, two labs of twenty students each.
- 2012 Fall Biology Laboratory (BIOL 101L), Graduate Teaching Assistant, University of North Carolina at Chapel Hill, two labs of twenty students each.
- 2012 Independent SCUBA Instructor, Friday Harbor, WA.
- 2008 – 2011 SCUBA Instructor, Divemaster, Crew, Outer Banks Dive Center, Nags Head, NC.
- 2008 – 2011 SCUBA Instructor, Divemaster, Dive Connections, Charlottesville, VA.

Technicians Supervised

- Rebecca ‘Claire’ Rosemond, June 2015 – June 2017
- Rebecca Gaesser, January 2016 – September 2016 (now a PhD student at UNC-CH with C.H. Peterson)
- Hayley Lemoine, June 2015 – September 2016 (now a Master’s student at Yale University)
- Alyssa M. Adler, June 2013 – August 2015
- Emily A. Pickering, June 2013 – July 2015

Undergraduate Students Mentored

- Alexander Requarth, UNC-CH, summer 2016 – fall 2016, *Comparison of four artificial reefs off the coast of North Carolina.*
- Douglas Rouse, UNC-CH, summer - fall 2016, *Trophic cascades on artificial and natural reefs off the North Carolina coast*
- Locke Revels, UNC-CH, summer - fall 2016, *If you sink it, will they come? Fish on a newly deployed artificial reef converge with fish on a nearby established artificial reef over time.*
- Kirsten Wiedbusch, UNC-CH, summer 2016, *Comparison of trophic ecology between natural and artificial reefs*
- Yuri Azevedo, Federal University of Rio de Janeiro, summer 2016, *Understanding how underwater sound influences fish use of offshore reefs*
- Pedro Oliveira, Federal University of Rio de Janeiro, summer 2016, *Understanding how underwater sound influences fish use of offshore reefs*
- Sarah Richardson, UNC-CH, spring 2016, *Comparing reef fish species composition and abundance between artificial and natural reefs*

Thrisha Oruganti, UNC-CH, spring 2016, *Temporal patterns in fish abundance on a naturally occurring temperate reef.*

Rafaela Granzotti, UNC-CH and Universidade Estadual de Maringá, summer 2014, *Influence of prey and predator presence on habitat selection by the temperate reef fish *Centropristis striata* (black sea bass).*

Christopher Peters, UNC-CH, summer 2014, *Influence of scent of artificial and natural substrates on habitat preference of reef-associated fishes.*

Kimberly McCormick, UNC-CH, summer 2014, *Effect of currents on the vertical position of reef-associated fishes on artificial reefs*

High School Students Mentored

Ryan Condra, Asheville Christian Academy, summer 2014
 Tierra Buck, Asheville School, summer 2014

OUTREACH

- 2013 – pres. Board Member, Scientific Research and Education Networking (SciREN), non-profit that connects STEM researchers with K-12 educators to bring cutting-edge research to classrooms, <http://www.thesciren.org>
- 2017 Invited Speaker, Brad Sneed Marine Sciences Academy, ‘What I love about being a marine scientist,’ 19 June 2017 (~40 students)
- 2017 Invited Scientist, Scientist advisor for temperate reef ecosystem projects for Patrick Goff’s middle school science students from Beaumont Middle School in Lexington, KY, March 2017 (~6 students).
- 2016 Invited Scientist and Activity Coordinator, ‘Offshore Reefs – “What? We have Reefs off NC?”’ NC Seafood Festival, Morehead City, NC, 30 September 2016 (~150 students)
- 2016 Blog author, ‘[Biology of shipwrecks of the Battle of the Atlantic](#)’ mission log for NOAA Ocean Explorer for Battle of the Atlantic: Archaeology of an Underwater World War II Battlefield, 7 September 2016, with J.C. Taylor
- 2016 Invited Speaker, P.E.O. State Convention, ‘Passport to the Graveyard of the Atlantic,’ 4 June 2016 (~400 people).
- 2016 Science Moderator, Blue Heron Bowl, Morehead City, NC, 6 February 2016
- 2016 Invited Speaker, P.E.O. Chapter Meeting, ‘Exploring the Secret Gardens of North Carolina,’ 20 January 2016 (~ 40 people)
- 2013 – 2016 Chair and Founder, University of North Carolina - Institute of Marine Sciences Graduate Student Association, Morehead City, NC
- 2015 Invited Speaker, Beaufort Ole Towne Rotary Club, ‘Offshore Reefs: Secret Gardens of North Carolina,’ 14 December 2015 (~50 people)
- 2015 Speaker, Carteret Community College C-STEP ‘Day at IMS,’ ‘A day in the life of a scientist studying offshore reefs of NC,’ 30 October 2015 (~10 people)
- 2015 Invited Scientist and Activity Coordinator, ‘Offshore Reefs – “What? We have Reefs off NC?”’ NC Seafood Festival, Morehead City, NC, 2 October 2015 (~150 students)

- 2014 Organizing Committee, Beneath the Waves Film Festival in Carteret County sponsored by Institute of Marine Sciences as part of NC Science Festival, April 2014
- 2014 Speaker, 'Our Hardbottom Reefs of North Carolina,' Outreach Day on NOAA Ship *Nancy Foster*, with P. Whitfield. 16 May 2014 (~ 60 students)
- 2013 Student Leader, Scientists with Stories, sponsored by University of North Carolina at Chapel Hill and Duke University
- 2008 – 2011 President and Founder, SCUBA Club at UVA, Charlottesville, VA.
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PRESS COVERAGE

- 2017 '[Measuring the health of a marsh](#),' UNC Endeavors, Mary Lide Parker, 2 August†
- 2017 '[Why the ocean is getting louder](#),' Vox (print and video), Christophe Haubursin, 18 July*
- 2017 '[You can weigh in on plans for 'seismic blasting' using air guns off NC coast.](#)' Raleigh News & Observer, Abbie Bennett, 12 July*
- 2017 '[Seismic surveys force fish to flee](#),' Hakai Magazine, Kathleen Onorevole, 13 April 2017
- 2017 '[Seismic Fish](#),' UNC-TV SciTech Now, Frank Graff, 5 April
- 2017 '[Effect of seismic testing on reef fish](#),' NC Onshore & Offshore Fishing Show on Coastal Daybreak WTKF FM 107.1, Richard Ehrenkaufner (Dr. Bogus) and Ben Ball, Live Radio Broadcast, 20 February
- 2017 '[Study: Seismic testing disrupts fish behavior](#),' Coastal Review Online by Brad Rich, 15 February
- 2017 '[Seismic testing and reef fish](#),' Coastal Daybreak WTKF FM 107.1, Ben Ball, Live Radio Broadcast, 13 February
- 2017 [Impacts of seismic surveying on fish](#), WUNC Radio, Elizabeth Schlemmer, 13 February
- 2017 '[Seismic testing evicting fish from reef](#),' R&D Magazine by Kenny Walter, 13 February
- 2017 '[Study: Fish numbers drop](#),' Carteret County News Times by Mike Shutak, 3 February
- 2017 '[Local scientists study seismic testing impacts on fish](#),' Public Radio East, Down East Journal by Jared Brumbaugh, 3 February
- 2017 '[Study: Seismic surveys have harmful effects on fish](#),' WNCT-9 News by Pierce Legeion, 1 February
- 2017 '[Study: Noisy tests offshore possibly scaring fish away from reefs](#),' WRAL News Raleigh by Richard Adkins, 31 January
- 2016 '[The science of North Carolina's artificial reefs](#),' Public Radio East, Down East Journal by Jared Brumbaugh, 26 September 2016
- 2016 '[UNC researchers study impact of underwater sound](#),' WRAL News Raleigh by Richard Adkins, 25 August
- 2016 '[Women in Science](#),' Q&A feature by UNC Endeavors, 3 August
- 2016 '[Wind Energy Area Biological Surveys](#),' video produced by John McCord (UNC-CSI), February
- 2016 '[Picking the right spot: how scientists find the best places to put future wind energy sites in the ocean](#),' NOAA National Ocean Service News, February 2016
- 2015 '[Shipwrecks off coast prove beneficial for marine life](#),' WCTI-12 News by Jonathan Weant, 10 November
- 2015 '[Recognizing North Carolina's wind energy potential](#),' The News & Observer, op-ed by

- Harvey Seim (UNC), includes our findings on reefs, 28 September
- 2015 ‘[Students receive award for connecting researchers, educators,](#)’ Carteret County News Times by Mike Shutak, 4 January
- 2014 ‘[IMS, collaborators study N.C. reefs,](#)’ Carteret County News Times by Mike Shutak, 27 December
- 2014 ‘[The tropical reefs of North Carolina?](#)’ Coastal Review Online by Tess Malijenovsky, 10 October
- 2014 ‘[Life on the Rocks,](#)’ UNC – TV Science Now segment by Frank Graff, 2 July
- 2014 ‘[Scoping out the sea for science,](#)’ WCTI-12 News by Ellen Bacca, 24 June
- 2014 ‘[Sea turtles relocated to NC shipwreck,](#)’ WCTI-12 News by Ellen Bacca, 17 June
- 2014 ‘[Giving sea turtles a lift,](#)’ UNC Research by Mary Lide Parker, 20 June
- 2014 ‘[Carolina’s IMS divers pitch in with sea turtle transport,](#)’ UNC Gazette by Courtney Mitchell, 1 April
- 2014 ‘[Beneath the Waves Film Festival,](#)’ Public Radio East by Jared Brumbaugh, 31 March
- 2014 ‘[UNC-Duke Rivalry? Not for SciREN,](#)’ UNC press by Kerry Irish, 20 February

**research findings featured but no interview conducted*

†interview led by collaborator

POLICY RESULTING FROM RESEARCH

- 2017 Research featured in letter from Attorneys General of Maryland, Connecticut, Delaware, the District of Columbia, Massachusetts, New York, North Carolina, Pennsylvania, and Rhode Island to the Office of Protected Resources within the National Marine Fisheries Service about seismic surveying for offshore oil and gas exploration in the Atlantic Ocean, 21 July ([Link to letter led by Attorney General of Maryland, Brian Frosh](#))
- 2017 Research featured in letter from US Senators Benjamin Cardin and Chris Van Hollen, both of Maryland, to Maryland Governor Larry Hogan about seismic surveying for offshore oil and gas exploration in the Atlantic Ocean, 30 June ([Link to letter from Senator Cardin and Senator Van Hollen](#))
- 2017 Research featured in letter from 103 members of the Congress of the United States to Secretary Ryan Zinke of the Department of Interior about seismic surveying for offshore oil and gas exploration in the Atlantic Ocean, 28 June ([Link to letter led by Congressman Rutherford](#))

PROFESSIONAL MEMBERSHIPS

- 2017 – pres. US – International Association of Landscape Ecology, Student Member
- 2013 – pres. Ecological Society of America (ESA), Student Member
- 2013 – pres. Association for the Sciences of Limnology and Oceanography (ASLO), Student Member
- 2013 – pres. American Fisheries Society (AFS), Student Member

2008 – 2016 Diver’s Alert Network
2008 – 2016 Professional Association of Diving Instructors (PADI), Professional Member
2013 – 2015 American Academy of Underwater Sciences (AAUS), Student Member

SCUBA DIVING EXPERIENCE*

Scientific Diving: AAUS Lead Diver at University of North Carolina at Chapel Hill, Institute for Marine Sciences (2013 – 2015); AAUS Lead Diver at Albanian Center for Marine Research (2012 – 2015); AAUS Scientific Diver to 130 ft (2011 – 2015)

Professional Diving: PADI Dry Suit Specialty Instructor (2012); PADI Master SCUBA Diver Trainer (2011); PADI Enriched Air Specialty Instructor (2010); PADI Deep Diver Specialty Instructor (2010); PADI Wreck Diver Specialty Instructor (2010); PADI Search and Recovery Specialty Instructor (2010); PADI Open Water SCUBA Instructor (2010); Emergency First Responder CPR / AED / First Aid Instructor (2010); PADI Assistant Instructor (2009); PADI Divemaster (2008)

Recreational Diving: NSS-CDS Intro Cave Diver (2009); NSS-CDS Cavern Diver (2008); PADI Master Diver (2008); NAUI Nitrox Diver (2008); PADI Advanced Open Water and Rescue Diver (2007); PADI Open Water Diver (2005)

** Can no longer dive as of July 2015; included diving qualifications here to demonstrate past experience.*

SOFTWARE PROFICIENCY

Statistics: R; Matlab; PRIMER-E; SAS; JMP
Data Management: Github; Microsoft Access
Photoquadrat Analysis: CPCe, PhotoGrid, Image J; CoralNet
Geographic Information Systems: ArcGIS
Media: Adobe Photoshop, Adobe Prelude; Adobe Premier, Adobe Illustrator
Physical Oceanography: Nortek software for AWAC and Vectrino instruments; WinRiverII software for RDI ADCP with bottom-tracking;
Fisheries acoustics: Echoview (fisheries acoustics data processing); ER60 (Simrad EK60 split-beam fisheries acoustics data acquisition); EK80 software; RAVEN
Seafloor mapping: Reson multibeam software; Kongsberg multibeam software
Miscellaneous: HOBOWare Pro; Marxan (conservation analysis); Portfolio (conservation analysis); Hypak (marine survey design)

INSTRUMENT PROFICIENCY

Acoustic Doppler Current Profiler (RDI)
Acoustic Doppler Velocimeter (Nortek – Vectrino)
Acoustic Wave and Current Meter (Nortek)

Hydrophone (SoundTrap - Ocean Instruments)
Multibeam echosounder (Reson; Kongsberg)
Sidescan sonar (C-Max)
Splitbeam echosounder (Simrad)
Timelapse videography (Sexton)
Water-level logger (Onset)

PROFESSIONAL DEVELOPMENT TRAINING

- 2016 Echoview Training Course. September 2016, in person. Halifax, Canada.
2016 Alan Alda Center for Communicating Science – Communications Bootcamp. January 2016, in person. Stony Brook University, Stony Brook, NY.
2016 An Introduction to Structural Equation Modeling (SEM) for Ecology and Evolutionary Biology Workshop. January 2016. Taught by Jarrett Byrnes, in person. University of North Carolina at Chapel Hill, NC.
2015 SciFund Outreach Class. October – November 2015. SciFund Challenge, online.
2015 SciFund Poster Class. June – July 2015. SciFund Challenge, online.
2015 Reproducible Science Workshop – Tools, Resources, and Practices. May 14-15, 2015. Duke University, Durham, NC.
2012 Becoming an Effective Mentor. September - October 2012. University of North Carolina at Chapel Hill, Chapel Hill, NC.
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GRADUATE LEVEL COURSEWORK

- 2016 Spring Sound in the sea: introduction to marine bioacoustics (Instructor: Doug Nowacek (Duke University); software: RAVEN, Matlab)
2014 Fall Data and time series analysis in marine sciences (Instructor: Jim Hench (Duke University); software: Matlab)
2014 Spring Ecological community analysis (Instructors: Lauren Yeager & Joel Fodrie; software: PRIMER-E)
2013 Spring Geospatial analysis for coastal and marine management (Instructor: Pat Halpin (Duke University); software: ArcGIS, Marxan)
Landscape analysis and management (Instructor: Dean Urban (Duke University); software: R)
R Seminar (Instructor: Lauren Buckley; software: R)
2012 Fall Physical oceanography (Instructor: Harvey Seim)
Scientific writing seminar (Instructors: Joel Kingsolver & Maria Servedio)
Statistical methods in ecology (Instructor: Jack Weiss; software: R)
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RESEARCH CRUISES*

- 2017 NOAA ship *Nancy Foster*: ecology and archaeology of shipwrecks; July 4 – 15
2016 NOAA ship *Nancy Foster*: shipwreck habitat mapping; October 26 - November 10

- 2016 R/V *Baseline Explorer*: shipwreck (U-576 & *Bluefields*) assessments; August 21-23
2014 NOAA ship *Nancy Foster*: diving assessments of hardbottom reefs; May 4 – 15
2013 NOAA ship *Nancy Foster*: benthic habitat mapping in wind energy area; June 19 – 30
2010 R/V *Robert C. Seamans*: oceans and climates; November – December 2010

* multiday, overnight research cruises; excludes day trips

MANUSCRIPT REVIEWS

Marine Ecology Progress Series (3)

COLLABORATORS

C.H. Peterson (UNC-CH), J.C. Taylor (NOAA NOS CCFHR-Beaufort), D.M. Smith (University of Washington), J.H. Rosman (UNC-CH), F.J. Fodrie (UNC-CH), S.R. Fegley (UNC-CH), C.M. Voss (UNC-CH), A.H. Hurlbert (UNC-CH), D.W. Johnston (Duke University), C.R. Newton (Syracuse University), D.P. Nowacek (Duke University), G.C. Ray (University of Virginia), J. McCormick-Ray (University of Virginia), NOAA *Monitor* National Marine Sanctuary, Maryland Department of Natural Resources
