Colleen B Bove, Ph.D. *(she/her/hers) Email*: colleenbove@gmail.com | *Phone*: (919) 606-4926 *Website*: https://colleenbove.science | *GitHub*: github.com/seabove7

EDUCATION	
Ph.D. in Ecolo	Advisor: Dr. Karl Castillo
	Dissertation: Regional and species level responses of Scleractinian corals under global change within the Caribbean Sea
B.S. in Marine	Biology University of North Carolina at Wilmington (2010 – 2014) Cum Laude, Honors Honors Thesis: Responses of coral gastrovascular cavity pH to changes in light level and seawater pH suggest species-specific responses to the effects of ocean acidification on calcification (Advisor: Dr. Alina Szmant)
POSTDOCTO	PRAL EXPERIENCE
Postdoctoral A	Associate Lecturer Boston University (2020 – present) Advisor: Dr. Sarah Davies
Postdoctoral F	Researcher University of North Carolina at Chapel Hill (2020) Advisor: Dr. John Bruno
PUBLICATIO	NS (* Undergraduate mentee; * Senior and corresponding author)
2021	Aichelman HE, Bove CB , Castillo KD, Boulton JM, Knowlton AC, Nieves OC, Ries JB, Davies SW. <i>Exposure duration modulates the response of Caribbean corals to global change stressors</i> . Limnology & Oceanography. DOI: 10.1002/lno.11863.
2021	Davies SW, Putnam HM, Ainsworth T, Baum JK, Bove CB , Crosby SC, Côté IM, Duplouy A, Fulweiler RW, Griffin AJ, Hanley TC, Hill T, Humanes A, Metaxas A, Parker L, Rivera HE, Silbiger NJ, Smith NS, Spalding AK, Traylor-Knowles N, Weigel BL, Wright RM, Bates AE. <i>Promoting inclusive metrics of success and impact to</i> <i>dismantle a discriminatory reward system in science</i> . PLoS Biology. DOI: 10.1371/journal.pbio.3001282.
2021	Baumann JH, Bove CB , Carne L, Castillo KD. <i>Two offshore coral species show greater acclimatization capacity to environmental variation than nearshore counterparts in Southern Belize</i> . Coral Reefs. DOI: 10.1007/s00338-021-02124-8.
2020	Bove CB , Whitehead RF, Szmant AM. Responses of coral gastrovascular cavity pH during light and dark incubations to reduced seawater pH suggest species-specific responses to the effects of ocean acidification on calcification. Coral Reefs. DOI: 10.1007/s00338-020-01995-7
2020	Bove CB , Umbanhowar J, Castillo KD. <i>Meta-analysis reveals reduced coral calcification under projected ocean acidification and warming across the Caribbean.</i> Frontiers in Marine Science, 7:1-11. DOI: 10.3389/fmars.2020.00127
2019	Bove CB , Ries JB, Davies SW, Westfield IT, Umbanhowar J, Castillo KD. <i>Common Caribbean corals exhibit highly variable response to predicted future acidification and warming.</i> Proceedings of the Royal Society B, 286:1-9. DOI: 10.1098/rspb.2018.2840

2018	Benson BE, Rippe JP, Bove CB , Castillo KD. <i>Apparent timing of Siderastrea siderea density banding in relation to colony growth and physiology</i> . Coral Reefs, 38:165-176. DOI: 10.1007/s00338-018-01753-w
In Revision	Bove CB , Mudge L, Bruno, JF. <i>A century of warming on Caribbean reefs</i> . (<i>PLOS Climate</i> ; preprint available: https://doi.org/10.1101/2021.05.12.443696)
In Review	Bove CB , Davies SW, Ries JB, Umbanhowar J, Thomasson BC*, Farquhar EB*, McCoppin JA*, Castillo KD. <i>Global change differentially modulates coral physiology and suggests future shifts in Caribbean reef assemblages.</i> (<i>Global Change Biology</i> ; preprint available: https://doi.org/10.1101/2021.07.13.452173)
In Prep	Bove CB , Castillo KD, Ries JB, Davies SW. Siderastrea siderea host gene expression and holobiont phenotype is driven by dominant Symbiodiniaceae genus.
In Prep	Oliveira KS*, Thomasson BC*, Ries JB, Castillo KD, Bove CB ⁺ . <i>Global change impacts on the skeletal morphology of the Caribbean coral Siderastrea siderea over time.</i>
In Prep	Rippe JP, Baumann JH, Bove CB , Aichelman HA, Davies SW, Castillo CD. <i>Modern reversal of coral growth-climate connection</i> .
In Prep	Castillo KD, Davies SW, Bove CB , Ries JB. <i>Local Adaptation and transcriptomic plasticity of a resilient Caribbean coral.</i>
In Prep	Brandt M, Romero IS, Garnica DF, Agudo-Adriani E, Bove CB , Bruno JF. <i>Top-Down</i> and Bottom-Up Control in the Galápagos Upwelling System.

EXPERIENCES

2020 – 2021	Statistics and Visualization Consultant University of North Carolina at Chapel Hill Perform data management, visualization, and statistical analysis in R and python of large sea surface temperature datasets, as well as consult on several ongoing projects in the Bruno Marine Ecology and Conservation Lab at UNC Chapel Hill.
2019 – 2021	R Programming Contractor CISME Instruments, LLC, Wilmington, NC Write R software program to analyze data output from CISME device for Photosynthesis-Irradiance curves. CISME is now sold by Qubit Systems (qubitbiology.com/cisme/).
2015	Research Assistant University of North Carolina at Chapel Hill Plan and carry out 6-month ocean acidification and warming mesocosm experiment using four species of Caribbean corals at Northeastern University's Marine Science Center (with Dr. Justin Ries). Responsibilities included maintaining over 40 experimental aquaria, feeding corals, maintain and measuring water chemistry, and monitoring growth of corals specimens.
2014 – 2015	Laboratory Technician University of North Carolina at Chapel Hill Oversee daily lab activities of graduate and undergraduate students conducting research in the lab. Coordinate and execute field work with lab in Florida, Panama, and Belize.
2011 – 2014	Research Assistant University of North Carolina at Wilmington Conduct independent undergraduate research honors thesis assessing effects of ocean acidification on coral calcification and physiology. Also assisted in aquarium upkeep containing research coral samples.

2011 Aquarium Education Intern NC Aquarium at Forth Fisher Answer questions and provide information to visitors about Aquarium exhibits, train new education volunteers, and assist with organization and supervision of volunteers. Lead educational presentations including animal interactions, feeding demonstrations, live dive shows, and classroom activities.

2010 – 2014 Aquarium Education and Dive Volunteer NC Aquarium at Forth Fisher Interact with visitors at exhibits to provide information about exhibits and assist with cleaning and maintenance inside Aquarium exhibits.

RESEARCH FUNDING AND FELLOWSHIPS

The asterisk (*) indicates a grant for which I was not the official PI due to graduate student status but was the lead writer and researcher on the project.

- 2019 UNC Dissertation Completion Fellowship (\$20,000)
- 2019 Lerner-Gray Grants for Marine Research, American Museum of Natural History; Understanding the physiological responses of four Caribbean reef-building coral holobionts under projected ocean acidification and warming scenarios PI: Colleen Bove – \$3370
- 2019 **Rufford Small Grants for Nature Conservation**, The Rufford Foundation; Continuing research on coral acclimation on the Belize Mesoamerican Barrier Reef System PI: Justin Baumann – £20,000, **Co-PI: Colleen Bove**
- 2018 UNC Off Campus Research Fellowship (\$10,000)

- 2018 Steven W. Matson Summer Research Fellowship (\$5,000)
- 2018 ***University Research Council Small Grant**, University of North Carolina at Chapel Hill; Disentangling the transcriptomic responses of the coral host and algal endosymbiont under projected global change PI: KD Castillo – \$7500, Role: Project lead
- 2018 Sea of Change Foundation Marine Conservation Scholarship, Women Diver Hall of Fame; Disentangling the transcriptomic responses of the coral host and algal endosymbiont under projected global change PI: Colleen Bove – \$2000
- 2017 Hill Foundation Fellowship in Marine Science, University of North Carolina at Chapel Hill; Funds to support an undergraduate researcher in investigating how global change impacts coral algal endosymbiont physiology PI: Colleen Bove – \$250

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2012 **Gillings Fellowship** (\$10,000 to study at University of Southampton, England)

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AWARDS AND HONOURS

2019	48 th Benthic Ecology Meeting 2 nd Best Graduate Student Oral Presentation (\$100)
2019	UNC Graduate Student Transportation Grant (\$2,000)
2019	Mentee (Bailey Thomasson) awarded UNC Department of Biology's 2019 Robert Coker
	Award for excellence in research for her honors thesis Examining the combined effect of
	ocean acidification and warming on the skeletal morphology of Siderastrea siderea
2018	UNC Graduate Student Professional Federation Travel Grant (\$400)
2018	UNC Environment and Ecology Graduate Symposium Best Oral Presentation (\$50)
2018	Undergraduate mentee awarded Best Poster Presentation – Climate Change Symposium
	(\$200)
2017	University of North Carolina Chapel Hill Graduate Student Mentoring Award
2017	Honorable Mention in National Science Foundation Graduate Research Fellowship
	Program
2017	4 th Annual UNC Climate Change Symposium Best Poster Presentation (\$400)
2017	UNC Academic Research Conference Best Natural Sciences Oral Presentation
2016	Honorable Mention in National Science Foundation Graduate Research Fellowship
	Program
2014	UNCW Distinguished Undergraduate Research Scholar

- 2014 Benthic Ecology Meeting Best Undergraduate Poster Presentation Award (\$100)
- 2013 Chancellor's Achievement Award

PROFESSIONAL SERVICE

Session chair, Symposium: Coral Reefs and Climate Change; Society of Integrative and Comparative Biology, Washington, DC and virtual, 2021

Reviewer for: National science Foundation (NSF), Frontiers in Marine Science, PLOS ONE, PLOS Climate, Nature Climate Change, Coral Reefs, Proceedings of the Royal Society – Biology

DIVERSITY, EQUITY, JUSTICE, AND INCLUSION

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2021 – Present	Boston University Biology Antiracism Committee; member
2021	The Biology Prospective Scholars Program; Boston University; mentor
2021	Emerging Scholars Integrative Scholars Program; Boston University; organizer
2021	BU Career Exploration and Learning in Life Sciences; panel member
2021	SICB Broadening Participation; mentor
2020	Disabled in STEM; mentor
2019 – Present	Society for Women in Marine Science (SWMS); mentor
2018 – 2021	UNC Chancellor Science Scholar, undergraduate student mentor

INVITED SEMINARS AND LECTURES

2021	Global change ecophysiology: from ecosystems to individuals (Boston University, EBE-MB
	Chalk Talk Seminar Series) October 2021

- 2021 *Physiological and transcriptomic responses of Caribbean corals under global* change (University of Rhode Island, Bio@Noon Seminar Series) February 2021
- 2020 *Coral reefs under global change* (Boston University Marine Program, guest lecture) December 2020
- 2020 *Coral reefs under global change* (Georgetown University, Environmental Geoscience, guest lecture) October 2020
- 2020 Regional and species level responses of Scleractinian corals under global change within the Caribbean Sea (The University of Texas Marine Science Institute, Departmental Seminar) June 2020
- 2020 Caribbean reef-building corals exhibit highly variable growth and physiological responses under projected global change (The Maritime Aquarium at Norwalk, CT Science Seminar Series) February 2020
- 2019 *Physiological and transcriptomic responses of coral hosts and algal symbionts of four Caribbean corals under global change* (UNC Chapel Hill Environment, Ecology, and Energy Program Seminar Series) October 2019
- 2018 Understanding the physiological responses of the coral host and algal symbiont of four Caribbean corals under ocean acidification and warming (Boston University Marine Program, guest lecture) November 2018
- 2018 Impacts of ocean acidification and warming on the growth and physiology of four Caribbean reef-building corals (UNC Asheville, invited seminar) September 2018
- 2018 Chasing Corals film screening expert panel (UNC Chapel Hill) March 2018
- 2017 Acidification and warming impair calcification and survivorship of Caribbean corals (Boston University Marine Program, guest lecture webinar) December 2017
- 2017 Acidification and warming impair calcification and survivorship of Caribbean corals (Climate Change Working Group, US Coral Reef Task Force, invited webinar) March 2017

PRESENTATIONS (* Undergraduate mentee)

2021 **CB Bove**, SW Davies, JB Ries, J Umbanhowar, KD Castillo. *Physiological and transcriptomic responses of Caribbean corals under global change*. Society for Integrative and Comparative Biology. Washington, DC, USA. Oral Presentation.

- 2020 **CB Bove**, SW Davies, JB Ries, J Umbanhowar, KD Castillo. *Physiological and transcriptomic responses of Caribbean corals under global change*. 14th International Coral Reef Symposium. Bremen, Germany. Oral Presentation. *Delayed due to COVID-19*
- 2020 Christian T*, Williams O*, **Bove CB**, Castillo KD. *Impact of winter ocean warming and reduced food availability on calcification rates of the temperate coral Oculina arbuscula.* 14th International Coral Reef Symposium. Bremen, Germany. Poster Presentation. *Delayed due to COVID-19*
- 2020 Baumann JH, **Bove CB**, Carne L, Gutierrez I, Castillo KD. *Back reef corals exhibit greater physiological plasticity under environmental variation than nearshore counterparts.* 14th International Coral Reef Symposium. Bremen, Germany. Oral Presentation. *Delayed due to COVID-19*
- 2020 **CB Bove**, SW Davies, JB Ries, J Umbanhowar, KD Castillo. *Physiological and transcriptomic responses of Caribbean corals under global change*. 14th International Coral Reef Symposium. Bremen, Germany. Oral Presentation. *Delayed due to COVID-19*
- 2020 **Bove CB**, Umbanhowar J, Castillo KD. *Meta-analysis reveals reduced coral calcification under projected ocean acidification and warming across the Caribbean*. Benthic Ecology Meeting. Wilmington, NC, USA. Oral Presentation. *Cancelled due to COVID-19*
- 2020 McCoppin J*, Farquhar E,* **Bove CB**, Castillo KD. Assessing the Bleaching Response of Four Common Caribbean Corals and their Symbionts Using RGB Color Analysis. Benthic Ecology Meeting. Wilmington, NC, USA. Oral Presentation. Cancelled due to COVID-19
- 2020 Oliveira K*, **Bove CB**, Ries JB, Castillo KD. *Impacts of Global Climate Change on the Skeletal Morphology of the Caribbean coral Siderastrea siderea (Massive Starlet Coral).* Benthic Ecology Meeting. Wilmington, NC, USA. Oral Presentation. *Cancelled due to COVID-19*
- 2020 **Bove CB**, Davies SW, Ries JB, Umbanhowar J, McCoppin J*, Farquhar E,* Castillo KD. *Identifying physiological and transcriptomic responses of the coral host and algal endosymbionts of four Caribbean corals under global change*. Society for Integrative and Comparative Biology. Austin, TX, USA. Oral Presentation. January 2020
- 2019 **Bove CB**, Davies SW, Ries JB, Umbanhowar J, Castillo KD. *Ocean acidification and warming impact physiology of the algal symbiont to a greater extent than the host in four common Caribbean corals*. Benthic Ecology Meeting. St. John's, Newfoundland, Canada. Oral Presentation. April 2019
- 2019 McCoppin J*, Farquhar E,* **Bove CB**, Castillo KD. *Assessing the Bleaching Response of Four Common Caribbean Corals and their Symbionts Using RGB Color Analysis.* April 2019. Symbiofest. Athens, GA, USA. Oral Presentation.
- 2019 Oliveira K*, **Bove CB**, Ries JB, Castillo KD. *Impacts of Global Climate Change on the Skeletal Morphology of the Caribbean coral Siderastrea siderea (Massive Starlet Coral).* April 2019. Symbiofest. Athens, GA, USA. Oral Presentation.
- 2019 **Bove CB**, Davies SW, Ries JB, Umbanhowar J, Castillo KD. Ocean acidification and warming impact physiology of the algal symbiont to a greater extent than the host in four

common Caribbean corals. Society for Integrative and Comparative Biology. Tampa, FL, USA. Oral Presentation. January 2019

- 2018 Thomasson B*, **Bove CB**, Ries JB, Castillo KD. *Examining the combined effect of ocean acidification and warming on the skeletal morphology of Siderastrea siderea*. April 2018. 6th UNC Climate Change Symposium. Chapel Hill, NC, USA. Poster Presentation.
- 2018 **Bove CB**, Davies SW, Ries JB, Umbanhowar J, Castillo KD. Ocean acidification and warming impact physiology of the algal symbiont to a greater extent than the host in four common Caribbean corals. Symbiofest. Athens, GA, USA. Oral Presentation. April 2018
- 2018 **Bove CB**, Davies SW, Ries JB, Umbanhowar J, Castillo KD. Ocean acidification and warming impact physiology of the algal symbiont to a greater extent than the host in four common Caribbean corals. Graduate Research and Policy Expo. Chapel Hill, NC, USA. Lightning Talk. April 2018
- 2018 **Bove CB**, Davies SW, Ries JB, Umbanhowar J, Castillo KD. Ocean acidification and warming impact physiology of the algal symbiont to a greater extent than the host in four common Caribbean corals. UNC E3P Research Symposium. Chapel Hill, NC, USA. Oral Presentation. March 2018
- 2017 **Bove CB**, Ries JB, Davies SW, Westfield IT, Castillo KD. *Acidification and warming impair calcification and survivorship of Caribbean corals*. 46th Benthic Ecology Meeting. Myrtle Beach, SC, USA. Oral Presentation. April 2017.
- 2017 Benson BE*, Rippe JP, **Bove CB**, Castillo KD. *Apparent timing of Siderastrea siderea density banding in relation to colony growth and physiology.* April 2017. 46th Benthic Ecology Meeting. Myrtle Beach, SC, USA. Poster Presentation.
- 2017 Boulton J*, Knowlton AC*, Davies SW, **Bove CB**, Ries JB, Castillo KD. *Coral and associated symbiont physiologies are resilient to changes in pCO₂ but are negatively affected by temperature stress*. April 2017. 46th Benthic Ecology Meeting. Myrtle Beach, SC, USA. Poster Presentation.
- 2017 **Bove CB**, Ries JB, Davies SW, Westfield IT, Castillo KD. *Acidification and warming impair calcification and survivorship of Caribbean corals*. 5th Annual UNC Climate Change Symposium. Chapel Hill, NC, USA. Poster Presentation. March 2017.
- 2016 **Bove CB**, Ries JB, Davies SW, Westfield IT, Castillo KD. *Acidification and warming impair calcification and survivorship of Caribbean corals*. 13th International Coral Reef Symposium. Honolulu, HI, USA. Oral Presentation. June 2016.
- 2016 **Bove CB**, Ries JB, Davies SW, Westfield IT, Castillo KD. *Acidification and warming impair calcification and survivorship of Caribbean corals*. Symbiofest. University of Georgia, Athens, GA, USA. Oral Presentation. May 2016.
- 2016 **Bove CB**, Ries JB, Davies SW, Westfield IT, Castillo KD. *Acidification and warming impair calcification and survivorship of Caribbean corals*. ASLO Ocean Sciences Meeting. New Orleans, LA, USA. Oral Presentation. February 2016.
- 2016 Townsend, JE*, **Bove CB**, Baumann J, Davies SW, Castillo KD. *The interactive effect of nutrients and salinity on corals from distinct thermal environments on the Belize Barrier Reef System.* February 2016. ASLO Ocean Sciences Meeting. New Orleans, LA, USA. Poster Presentation.

- 2015 **Bove CB**, Whitehead RF, Szmant AM. *Effects of seawater pH on the gastrovascular cavity of the corals Montastraea cavernosa and Duncanopsammia axifuga: Can corals counteract the effects of ocean acidification?* March 2015. Benthic Ecology Meeting. Quebec City, Canada. Oral Presentation.
- 2014 **Bove CB**, Whitehead RF, Szmant AM. *Effects of seawater pH on the gastrovascular cavity of the corals Montastraea cavernosa and Duncanopsammia axifuga: Can corals counteract the effects of ocean acidification?* April 2014. University of North Carolina at Wilmington Undergraduate Research Showcase. Wilmington, NC, USA. Poster Presentation.
- 2014 **Bove CB**, Whitehead RF, Szmant AM. *Effects of seawater pH on the gastrovascular cavity of the corals Montastraea cavernosa and Duncanopsammia axifuga: Can corals counteract the effects of ocean acidification?* April 2014. Colonial Academic Alliance Undergraduate Research Conference. Baltimore, MD, USA. Oral Presentation.
- 2014 **Bove CB**, Whitehead RF, Szmant AM. *Effects of seawater pH on the gastrovascular cavity of the corals Montastraea cavernosa and Duncanopsammia axifuga: Can corals counteract the effects of ocean acidification?* March 2014. Benthic Ecology Meeting. Jacksonville, FL, USA. Poster Presentation.
- 2013 **Bove CB**, Whitehead RF, Szmant AM. *Effects of seawater pH on the gastrovascular cavity* of the corals Montastraea cavernosa and Duncanopsammia axifuga: Can corals counteract the effects of ocean acidification? April 2013. University of North Carolina at Wilmington Undergraduate Research Showcase. Wilmington, NC, USA. Poster Presentation.

TEACHING / MENTO	RING EXPERIENCE *denotes instructor on record
2021 – Present	Readings in Biology Instructor/Advisor, Boston University*
2021 – Present	Biology of Global Change Lecturer, Boston University*
2020 – Present	Human and Systems Physiology Teaching Fellow, Boston University
2018 – 2020	UNC Undergraduate Honors Thesis Mentor (Bailey Thomasson, 2018 – 2019; Kyle Oliveira, 2019 – 2020)
2015– 2020	UNC Undergraduate Guest Lecturer (ENEC/MASC 450 - Biogeochemical Processes, MASC 441 - Marine Physiological Ecology, MASC 101 - The Marine Environment, MASC401/BIOL350/ENVR417 – Introduction to
2015 – 2020	Oceanography, ENEC 295 – Coral Reef Ecology and Management) UNC Undergraduate Research Volunteer Mentor (Bailey Thomasson, Brooke Benson, Kathryn Cobleigh, Lauren Winbourne, Brigitte Butler, Joseph Townsend, Cori Lopazanski, Meghan Gore, Brad Kotlarz, Zoe Sparks, Kyle Oliveira, Jess McCoppin, Liz Farguhar)
2016 – 2019	UNC MASC 395 Student Mentor (Bailey Thomasson, Lauren Winbourne, Brigitte Butler, Forrest Buckthal)
2016 – 2019	Teaching Assistant, University of North Carolina at Chapel Hill (<i>Introduction to Environment and Society, Coral Reef Ecology + Management, Conservation Biology, Conservation Biology, Ecology and Evolution</i>)
2016 – 2018	Lead Teaching Assistant, University of North Carolina at Chapel Hill (Introduction to Environment and Society)
2015 – 2019	NCSSM High School Mentor

PROFESSIONAL AFFILIATIONS

2018 – Present	Society for Integrative and Comparative Biology (SICB) Member
2016 – Present	International Coral Reef Society (ICRS) Member

2012 – Present	American Academy of Underwater Science (AAUS) Scientific Diver (Lead
	diver, over 100 logged dives)
2012 – Present	Divers Alert Network (DAN) Member (Diving First Aid for Professional Divers
	certification)

OUTREACH

2019	Field Notes; climate change photography exhibition; VAE, Raleigh, NC
2018 – 2019	UNC Ecology Seminar Series Planning Co-Chair
2017 – 2019	UNC Ecology Seminar Series Planning Committee Member
2016 – 2017	Blogger, Under the C graduate student Marine Sciences Blog
2016	Girls Advancing in STEM (GAINS); Chapel Hill, NC
2016, 2017	UNC Science Expo; Chapel Hill, NC
2015 – 2020	Undergraduate Student Mentor
2015 – 2018	NC School of Science and Math High School Mentor
2015	Northeastern Marine Science Center Open House; Nahant, MA
2015	SciREN Coast Networking Workshop; Pine Knoll Shores, NC
2014	SciREN Triangle Networking Workshop; Raleigh, NC

PROFESSIONAL WORKSHOPS

July 2018	Methods in Ecological Genomic Analysis (Functional genomics and gene network
	analysis with TagSeq workshop led by Misha Matz)
June 2016	Getting Published Workshop (ICRS workshop led by John Cinner and Terry Hughes)

REFERENCES

Sarah Davies, Ph.D.

Biology Department Boston University 5 Cummington Mall Boston, MA 02215 Email: daviessw@bu.edu Phone: (617) 353-8980

John Bruno, Ph.D.

Environment, Ecology, and Energy Program and Department of Biology University of North Carolina at Chapel Hill 120 South Rd. Chapel Hill, NC 27599- 3280 Email: jbruno@unc.edu Phone: (919) 962-1038

Karl Castillo, Ph.D.

Environment, Ecology, and Energy Program and Marine Sciences Department University of North Carolina at Chapel Hill 123 South Rd. Chapel Hill, NC 27599-3300 Email: kdcastil@email.unc.edu Phone: (919) 843-8752

Justin Ries, Ph.D.

Department of Marine and Environmental Sciences Marine Science Center Northeastern University 430 Nahant Rd. Nahant, MA 01908 Email: j.ries@northeastern.edu Phone: (781) 581-7370 ext. 342

Alina Szmant, Ph.D.

Center for Marine Science University of North Carolina at Wilmington 5600 Marvin K. Moss Ln. Wilmington NC 28409 Email: szmanta@uncw.edu Phone: (910) 962-2362