


# SHANNON RICCI

Interests: data analysis, data visualization, marine benthic biology and ecology, conservation, invertebrate fisheries, passive acoustics, informal environmental science education



## EDUCATION


2022  
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2018

- **PhD Student, Geospatial Analytics**  
North Carolina State University  Raleigh, NC
  - Working on characterization and interpretation of marine soundscapes
  - Advisor: Dr. DelWayne Bohnenstiehl

2015  
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2013

- **M.S., Biological Oceanography**  
North Carolina State University  Raleigh, NC
  - Thesis: Spatiotemporal soundscape patterns and processes in an estuarine reserve
  - Advisor: Dr. David Eggleston


2012  
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2008

- **B.S., Marine Science, Marine Biology concentration**  
University of Maine  Orono, ME
  - Thesis: Salinity tolerance of the oyster mudworm *Polydora websteri*




## RESEARCH EXPERIENCE


2020  
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2018

- **PhD Dissertation Research**  
Geophysics & Acoustics Lab  North Carolina State University
  - Develop automated acoustic data processing techniques
  - Characterize and interpret marine soundscapes

2018  
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2016

- **Research Technician**  
Marine Ecology & Conservation Lab  North Carolina State University
  - Processed, analyzed, synthesized, and published soundscape and other group research
  - Assisted with the design and analysis of a variety of lab group research projects
  - Mentored incoming students in soundscape data analysis techniques

2015  
|  
2013

- **MS Thesis Research**  
Marine Ecology & Conservation Lab  North Carolina State University
  - North Carolina Sea Grant/NC Coastal Reserve Coastal Research Fellow
  - Field: Designed and performed soundscape characterization of NC Coastal Reserve
  - Lab: Designed and performed experiments investigating oyster settlement response to habitat associated sound


## CONTACT

 [swbrown@ncsu.edu](mailto:swbrown@ncsu.edu)

 [swricci](#)

 [github.com/swricci](https://github.com/swricci)



 (845) 803-2019

## SKILLS

MATLAB

R

ArcGIS Pro

QGIS

Made with the R package [page-down](#).

The source code is available at  
[github.com/nstrayer/cv](https://github.com/nstrayer/cv).

Last updated on 2019-10-22.

- 2015  
|  
2013

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**Graduate Research Assistant**  
 Marine Ecology & Conservation Lab
 

📍 North Carolina State University

  - Assisted with lab and field experiments including: oyster restoration monitoring, fouling organism study, modeling larval dispersal of deep-sea larvae
  
- 2012  
|  
2009

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**Student Laboratory/Research Technician**  
 University of Maine
 

📍 Orono, ME

  - Assisted with lab and field projects investigating how injury level in marine worms impacts food web dynamics in mudflats
  - Conducted lab-based experiment to treat an infestation of marine worms in local aquacultured oysters
  - Advisors: Dr. Sara Lindsay, Dr. Paul Rawson, Mick Devin
  
- 2011

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**NSF Research Experience for Undergraduates**  
 University of Delaware
 

📍 Lewes, DE

  - Project: Spawning site characteristics of horseshoe crabs along two beaches in the DE Inland Bays
  - Advisor: Dr. Doug Miller

## TEACHING & OUTREACH EXPERIENCE

- 2018  
|  
2014

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**SciREN**  
 Science Research and Education Network

  - Developed standards-aligned lesson plans for teachers based on research
  
- 2016

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**Beyond Show and Tell Workshop**  
 North Carolina State University
 

📍 Raleigh, NC

  - Co-instructor (Dr. Holly Menninger)
  - Taught communications skills to faculty and graduate students
  - Assisted in development of research inspired hands-on activities for NC Science Festival Events
  
- 2015  
|  
2013

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**Introduction to Oceanography (Lab)**  
 North Carolina State University
 

📍 Raleigh, NC

  - TA
  - Designed lesson plans on Ocean Acoustics and Marine Bioacoustics
  - Revised lab lecture PowerPoints to improve student learning
  
- 2015  
|  
2014



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**Engaging the Public in Science**  
 North Carolina Museum of Natural Sciences
 

📍 Raleigh, NC

  - Program participant
  - Learned to more effectively communicate scientific research to a variety of audiences through a series of classes and workshops

I am passionate about science communication and enjoy translating results to non-scientists.

- 2013 • **Environmental Education Intern**  
 Smithsonian Environmental Education Center (SERC)  Edgewater, MD
- Led PreK - 8, scout groups, and public environmental education programs about estuaries and wetlands
  - Created informational displays for the center highlighting SERC research and opportunities
  - Maintained data collected by school groups for future use by students and teachers
- 2013 | 2012 • **Education Intern**  
 Center for the Urban River  Yonkers, NY
- Assisted educators with programs (seining, marsh scavenger hunt, water clean-up, fish identification) for student and scout groups
  - Formerly Beczak Environmental Education Center



## PUBLICATIONS

- 2019 • **Fish community structure, habitat complexity, and soundscape characteristics of patch reefs in a tropical, back-reef system**  
 Marine Ecology Progress Series
- Lyon RP, Eggleston DB, Bohnenstiehl DR, Layman CA, Ricci SW, Allgeier JE
- 2018 • **Investigating the utility of ecoacoustic metrics in marine soundscapes**  
 Journal of Ecoacoustics
- Bohnenstiehl DR, Caretti O, Lyon RP, Ricci SW, Eggleston DB
- 2017 • **Oyster toadfish (*Opsanus tau*) boatwhistle call detection and patterns within a large-scale oyster restoration site**  
 PLoS ONE
- Ricci SW, Bohnenstiehl DR, Eggleston DB, Kellogg ML, Lyon RP
- 2017 • **Use of underwater soundscapes to characterize nocturnal fish behavior and habitat use within a complex mosaic of estuarine habitats.**  
 Bulletin of Marine Science
- Ricci SW, Eggleston DB, Bohnenstiehl DR
- 2016 • **Temporal soundscape patterns and processes in an estuarine reserve**  
 Marine Ecology Progress Series
- Ricci SW, Eggleston DB, Bohnenstiehl DR, Lillis A



## SELECTED POSTERS & TALKS



## COMMUNITY ENGAGEMENT

2017 | 2016 ● Triangle Science and Technology Expo - exhibitor

• Presenter

2016 ● Sustainability Symposium, presenter

North Carolina State University

• Presenter:

2015 ● Meet the Scientist, presenter

North Carolina Museum of Natural Sciences

• Presenter:

2015 ● Science Day, presenter

Fletcher Academy

• Presenter

2014 ● Sound in the Sea Day, presenter

Duke University Marine Lab

• Presenter

2014 ● National Ocean Sciences Bowl

• Volunteer: Blue Heron Bowl, Nor'easter Bowl

2013 ● Family Science Day, presenter

Morehead Planetarium

• Presenter: Wetlands activity



## SELECTED PRESS (BY)

2015 ● Music in the Marsh: Summer Soundscapes of the Rachel Carson Reserve<sup>1</sup>

Coastwatch, NC Sea Grant

• Popular science article about my master's thesis research characterizing underwater sound in an estuarine reserve



## LINKS

<sup>1</sup>: <https://ncseagrant.ncsu.edu/coastwatch/previous-issues/2015-2/summer-2015/music-in-the-marsh-the-summer-soundscapes-of-the-rachel-carson-reserve/>