

# SAMANTHA M. BINION

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303 College Circle  
Morehead City, NC 28557

## EDUCATION

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- PhD** **North Carolina State University**, Applied Ecology Expected 2017  
Dissertation: "*Foraging ecology of piscivorous finfishes and development of an ecosystem model for Pamlico Sound, North Carolina.*"  
Committee Chair: Dr. Jeff Buckel, Professor  
GPA: 3.81
- MS** **East Carolina University**, Biology August 2011  
Thesis: "*Spatial and temporal overlap of larval Alosines and potential zooplankton prey in lower Roanoke River and Albemarle Sound, North Carolina.*"  
Committee Chair: Dr. Anthony Overton, Assistant Professor  
GPA: 3.81
- BS** **Emory University**, Biology May 2003  
GPA: 3.03

## PROFESSIONAL EXPERIENCE

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- North Carolina State University**, Raleigh, NC 2011 to Present  
Graduate Teaching and Research Assistant
- East Carolina University**, Greenville, NC 2008 to 2011  
Graduate Research and Teaching Assistant
- Mote Marine Laboratory**, Sarasota, FL 2005 to 2008  
Biologist Scientist II
- Marine Biological Laboratory**, Woods Hole, MA 2002  
Intern
- Mote Marine Laboratory**, Sarasota, FL 2001  
Intern

## TEACHING EXPERIENCE

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### North Carolina State University

#### Graduate Teaching Assistant

##### Courses Taught

- PB 360: Ecology Laboratory
- BIO 183: Principles of Biology II Laboratory

### East Carolina University

#### Reach Up Councilor

Supervisor: Dr. Rhea Miles, Associate Professor

- Program to encourage minority student participation in science
- Mentored students and helped with completion of science fair projects

#### Graduate Teaching Assistant

##### Courses Taught

- BIO 3661: Introduction to Marine Biology Laboratory
- BIO 1101: Principles of Biology I Laboratory
- BIO 1201: Principles of Biology II Laboratory
- BIO 1061: Environmental Biology Laboratory

## PUBLICATIONS

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Riley, K.L., **S.M. Binion**, and A.S. Overton. *In Review*. Recruitment Trends Provide Evidence of New Spawning Habitat for Blueback Herring and Alewife in Roanoke River and Albemarle Sound, North Carolina. *North American Journal of Fisheries Management*.

**Binion, S. M.**, K. L. Riley, and A. S. Overton. 2012. Foraging potential of larval alosines in lower Roanoke River and Albemarle Sound, North Carolina. *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science* 4(1):201-217.

Riley, K.L., **S.M. Binion**, and A.S. Overton. 2012. Estimating the food requirements and prey size spectra of larval American shad. *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science* 4(1):228-238.

## CONTRIBUTED PRESENTATIONS

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**Binion-Rock, S.M.**, B.J. Reich, and J.A. Buckel. 2015. Does Spatial Autocorrelation Need to be Incorporated when Describing the Diets of Fish? Oral Presentation at the Annual Conference of the American Fisheries Society. Portland, OR.

**Binion-Rock, S.M.**, B.J. Reich, and J.A. Buckel. 2015. A Hierarchical Community Approach to Estimate Total Number of Prey Types and Detection Probability in Food Habit Studies. Poster Presentation at the Annual Conference of the American Fisheries Society. Portland, OR.

**Binion-Rock, S.**, A. Bogdanoff, K. Dahl, J. Granneman, H. Harris, J. Mohan, M. Rudd, M. Swenarton, M. Allen, D. Chagaris, R. Ahrens, W. Patterson, and J. Morris. 2015. Modeling Lionfish Management Strategies on the West Florida Shelf. Oral Presentation at REEF Open House. Key Largo, FL.

**Binion, S. M.**, B.J. Reich, and J.A. Buckel. 2014. A Bayesian Hierarchical Approach for Estimating the Probability of Detecting a New Prey Item: How Many Samples is Enough? Oral presentation at the Annual Conference of the American Fisheries Society, Quebec City, Canada.

**Binion, S. M.**, B.J. Reich, and J.A. Buckel. 2014. A state-space model for estimating the probability of detecting a new prey item from stomach contents data. Oral presentation at the Annual Conference of the American Fisheries Society Tidewater Chapter, Newport News, VA.

**Binion, S. M.**, C. Luck, and J.A. Buckel. 2014. Encysted trematodes *Stomachicola magnus* in the stomach linings of weakfish (*Cynoscion regalis*): frequency of occurrence and effects on condition. Poster presentation at the Annual Conference of the American Fisheries Society Tidewater Chapter, Newport News, VA.

**Binion, S. M.**, B.J. Reich, J.A. Buckel, and F.S. Scharf. 2013. Bayesian nonparametric approach to estimate the number of stomachs required to fully describe fish diet. Poster presentation at the Annual Conference of the American Fisheries Society Tidewater Chapter, Solomons, MD.

**Binion, S. M.**, and S. A. Morris. 2012. Development of models to predict estuarine fish counts in Pamlico Sound, North Carolina. Poster presentation at the Annual Conference of the American Fisheries Society Tidewater Chapter, Beaufort, North Carolina.

**Binion, S.M.**, Riley, K.R., and A.S. Overton. 2011. Exploring food limitation of larval alosines in lower Roanoke River and Albemarle Sound, North Carolina. Oral presentation of the Annual Conference of the American Fisheries Society Early Life History Section, Wilmington, North Carolina.

**Binion, S.**, Riley, K., and A. Overton. 2010. Foraging potential of larval American shad and river herring in lower Roanoke River and Albemarle Sound, North Carolina. Oral presentation at the Annual Conference of the American Fisheries Society, Pittsburgh, Pennsylvania.

Riley, K., **S. Binion**, and A. Overton. 2010. Prey size selection and growth dynamics of American shad larvae. Oral presentation at the Annual Conference of the American Fisheries Society, Pittsburgh, Pennsylvania.

Riley, K., **S. Binion**, and A. Overton. 2010. Exploring spatial and temporal variation in the early life history of American shad and river herring. Oral presentation at the Annual American Fisheries Society, Pittsburgh, Pennsylvania.

**Binion, S.**, Riley, K., and A. Overton. 2010. Evaluating the potential of match:mismatch between zooplankton and larval fish production within a coastal river system. Poster presentation at the Annual Conference of the American Fisheries Society Southern Division, Asheville, North Carolina.

**Binion, S.**, Riley, K., and A. Overton. 2010. Evaluating the potential of match:mismatch between zooplankton and larval alosine production within a coastal river system. Poster presentation at the Annual Conference of the American Fisheries Society Tidewater Chapter, Annapolis, Maryland.

Riley, K., **S. Binion**, T. Williams, and A. Overton. 2009. Effect of zooplankton density on growth of larval American shad *Alosa sapidissima*: An experimental approach. Oral presentation at the Annual Aquaculture America Conference and Exposition, Seattle, Washington.

Riley, K., **S. Binion**, T. Williams, and A. Overton. 2009. Effect of zooplankton density on growth of larval American shad *Alosa sapidissima*. Oral presentation at the Annual Conference of the American Fisheries Society Southern Division, New Orleans, Louisiana.

Riley, K. L., **S. M. Binion**, and A.S. Overton. 2009. Recruitment of Estuarine-Dependent Alosines to the Albemarle Sound: Will Food Availability or Nursery Habitat Limit Success of Restoration Programs? Poster presentation at the 10<sup>th</sup> Annual Banquet of the East Carolina University Student Subunit of the American Fisheries Society, Greenville, North Carolina.

## **WORKSHOPS AND CERTIFICATIONS**

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### **Lionfish Ecosystem Modeling Workshop**

University of Florida, Gainesville and Long Key, FL. 2015

### **Recreational Angler Survey Design Workshop**

North Carolina State University, Center for Marine Sciences and Technology, Morehead City, NC. 2015.

**EwE Ecosystem Modelling Workshop**

Ocean County College, Toms River, NJ, 2012

**Modelling Fish Growth Workshop**

AFS Continuing Education Course, Tidewater Meeting, Beaufort, NC, 2012

**SAS Code Workshop Series**

East Carolina University, Greenville, NC, 2009

**Electrofishing Certification Workshop**

North Carolina Wildlife Resources Commission, Greenville, NC, 2008

**Ichthyoplankton Identification Workshop**

The Ohio State University, Stone Laboratory, June 2008

**Motorboat Operator Certification Course**

East Carolina University, Greenville, NC, 2008

**Open Water Dive Certification**

NAUI, Sarasota, FL, 2001

**HONORS AND AWARDS**

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<b>Best Poster Award: 2<sup>nd</sup> Place</b>	2014
Encysted trematodes <i>Stomachicola magnus</i> in the stomach linings of weakfish ( <i>Cynoscion regalis</i> ): frequency of occurrence and effects on condition. Poster presentation at the Annual Conference at the American Fisheries Society Tidewater Chapter, Newport News, VA.	
<b>Best Poster Award: 3<sup>rd</sup> Place</b>	2012
Development of models to predict estuarine fish counts in Pamlico Sound, North Carolina. Poster presentation at the Annual Conference at the American Fisheries Society Tidewater Chapter, Beaufort, NC.	
<b>Travel Awards</b>	2010
Equal Opportunity Section of the American Fisheries Society. Pittsburgh, PA.	
<b>Edward P. Ryan Scholarship in Marine Biology</b>	2009
Department of Biology, East Carolina University, Greenville, NC.	

**Best Abstract Award** 2009  
Effect of zooplankton density on growth of larval American shad  
*Alosa sapidissima*: An experimental approach. World Aquaculture  
Society Aquaculture America Conference and Exposition, Seattle,  
WA.

**Oxford Scholar** 1999  
Oxford College of Emory University, Oxford, GA.

## **SERVICE**

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**Organized Workshop on Recreational Angler Survey Design** 2015  
One day workshop taught by Dr. Ken Pollock. Attended by 24  
participants from multiple universities, state, and federal agencies.