

**JENNIFER L. WEAVER**  
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Ms. Weaver specializes in resource mapping and spatial modeling in support of habitat-based conservation planning. She has experience incorporating GIS data from a broad background of sources into habitat assessments and communicating these results to audiences of varying technical backgrounds.

Ms. Weaver joined RPI in July 2010 and is currently compiling biological data for use in oil spill response planning in South Florida and Texas. In addition, she has gained experience in oil spill response while participating in Shoreline Cleanup Assessment Technique surveys as part of the Deepwater Horizon/MC 252 oil spill response.

Prior to joining RPI, Ms. Weaver was the lead analyst for two habitat assessment projects. Most recently, she worked with North Carolina Division of Marine Fisheries to identify areas of exceptional fish habitat in Pamlico Sound using the conservation planning software MARXAN. In addition to the spatial modeling component, she created data layers to visualize trends in fish abundance from fishery independent surveys, performed cumulative impact analysis describing anthropogenic impacts to estuarine environments, and built Generalized Additive Models (GAMs) testing the relationship of the cumulative impact metric to fish abundance in the region. During graduate school, she worked with Environmental Defense Fund to identify and characterize spawning and juvenile river herring habitat across the Chowan River Basin. For her Masters project, she developed and applied a model to quantify the effect of sea level rise on these habitats. She also delineated watersheds and built spatial models to identify parcels for acquisition in support of a project developing alternatives to traditional wetland mitigation measures.

Ms. Weaver has a GIS certificate and is proficient using ArcGIS 9.x and 10, Python, R, Fledermaus, MARXAN, PC-ORD and OpenBUGS for geospatial and statistical analyses. She also has experience with GPS and biological field data collection in a variety of different environments.

## **EDUCATION**

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**MASTER OF ENVIRONMENTAL MANAGEMENT**, May 2009

Nicholas School of the Environment, Duke University, Durham, NC

**CERTIFICATE IN GEOSPATIAL ANALYSIS**, May 2009

*Master's project:* Impacts of sea level rise on river herring spawning habitat in eastern North Carolina. *Advisor:* Pat Halpin.

*Relevant coursework:* Marine ecology, quantitative fisheries management, fisheries ecology, multivariate analysis.

**BACHELOR OF SCIENCE**, *summa cum laude with honors*, May 2005

**BACHELOR OF ARTS**, *cum laude*, May 2005

Tulane University, New Orleans, LA

*Majors:* Ecology and evolutionary biology and classical studies. GPA 3.9 of 4.0

*Senior thesis:* The effects of post-fire nutrient enrichment on the reproductive biology of Three-spined stickleback. *Advisor:* David C. Heins

## **PROFESSIONAL EXPERIENCE**

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**Research Planning, Inc.,** Columbia, SC July 2011 - present

**ESI Biologist.** Natural resource mapping in support of environmental sensitivity index classification. Acquire and process data from regional data sources on a statewide basis.

**NOAA Federal SCAT Representative.** Worked as part of a team mapping shoreline oiling conditions as part of the Shoreline Cleanup Assessment Technique in response to the Deepwater Horizon Oil Spill.

**North Carolina State University,** Morehead City, NC August 2009 – Sept 2011

**Marine Fisheries Fellow.** Worked closely with the North Carolina division of marine fisheries to assemble a regional GIS database of fish habitats. Performed MARXAN analysis to recommend a network of areas for designation as strategic habitat areas. Used geospatial and statistical modeling techniques to summarize trends in fish abundance over space and analyze the relationship between fish abundance and anthropogenic activities. Presented results of analyses and recommendations for improvements to the Division of Marine Fisheries, stakeholder advisory committees, and colleagues. Assisted students at NCSU with GIS concepts, spatial and statistical modeling projects as needed. Assisted with the field collection of common North Carolina species using gill nets, trawl nets, beach seines and hook and line methods.

**Fisheries Volunteer,** R/V Pisces cruise, Florida. May 16-28, 2011

Assisted with the development a protocol for capturing, managing and processing multibeam (ME70) and split beam (EK60) sonar data to develop hydrographic models of nightly areas surveyed. Created bathymetric models in Fledermaus to aid in selection of sampling locations. Identified, measured and took histological samples of reef fish species collected using chevron traps.

**Environmental Defense Fund,** Raleigh, NC May 2008- August 2009

**Anadromous Fisheries Conservation Intern.** Refined a GIS-based model to characterize wetland habitat functionally important to river herring habitat in Eastern North Carolina and prioritize wetland sites for preservation and restoration. Collected and integrated data from different sources for use in the model and summarized the results using tables and maps for incorporation in the final report. Planned and executed field verification of habitat model.

**Geospatial Consultant.** Performed watershed delineation and landscape characterization in support of an interdisciplinary project to assess wetland functionality for use in wetland mitigation projects. Designed a custom tool to identify parcels for acquisition. Summarized results in the form of tables and maps for use in the final report.

**Fish Ecology Research Assistant,** Tulane University, New Orleans, LA 2004-2006

Designed and implemented independent research project addressing shifts in life history characteristics of Three-spined stickleback. Traveled to Alaska for 2 weeks to collect specimens from lakes using minnow traps. Preserved and dissected more than 600 fish to quantify evolutionary shifts in life-history traits. Prepared results for submission to academic journal.

## **PUBLICATIONS/PRESENTATIONS**

**Weaver, J.** et al. 2011. Evaluating the Relationship Between Habitat Alteration and Resource Species Abundance In North Carolina Estuaries: Do Fish Respond to Anthropogenic Activities? Oral presentation at Coastal & Estuarine Research Foundation Meeting, Daytona Beach, FL.

**Weaver, J.** et al. 2011. Evaluating the Relationship Between Habitat Alteration and Resource Species Abundance In North Carolina Estuaries: Do Fish Respond to Anthropogenic Activities? Poster presentation at American Fisheries Society. Seattle, WA.

**Weaver, J.** 2011. An overview of North Carolina's Strategic Habitat Area designation process. Oral Presentation at Coastal GeoTools. Myrtle Beach, SC.

**Weaver, J.** 2010. Incorporation of fishery independent data into North Carolina's Strategic Habitat Areas planning process. Oral Presentation at AFS Tidewater Chapter Regional Meeting. Annapolis, MD.

**Weaver, J.** 2008. Identification, characterization and prioritization of river herring spawning habitat in the Chowan River Basin, North Carolina. Poster presentation at Restore America's Estuaries meeting. Providence, RI.

Conn, D.B., **J. Weaver**, T. Graczyk, and L. Tamang. 2007. Synanthropic flies as vectors of *Cryptosporidium* and *Giardia* among livestock and wildlife in a multispecies agricultural complex. Vector-Borne and Zoonotic Diseases. 7(4):643-652.

**Weaver, J.** and D.C. Heins. 2005. The effect of fire on the reproductive biology of the Threespine stickleback, *Gasterosteus aculeatus*. Oral presentation at the Southwestern Association of Naturalists meeting. Huntsville, TX.

## **GRANTS/AWARDS**

Nicholas School of the Environment Academic Scholarship, 2007-2009

Stanback Fellowship, \$4500, Summer 2008

Newcomb Foundation Research Grant, \$444, Spring 2005

Newcomb Foundation Travel Grant, \$620, Spring 2005

Phi Beta Kappa Honor Society, May 2005

Ecology and Evolutionary Biology Senior Scholar, 2005

## **SKILLS**

*Software* - ArcGIS 9.x & 10, R, Python, OpenBUGS, MARXAN, PC-ORD, Fledermaus, Microsoft Office Suite

*Field* - PADI SCUBA certified (Advanced Open Water, Nitrox), Coastal boat operation, fisheries sampling using a variety of gears

*Languages* - Intermediate Spanish, beginning Portuguese

*Certifications* - 24 hour HAZWOPER

## **CIVIC INVOLVEMENT**

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### **Beaufort Music Festival, May 2011**

*5k Road Race coordinator* - Planned and executed a road race raising \$600 for the Boys and Girls club.

*Committee Member* – attended meetings and volunteered at fundraisers for a year leading up to the festival. Coordinated hospitality room day of the festival.

### **Backstreet Invitational Frisbee Tournament, Nov 2009 and 2010**

*Planning committee member* - publicize, organize and execute an Ultimate Frisbee tournament with an attendance of 150 people.

### **Nicholas School of the Environment., Durham, NC, Summer 2008.**

*Orientation Coordinator* – Worked with school administration to improve student involvement in orientation for ~ 100 incoming students. Organized 5 activities over the course of 5 days involving 15-20 returning student volunteers.