Megumi Oshima

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Phone

843.902.9841

Website

www.megumioshima.wixsite.com/megoshima

Github

www.github.com/mcoshima

EDUCATION

Ph.D. Coastal Sciences

Emphasis: Fisheries and Fisheries Oceanography

The University of Southern Mississippi

2016 - 2020

B.S. Marine Science

B.S. Biology

Coastal Carolina

TECHNICAL SKILLS

R Programming

RStudio

RMarkdown

Shiny

R Package Development

Github

ShinyDashboard

Bayesian Statistics

TMB

Stock Synthesis 3

PROFESSIONAL PROFILE

I am a quantitative fisheries doctoral candidate with experience conducting population dynamics modelling and assisting with assessment efforts for Gulf of Mexico Blue Crab management. I am looking for a challenging environment to utilize my quantitative modelling skills to support sustainable management of Gulf, Atlantic, and Caribbean fish resources.

EXPERIENCE

Graduate Assistant 8/25/16 – Present

The University of Southern Mississippi
703 East Beach Dr.
Ocean Springs, MS 39564
20 Hours/Week
Salary: $1,808.00 per month
Duties, Accomplishments, and Related Skills:
This year I am participating in two stock assessments for Gulf of Mexico species, Vermilion Snapper and blue crab. I developed a hierarchical **Bayesian surplus production model** to estimate the status of blue crab gulf-wide and **presented the results to state agency representatives at the Gulf States Marine Fisheries Council Meeting and scientific meetings** (see Presentations #1-4). As a member of the assessment working group, I assisted with data assembly and analysis and preparation of technical reports for determining the appropriate assessment model moving forward.

My dissertation research is a management strategy evaulation to test current and alternative harvest control rules for Vermilion Snapper under conditions of interspecific competition with Red Snapper. It involves using Stock Synthesis and R to investigate the impact of interspecific competition on fishery reference points and increased fishing pressure due to shifts in recreational fishing target species.

All of the above work was or will be communicated through peer-reviewed articles and at scientific and management meetings.

Research Technician II 06/01/16 – 08/25/16

The University of Southern Mississippi
703 East Beach Dr.
Ocean Springs, MS 39564
40 Hours/Week

Megumi Oshima

EXPERIENCE continued

Salary: $1,920 per month
Duties, Accomplishments, and Related Skills:
As a research technician, I investigated innovative methods for estimating growth parameters of fish populations using fishery-dependent data sets and hierarchical modeling. I also assisted teaching an "Introduction to R" short course for state and federal agency employees on the basics of R programming language.

Fisheries Technician and Education Specialist 02/15/16 – 05/15/16
South Carolina Department of Natural Resources
305 Black Oak Rd,
Bonneau, SC 29431
40 Hours/Week
Salary: $1,600 per month
Duties, Accomplishments, and Related Skills:
The fisheries technician and education specialist position involved conducting fishery-dependent monitoring of American Shad in the Copper River used in annual assessments. I assisted in fishery-independent sampling in the Berkley County river systems for freshwater species. In addition to sampling, I led educational tours at the St. Stephen Fish Passage where I explained the purpose of the fish lift, the unique life history characteristics of American Shad, and monitoring efforts by fish lift operators, **to nontechnical audiences** including school groups and local residents.

National Science Foundation-Research Experience for Undergraduates Biological Discovery in Woods Hole 06/01/14 – 08/23/14
Marine Biological Laboratory
7 Mbl St, Woods Hole, MA 02543
40 Hours/Week
Salary: $5,000
Duties, Accomplishments, and Related Skills:
I conducted neurological and behavioral experiments to investigate the effect of injury and subsequent pain and nociception on the physiology and schooling behavior of Longfin Squid (*Loligo pealeii*). This study explored **ecological dynamics** of predator and prey encounters and the evolution and purpose of nociception and pain. The results of this study were published in a peer-reviewed journal (Publication #3)

Megumi Oshima

EDUCATION

Courses listed below meet the requirements for Interdisciplinary Research Ecologist. I have a bachelor's degree in Marine Science and Biology and completed all coursework for my doctorate in Coastal Sciences with an emphasis in Fisheries and Fisheries Management. Coursework includes 30 semester hours in basic and applied biological sciences which included at least 9 semester hours in ecology, and 12 semester hours in physical or mathematical statistics. I have included course descriptions at the end of the application.

University of Southern Mississippi
Ocean Springs, MS United States
Doctorate
Dissertation defense date June 2020, graduation August 2020
GPA: 3.975 of a maximum 4.0
Credits Earned: 71
Relevant coursework:

Course Name	Course Code	Year	Grade	Credit Hours	Req. Satisfied
Geostatistics	COA 616	2016	A	3	Statistics
Biometry	COA 606	2016	A	3	Statistics
Quantitative Fisheries Management	COA 640	2017	A	3	Statistics
Advanced Environmental Modeling	COA 615	2017	A	3	Statistics
Multivariate Applications in Ecology	BSC 447	2018	A	3	Statistics

Coastal Carolina University
Conway, SC United States
B.S. Marine Science
B.S. Biology
2015
GPA: 3.972 of a maximum 4.0
Credits Earned: 164
Relevant coursework:

Course Name	Course Code	Year	Grade	Credit Hours	Req. Satisfied
Ecology of Coral Reefs	MSCI 477	2013	A	4	Ecology
Principles of Ecology	BIOL 370	2012	A	4	Ecology
Conservation Ecology	BIOL 484	2015	A	4	Ecology
Fisheries Science	MSCI 458	2014	A	4	Statistics

Total relevant credits:
Ecology 9
Statistics 19

Megumi Oshima

PUBLICATIONS

1. Leaf, R.T., and **Oshima, M.C.** (2019). Construction and evaluation of a robust trophic network model for the northern Gulf of Mexico ecosystem. Ecol Inform. 50 13-23.

2. **Oshima, M.C.,** and Leaf, R.T. (2018). Understanding the structure and resilience of trophic dynamics in the northern Gulf of Mexico using network analysis. Bull Mar Sci. 94(1) 21-46.

3. **Oshima, M.,** di Pauli von Treuheim, T., Carroll, J., Hanlon R.T., Walters, E.T., and Crook, R.J. (2016). Peripheral injury alters schooling behavior in squid, *Doryteuthis pealeii*. Behav. Proc. (128) 89-95.

4. **Oshima, M.,** 2014. Relationships and distribution patterns of parasitic *Dissodactylus primitivus* and echinoid host *Meoma ventricosa* found in Discovery Bay, Jamaica. Korallion. Coastal Carolina University Studies in Coral Reef Ecology. MC Oshima, D Frietas and EJ Burge, eds. IV: 2-6.

ORAL PRESENTATIONS

1. **Oshima, M.C.** and R.T. Leaf. — 11/28/18
   A hierarchical Bayesian surplus production for Blue Crab (Callinectes sapidus) in the northern Gulf of Mexico

2. Gulf Fisheries Marine Commission 69th Annual Meeting. South Padre, TX
   Oshima, M.C. and R.T. Leaf. — 10/15/18
   A hierarchical Bayesian surplus production for Blue Crab (Callinectes sapidus) in the northern Gulf of Mexico

3. National Shellfish Association Meeting. Seattle, WA — 03/21/18
   Oshima, M.C. and R.T. Leaf.
   A hierarchical Bayesian surplus production for Blue Crab (Callinectes sapidus) in the northern Gulf of Mexico

4. Mississippi Chapter American Fisheries Society Meeting. Oxford, MS — 02/08/18
   Oshima, M.C. and R.T. Leaf.
   A hierarchical Bayesian surplus production for Blue Crab (Callinectes sapidus) in the northern Gulf of Mexico (Honorable mention)

5. 2017 Annual Meeting of the American Fisheries Society. Tampa, FL — 08/24/17
   Oshima, M.C. and R.T. Leaf.
   Testing robustness of the northern Gulf of Mexico trophic dynamics using social network analysis

Megumi Oshima

ORAL PRESENTATIONS continued

6. Benthic Ecology Meeting. Myrtle Beach, SC — 04/13/17
Oshima, M.C. and R.T. Leaf.
Testing robustness of the northern Gulf of Mexico trophic dynamics using network analysis

7. Mississippi Chapter of the American Fisheries Society Meeting. Biloxi, MS — 02/23/17
Oshima, M.C. and R.T. Leaf.
An examination of trophic interactions in the northern Gulf of Mexico: Past work, present understanding, and future challenges

8. Alabama-Mississippi Sea Grant Consortium Bays & Bayous Conference. Biloxi, MS — 11/30/16
Oshima, M.C., T.M. Daley, and R.T. Leaf.
An examination of trophic interactions in the northern Gulf of Mexico: Past work, present understanding, and future challenges

GRANTS AND FELLOWSHIPS

Graduate Competitive Travel Award — 2018
The University of Southern Mississippi — $450

Lytle Coastal Sciences Scholarship — 2018
The University of Southern Mississippi — $554

Tom McIlwain GCRL Fisheries Endowment Award — 2016/2017
Gulf Coast Research Laboratory — $922

Marine Estuarine and Graduate Student Association Research Award — 2017
The University of Southern Mississippi — $250

Division of Coastal Sciences Travel Award — 2017
The University of Southern Mississippi — $500

American Fisheries Society Marine Fisheries Section Student Travel Award — 2017 — $250
American Fisheries Society

American Fisheries Society Southern Mississippi Student Subunit Travel Award — 2017 — $250
Southern Mississippi AFS Student Subunit

Megumi Oshima

JOB RELATED TRAINING

Numerical Computing in TMB — 08/18/18 – 08/22/18
The University of Washington, Andre Punt — 40 hours

Introduction to Management Strategy Evaluation — 08/25/17 - 08/30/17
ICES, Caroline de Moor & Jose De Oliveira — 40 hours

Intermediate Bayesian Inference Using Gibbs Sampling — 08/19/17 – 08/20/17
American Fisheries Society Annual Meeting, Ben Stanton — 16 hours

Techniques in Fish Reproductive Histology — 01/15/17 – 05/05/17
The University of Southern Mississippi, Nancy Brown-Peterson — 1 Semester

Mississippi Boating Safety Course — 04/27/17
The University of Southern Mississippi, Center for Fisheries Research and Development staff — 8 hours

Applied Spatial Regression Analysis Workshop — 11/07/16 – 11/11/16
The University of North Carolina Chapel Hill, Paul Voss — 8 hours

INVITED PRESENTATIONS

Alabama-Mississippi Sea Grant Consortium Bays & Bayous Conference — 11/28/18
Intergenerational Panel

Hurricane Bowl — 02/02/18
Keynote Speaker

TEACHING

Student Workshop Training Series — Summer 2018/2019
Computer Language Concepts, R Programming,
Introduction to For Loops, RStudio Tips and Tricks

Teaching Assistant — 07/15/16
R Short Course

LANGUAGES

Megumi Oshima

SERVICE

Library Representative 2018 - 2019
University of Southern Mississippi Marine and Estuarine Graduate Student Association

President 2017 - 2018
American Fisheries Society Southern Mississippi Student Subunit

Treasurer 2016 - 2017
American Fisheries Society Southern Mississippi Student Subunit

Fundraiser Organizer 2016, 2017
Jim Franks Merry Fishmas Fun Run

Session Moderator 2017
MS Chapter of American Fisheries Society Meeting

Volunteer 2016
NOAA SEAMAP Fall Groundfish Survey

Community Outreach 2016, 2017, 2018
CCA Fishing Rodeo for Kids, Biloxi Seafood Festival, Bays and Bayous

ADDITIONAL WORK EXPERIENCE

Physics Tutor Coastal Carolina University, Conway SC 2014 - 2015

Co-Editor Korallion Journal Coastal Carolina University, Conway SC 2013

Marine Science Lab Aide Coastal Carolina University, Conway SC 2011 - 2015