

Leland C. Moss
Research Associate, The Water Institute of the Gulf

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Education

M.E.M. in Coastal Environmental Management, May 2013
Duke University, Durham, North Carolina

B.S. in Marine Biology, May 2011 (magna cum-laude)
Roger Williams University, Bristol, Rhode Island

B.A. in Economics, May 2011 (magna cum-laude)
Roger Williams University, Bristol, Rhode Island

Research Interests:

Wetland nutrient management; ecosystem restoration; environmental markets.

Professional Experience:

The Water Institute of the Gulf <ul style="list-style-type: none">• <i>Coastal Scientist</i>	2016-Present
The Water Institute of the Gulf <ul style="list-style-type: none">• <i>Research Associate</i>	2014-2016
The Water Institute of the Gulf <ul style="list-style-type: none">• <i>Research Intern</i>	2013-2014
Restore America's Estuaries <ul style="list-style-type: none">• <i>Research Development Intern</i>	2012
Matrix New World Engineering <ul style="list-style-type: none">• <i>Wetland Project Intern</i>	2012
Roger Williams University Wet Lab <ul style="list-style-type: none">• <i>Algae/Copepod Manager and Researcher</i>	2007-2011

Recent Projects:

Tracking/Coordinating Habitat Suitability Indices(HSI) QA/QC
Louisiana Coastal Protection and Restoration Authority (CPRA), Baton Rouge, Louisiana
Completed summary QA/QC of each alternative fish HSI model run. Coordinated the reviews of the other three members of the team, compiled and uploaded the final summaries to the server for full QA/QC process.

Black Mangrove Trophic Impacts due to Habitat Expansion

Louisiana Sea Grant, Baton Rouge, Louisiana

Provided technical support as a GIS technician, field work coordinator and principle boat driver. Sampling included: deploying fyke nets facing into the marsh, suction sampling, quadrat veg and soil sampling and RTK elevation surveys at the fyke net and suction sampling sites. The goal of this research is using basal carbon sources and isotopic signatures to assess how shifts in marsh vegetation will impact juvenile nekton and their food webs.

Blue Crab Abundance based on Marsh Fragmentation and SAV Cover

National Oceanic and Atmospheric Administration (NOAA), Silver Spring, MD

Provided technical support as a GIS technician and field worker. Initially mapped and analyzed all of the fragmentation at our possible field sites via satellite imagery. Field sampling included: throw trap sampling at marsh, SAV and open water sites for each subsite; crab tethering experiments; water level monitoring with RBR solo's; marsh and open water surveys based on GRTS generated points which included RTK elevation surveying.

Coordination of Expert Panel on Diversion Planning and Implementation

Louisiana Coastal Protection and Restoration Authority (CPRA), Baton Rouge, Louisiana

Supported the diversion panel nomination and selection process. Coordinated topical and organizational details for the panel meeting including all supporting documents. Served as primary contact for panel members. The purpose of this panel is to provide outside perspective and input on the issues surrounding Mississippi river diversion construction.

System-Wide Assessment and Monitoring Program

Louisiana Coastal Protection and Restoration Authority (CPRA), Baton Rouge, Louisiana

Provided technical and GIS support for developing both the restoration and protection portions of the project. This project will work to show what coastal monitoring currently exists and where critical gaps are in order to improve the state's protection and restoration goals. To support this, duties included: reviewing long term monitoring and census data for model input in addition to developing extensive geodatabases.

Field Effort to Obtain Baseline Physical and Ecological Data for Modeling

Louisiana Coastal Protection and Restoration Authority (CPRA), Baton Rouge, Louisiana

Provided technical support as a GIS technician, field work coordinator and principle boat driver. Sampling fell into four main categories: discrete wetland, bathymetry, discrete estuary and continuous estuary monitoring. Wetland sampling entailed above and belowground including cores and porewater. Estuary sampling included water sampling for nutrients and TSS as well as parameters via YSI EXO2 Sonde, LISST and Aquadopp. All parts entail field GIS mapping with Trimble Arcpad and post processing and mapping in Arc GIS.

Decomposition and Marsh Accumulation Study

Louisiana Coastal Protection and Restoration Authority (CPRA), Baton Rouge, Louisiana

Yearlong study of 24 sites of all four marsh types (fresh, intermediate, brackish and saline) that included extensive field work via airboats and outboards. Plots were set up to study aboveground and belowground decomposition as well as ingrowth at existing CRMS sites. The elevation of these plots was mapped using a Trimble R8-4 and tablet with Trimble Access on the GulfNet system. At each site, sampling entailed: plant species identification, 4 inch diameter belowground cores, porewater, redox and one meter cores with a Russian peat corer for cesium analysis to assess marsh accumulation based on marsh type.

Awards, Honors:

1. Duke Academic Scholarship, 2011-2013
2. Roger Williams Dean's List, 2007-2011
3. Roger Williams Academic Scholarship, 2007-2011
4. Member, Beta Beta Beta, National Biological Honor Society, 2010-2011
5. BSA Eagle Scout, 2007

Conferences:

Restore America's Estuaries Conference, New Orleans, LA 2016(presenter)
Coastal & Estuarine Research Federation, Portland, OR, 2015(presenter)
Restore America's Estuaries Conference, Tampa, FL, 2012
The Coastal Society Conference, Miami, FL, 2012
State of the Coast Conference, New Orleans, LA, 2012, 2014, 2016(presenter)
Environmental Markets Association Conference, Los Angeles, CA, 2011
Bureaucrash Student Activism Conference, Competitive Enterprise Institute, Washington, DC, 2010

Professional Memberships:

Member, Coastal and Estuarine Research Federation (CERF), Member since 2015

Community Services:

Coalition to Restore Coastal Louisiana (CRCL):

Beach and marsh grass/tree plantings – Volunteer (2013/14/15)

Forum 35:

Service committee – Volunteer (2014/15/16)

Service Committee Chair (coordinated 2220 hours) – Volunteer (2015/16/17)

Board of Directors – 2016/17

Vice President of Service (Executive Board) – 2017/18

US Fish and Wildlife:

Lacombe Wildlife preserve – Volunteer (2014/15)

The Nature Conservancy:

Cypress Island Preserve – Volunteer Docent (2013/14/15)

Training Courses:

- Operator of Uninspected Passenger Vessels, Merchant Mariner Credential, 2016
- Barton Leadership Program, Barton Foundation/Louisiana State University, 2015
- Implementation of the National Environmental Policy Act Certification, Duke University, 2012
- CPR & First Aid Certification (American Red Cross/American Heart Association), 2000-2017

PUBLICATIONS

1. Baustian, M.M., Stagg, C.L., Perry, C.L., Moss, L.C., Carruthers, T.J.B., Allison, M. (2016). Relationships between salinity and short-term soil carbon accumulation rates from marsh types across a landscape in the Mississippi river delta. *Wetlands*. DOI 10.1007/s13157-016-0871-3

TECHNICAL REPORTS

1. Moss, L., Hijuelos, A.C., Allison, M.A. (2013). A gap analysis of the Mississippi river channel and Breton Sound basin in support of numerical modeling: Mid-Breton diversion. The Water Institute of the Gulf. Prepared for and funded by the Coastal Protection and Restoration Authority (CPRA) under Task Order 24, Contract No. 2503-12-58. Baton Rouge, LA.
2. Baustian, M.M., Meselhe, E., Moss, L., and Reed, D. (2014). Incorporating Nutrient Effects into Modeling. Final Study Work Plan. The Water Institute of the Gulf. Funded by the Coastal Protection and Restoration Authority under Task Order 22. Baton Rouge, LA.