

Sara S. Wilson

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Curriculum Vitae

Last updated: January 2018

EDUCATION

- 2015 **M.S., Marine Science**, The University of Texas at Austin, Austin, TX
Thesis: Patterns in seagrass coverage and community composition in Texas estuaries: A three-year trend analysis
- 2012 **B.S., Biology**, University of South Florida, Tampa, FL
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PROFESSIONAL EXPERIENCE

- 2016 - **Staff Supervisor**
present *Florida International University, Miami, FL & Rookery Bay National Estuarine Research Reserve, Naples, FL*
My primary responsibility is to supervise eight RBNERR employees that became FIU staff when the Reserve and FIU entered into a formal partnership. I work as an administrative liaison between RBNERR and FIU, assisting in areas including Recruitment (e.g. conducting interviews and hiring) and Human Resources/Administration (e.g. assisting with coordination of maternity leave, termination of employment, leaves of absence, worker's compensation, payroll etc.). Finally, I also act as a scientific liaison by working to further communication and collaboration for estuarine research, education and stewardship between the Reserve and FIU.
- 2015 - **Laboratory Manager**
present *PI: Dr. Jim Fourqurean, Florida International University, Miami, FL*
My major responsibility is to oversee and manage day-to-day operation of the laboratory and current research projects. This involves coordinating and participating in field work (involving extensive travel and scientific diving), supervising all sample collection and processing, and performing data analysis and reporting. Additionally, I manage all commercial samples (plant tissues and sediments) sent to the lab for elemental analysis. I oversee various aspects of lab operation including purchasing of materials and equipment, analytical instrument operation, maintenance, calibration, and repair, database management, data analysis and graphing, website maintenance, writing for peer-reviewed publication, and providing supervision and guidance to graduate students and research technicians.
- 2012 - **Graduate Research Fellow**
2015 *PI: Dr. Ken Dunton, University of Texas Marine Science Institute, Port Aransas, TX*
As a graduate student I focused on developing my M.S. thesis, which examined the status and trends of Texas seagrass communities from 2011-2013. This project used statistical and spatial analyses to uncover major patterns in seagrass percent cover, species composition, and tissue elemental composition of Texas seagrasses. I participated in field work from July through October each year, involving frequent extended travel. I assisted in coordinating and overseeing all field work for the project, and was also responsible for all sample preparation and analysis, and supervision and

instruction of many research technicians both in the field and in the laboratory. Other responsibilities included creating technical reports with informative figures, tables, and GIS maps, and disseminating my research to peers and various stakeholders through scientific meetings and to the public through outreach presentations.

2010 - **Undergraduate Researcher**

2012 *PI: Dr. Susan Bell, University of South Florida, Tampa, FL*

As a volunteer undergraduate researcher, I developed an Honors College senior thesis (“Comparisons of biomass, volume, and surface area of the rhizophytic macroalga *Penicillus capitatus*: effects on the abundance of epiphytic amphipods”). This project required me to organize field work, process samples, conduct basic data analysis, and write a scientific report. I also helped process other lab member’s seagrass samples for various analyses, and assisted with local and regional lab field work.

2011 **Research Experience for Undergraduates Summer Intern**

PI: Dr. Robert Orth, Virginia Institute of Marine Science, Gloucester Point, VA

During this NSF internship I completed a ten-week research project (“Does bioturbation by bivalves influence burial of *Zostera marina* seeds?”). I was responsible for conducting field work, assisting with project experimental design and execution, performing basic data analysis, writing a scientific report, and presenting my work at a research symposium. I also regularly assisted the lab with seagrass monitoring field work in the Chesapeake Bay and with overnight travel to sample at Virginia’s Eastern Shore.

TEACHING EXPERIENCE

2017, **Guest Instructor**, Workshop in Plant Nutrient Analysis (Graduate course, 3-8 students)

2015 *Department of Biological Sciences, Florida International University, Miami, FL*

Taught homogenization of solid samples, use of a microbalance, use of pipettes, preparation of standard curves and samples for carbon and nitrogen content analysis with an elemental analyser, and for total phosphorus content analysis with a spectrophotometer.

2014 **Teaching Assistant**, Principles of Estuarine Ecology Lab (Undergraduate course, 14 students)

Marine Science Department, The University of Texas at Austin, Port Aransas, TX

Coordinated overnight class travel to the Nueces Marsh and South Padre Island, taught field modules related to benthic infauna and seagrass biology.

2014 **Guest Instructor**, Marine Ecosystem Dynamics (Graduate course, 7 students)

Marine Science Department, The University of Texas at Austin, Port Aransas, TX

Lectured about seagrass biology, ecology and reproduction, ecosystem services provided by seagrasses and their importance, threats to seagrasses, and seagrass monitoring programs.

2013 **Teaching Assistant**, Marine Botany (Undergraduate study abroad course, 16 students)

Marine Science Department, The University of Texas at Austin, Akumal, Quintana Roo, Mexico

Led an undergraduate research team in developing and carrying out an original research project (“How does seagrass bed proximity influence herbivory on coral reefs?”), including oversight of all experimental design, field sampling, data analysis, and creation of a scientific report. Organized several aspects of housing and communication logistics, and transportation of scientific equipment in and out of Mexico. Organized several day trips to local attractions for the students.

- 2013 **Teaching Assistant**, Introduction to Laboratory Experiments in Biology: Structure and Function of Organisms (Undergraduate course, 48 students)
Biology Department, The University of Texas at Austin, Austin, TX
 Led a 4-hour lab 2 times per week. Taught microscopy (brightfield, darkfield, phase contrast, fluorescence), dissections (crayfish, rat, frog), investigations in plant physiology and animal behavior, and use of oscilloscopes.
- 2012 **Teaching Assistant**, Molecules to Organisms: Biology for Non-Majors (Undergraduate course, 120 students)
Biology Department, The University of Texas at Austin, Austin, TX
 Led 1-hr discussion sections 4 times per week. Reviewed topics covered in lecture, including the scientific method, mitosis and meiosis, cells and organelles, DNA replication, transcription, translation, phylogenetics, evolution, and speciation.
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PUBLICATIONS

- Howard, J.H., C.C. Lopes, C.I. Carrion, **S.S. Wilson**, and J.W. Fourqurean. Importance of sediment characteristics to stocks and stability of seagrass blue carbon. *In prep. Target journal: Biogeochemistry.*
- Wilson, S.S.** and K.H. Dunton. 2017. Hypersalinity during regional drought drives mass mortality of the seagrass *Syringodium filiforme* in a subtropical lagoon. *Estuaries and Coasts: In Press.* doi: 10.1007/s12237-017-0319-x
- Congdon, V.M., **S.S. Wilson**, and K.H. Dunton. 2017. Evaluation of relationships between cover estimates and biomass in subtropical seagrass meadows and application to landscape estimates of carbon storage. *Southeastern Geographer* 57(3): 231-245.
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TECHNICAL REPORTS

- Wilson, C.J., **S.S. Wilson**, T.L. Whiteaker, and K.H. Dunton. Assessment of seagrass habitat quality and plant condition in Texas coastal waters: 2011 and 2012. Final Joint Agency Report. 15 June 2013.
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GRANTS & CONTRACTS

- “Tracking Long-Term Trends in Seagrass Cover and Condition in Texas Coastal Waters,” Coastal Management Program Grant Cycle #19, Texas General Land Office. \$89,000 (\$150,000), 10/2014 – 03/2016. Co-author/co-investigator.
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AWARDS

- 2017 Early Career Travel Award, Coastal and Estuarine Research Federation 2017 conference (\$300)
- 2014 First Place Student Oral Presentation, Gulf Estuarine Research Society Meeting (\$150)
- 2014 E. J. Lund Scholarship Founders Fellowship for Graduate Students of Exceptional Merit (\$21,000)
- 2014 Batterton Family Fund for Graduate Student Support (\$2,000)
- 2014 Rachael Dougherty Vaughan Endowed Excellence Fund in Estuarine Studies (\$8,100)

- 2012 Graduate Research Assistantship, Mission-Aransas National Estuarine Research Reserve (\$22,000)
 2012 Dean's Excellence Award, College of Natural Sciences (\$900)
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STUDENT MENTORING

- 2016 Rachel Lopez, "Spatial and temporal trends in productivity of Florida Bay *Thalassia testudinum* with respect to salinity", undergraduate research for FIU Advanced Research and Creativity in Honors (ARCH) program, and Gulf Estuarine Research Society Meeting, Pensacola, FL (Won 2nd place Student Poster)
 2013 Mark Lopez and Samantha Setta, "How does seagrass bed proximity influence herbivory on coral reefs?", undergraduate research for UT Marine Botany study abroad course
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PROFESSIONAL SOCIETIES

- Coastal and Estuarine Research Federation (CERF)
 American Academy of Underwater Sciences (AAUS)
 Benthic Ecology Meeting (BEM) Society
 Gulf Estuarine Research Society (GERS)
 American Association for the Advancement of Science (AAAS)
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PROFESSIONAL & PUBLIC SERVICE

- 2018 Reviewer, Journal of Experimental Marine Biology and Ecology
 2017 Reviewer, Frontiers in Plant Science
 2017 Faculty/Staff Advisor, Biology Graduate Students Association, FIU
 2016 - 2017 Faculty/Staff Advisor, Student Workshops on Acidification and Greenhouse Gases, FIU
 2016 Guest Lecturer, Treasure Village Montessori, Islamorada, FL
 2015 Volunteer, Whooping Crane Festival, Port Aransas, TX
 2015 Volunteer, H.G. Olsen Elementary School Science Night, Port Aransas, TX
 2014 Abstract and Program Book Chair, GERS Conference Planning Team
 2014 Instructor, Women in Marine Science Day, UTMSI
 2014 Science Judge, H.G. Olsen Elementary School Science Fair, Port Aransas, TX
 2014 Guest Lecturer, Bay Talks Public Lecture Series, Rockport, TX
 2013 - 2014 Treasurer, Graduate Student Association, UTMSI
 2013 Volunteer, Outboard Motor Fishing Tournament, Port Aransas, TX
 2013 Assistant Instructor, Summer Science Program, UTMSI
 2013 Guest Lecturer, Marine Science Club, UT
 2013 Guest Lecturer, Girl Scouts of the USA, Cedar Park, TX
 2011 - 2012 Academic Excellence Chair, Kappa Delta Sorority, USF
 2010 - 2012 Resident Assistant/Community Manager, Kappa Delta Sorority, USF
 2009 - 2011 President (2010-2011), and Member (2009-2011), Bulls for Moffitt; H. Lee Moffitt Cancer Center & Research Institute (regular service through Bulls for Moffitt), USF
 2008 - 2012 Volunteer, Girl Scouts of the USA (regular service through Kappa Delta Sorority), USF
 2008 - 2012 Volunteer, Prevent Child Abuse America (regular service through Kappa Delta Sorority), USF
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PUBLISHED ABSTRACTS AND/OR ORAL PRESENTATIONS

* = speaker

Fourqurean, J.W. and **S.S. Wilson***. FKNMS Benthic Habitat Monitoring Program December 2017 Report. Water Quality Protection Program Steering Committee Meeting, Marathon, Florida, December 2017. Oral presentation.

Cuddy, M.R.* , V.M. Congdon, **S.S. Wilson**, and K.H. Dunton. Isoscape and stoichioscape patterns in the dominant seagrasses in the western Gulf of Mexico. Coastal and Estuarine Research Federation Meeting, Providence, Rhode Island, November 2017. Oral presentation.

Wilson, S.S.* and J.W. Fourqurean. Preliminary assessment of impacts from Hurricane Irma on seagrasses in the Florida Keys National Marine Sanctuary. Coastal and Estuarine Research Federation Meeting, Providence, Rhode Island, November 2017. Poster presentation.

Lopez, K.* , **S.S. Wilson**, and J.W. Fourqurean. Spatial and temporal trends in productivity of Florida Bay *Thalassia testudinum* with respect to salinity. Gulf Estuarine Research Society Meeting, Pensacola, Florida, November 2016. Poster presentation. (Won 2nd place Student Poster)

Wilson, S.S.*, K. Laakkonen, and J.W. Fourqurean. Estuarine research, education and outreach integration across south Florida through a new partnership between Rookery Bay National Estuarine Research Reserve and Florida International University. Gulf Estuarine Research Society Meeting, Pensacola, Florida, November 2016. Poster presentation.

Congdon, V.M.* , **S.S. Wilson**, and K.H. Dunton. Texas-size drought: Driver behind seagrass distribution and species composition. Texas Seagrass Monitoring Workgroup, Port Aransas, Texas, May 2016. Oral presentation.

Congdon, V.M.* , **S.S. Wilson**, and K.H. Dunton. Changes in seagrass distribution and community composition using long-term monitoring along the Texas coast. Coastal and Estuarine Research Federation meeting, Portland, Oregon, November 2015. Oral presentation.

Wilson, S.S.* and K.H. Dunton. Trend analysis of seagrass coverage and community composition in Texas estuaries from 2011-2013. Texas Seagrass Monitoring Workgroup Meeting, Port Aransas, Texas, April 2015. Oral presentation.

Wilson, S.S.* and K.H. Dunton. Three years of seagrass monitoring in Texas: fascinating shifts and stability in percent cover and species composition. Texas Bays and Estuaries Meeting, Port Aransas, Texas, April 2015. Oral presentation.

Wilson, S.S.* and K.H. Dunton. Using field data to identify various seagrass community changes across three years in the Laguna Madre, Texas, USA. Benthic Ecology Meeting, Quebec City, Canada, March 2015. Oral presentation.

Wilson, S.S.* and K.H. Dunton. Four years of monitoring reveals a dramatic change in seagrass percent cover and species composition in Upper Laguna Madre, Texas. Gulf Estuarine Research Society Meeting, Port Aransas, Texas, October 2014. Oral presentation. (Won 1st place Student Oral Presentation)

Wilson, S.S.* and K.H. Dunton. Three years of seagrass monitoring in Texas: Using landscape-scale data to identify trends in seagrass coverage. Texas Bays and Estuaries Meeting, Port Aransas, Texas, April 2014. Oral presentation.

Dunton, K.H.*, **S.S. Wilson**, and C.J. Wilson. Assessment of seagrass habitat quality and plant physiological condition in Texas coastal waters: Summer 2012 and 2013. Texas Seagrass Monitoring Workgroup, Corpus Christi, Texas, May 2013. Oral presentation.

Dunton, K.H.*, C.J. Wilson, and **S.S. Wilson**. Seagrasses in the Western Gulf of Mexico: Statewide monitoring and linkages to regional climatic events. Texas Bays and Estuaries Meeting, Port Aransas, Texas, April 2013. Oral presentation.

OTHER EXPERIENCE & SKILLS

CERTIFICATIONS & RELEVANT COURSEWORK

2017 Principles of Relational Database Management Systems graduate course, FIU
2016 Leadership Education Advancement Program, FIU
2015 Scientific Diver certification, FIU/AAUS
2015 Going Places with Spatial Analysis online course, ESRI
2013 Open Water SCUBA Diver certification, PADI
2013 Student Employee Excellence program, UT
2012 GIS in Water Resources graduate course, UT

ANALYTICAL INSTRUMENTS

Alkalinity titrator (AS-ALK2)

Deployable dataloggers:

- Datasondes (YSI, various models)
- Onset HOBO temperature and conductivity sensors
- LICOR quantum sensors (2π and 4π sensors)

Elemental analyzers (CE Flash 1112 and NC-1500)

GPS (Garmin, various models)

Spectrophotometers & spectrofluorophotometers (Shimadzu, various models)

SOFTWARE & PROGRAMMING

Databases: Microsoft Access, Microsoft SQL Server

GIS: ArcMap, some Surfer

Graphic design: Adobe Photoshop, some Adobe Illustrator

Programming: CSS, HTML, some Java, R (+Shiny), SQL

Statistics: R, some SigmaPlot

OTHER SKILLS

Field work; >100 days

Scientific diving; >100 dives

Trailing and operation of small boats (18-26') with outboard motors; >100 hours