

Danielle M. Barnas

Department of Biology

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EDUCATION

2021-Present California State University, Northridge (CSUN), Master of Science in Biology (GPA: 4.0)
Advisor: Dr. Nyssa Silbiger

2010–2015 University of San Diego (USD), Bachelor of Arts, Marine Science, Biology pathway
Physics and Mathematics Minors
Advisor: Dr. Michel Boudrias

2013 The School for Field Studies Center for Marine Resource Studies, South Caicos, TCI, BVI
Advisor: Dr. Heidi Hertler

PROFESSIONAL POSITIONS

2021-2022 Graduate Assistant, Department of Biology, CSUN

- Marine Ecology Field Course and Lab (Biol 429/429L)
- Computer Modeling Course and Lab (Biol 551/551L)

2021 Teaching Associate, Department of Biology, CSUN

- Biological Principals I Lab (Biol 106L)

2018-2021 Marine Ecology & Ocean Acidification Research Technician, Department of Biology, CSUN

- Manage and maintain aquaria for ocean acidification (OA) mesocosm experiments and near-shore marine research
- Support research of faculty and graduate students conducted in coral reef and rocky intertidal ecosystems
- Water parameter collections: temperature, pH, total alkalinity, salinity, dissolved O₂, nutrient concentrations
- Create operating procedures and train personnel on lab protocols and instruments
- Write scripts in R/R Markdown to clean, process, and analyze data from instruments and field collections
- Develop ShinyApps and packages to simplify data processing for lab and field resources

2017–2018 Biological Scientist, Florida Fish and Wildlife Conservation Commission, Marathon, FL

- Collect and analyze catch-and-effort data used to monitor fisheries trends throughout Florida
- Fish identification, measurement, DNA preservation, and otolith extraction
- Involve anglers and community members in regulation outreach and goals of FWC

2017 Coral Reef Ecosystem Processes Intern, Mote Marine Lab, Summerland Key, FL

- Monitoring reef resilience through assessing seagrass as a connection for fish recruitment on coral reefs
- Site selection, deployment and maintenance of materials, and benthic and fish population assessments
- Stereo-DOV and video analysis of fish and benthic populations

2016-2017 Ocean Acidification Intern, Mote Marine Lab, Summerland Key, FL

- Tropical mesocosm responses to ocean acidification (OA)
- Physiological assessment of hermatypic corals under projected OA and temperature conditions
- Water quality maintenance, coral monitoring, and husbandry of other native reef species
- SCUBA diving for water collection and coral monitoring at off-shore nursery and research site

2015–2016 Coral Conservation & Restoration Intern, Coral Restoration Foundation (CRF) Key Largo, FL

- Develop and implement effective strategic plans for the Education Department and Internship Program
- Facilitate dive programs as a trip leader, lead diver, and underwater science guide
- Train and mentor new interns in daily and long-term program duties and goals
- Organize community events and engage stakeholders
- Synthesize and analyze data from monitoring and restoration efforts
- Construction and maintenance of coral nursery and outplant materials
- Support the mission of CRF through volunteering and participation at networking events

2015 Research Assistant, Formation and Settling of Marine Snow Project, University of San Diego

- Measure population growth rates of marine plankton and formation of marine snow under turbulence and other physical oceanographic conditions

PUBLICATIONS (in progress)

- 2023 **Barnas, D.M.**; Silbiger, N.J., A synthesis of biological responses to submarine groundwater discharge on coral reefs
- 2023 Chiachi, A.; **Barnas, D.M.**; Silbiger, N.J., Determining the effects of marine heatwaves on red abalone, *Haliotis rufescens*, across multiple size classes
- 2023 Kerlin, J.R.; **Barnas, D.M.**; Silbiger, N.J., Effects of submarine groundwater discharge and coral-coral interactions on common coral species, *Porites rus*

AWARDS AND HONORS

2022-Prseent NSF GRFP Fellow

2019 NSF GRFP Honorable Mention

2015 USD, University Servant Leader Award

2015 USD, Alcalá 100 Leadership Award

PROFESSIONAL PRESENTATIONS (*presenter)

Barnas, D.M.*, Zeff, M., Silbiger, N.J. 2022 Natural environmental gradients alter community composition and functional diversity on coral reefs. Western Society of Naturalists conference, Oxnard, CA [poster]

Zeff, M., **Barnas, D.M.**, Silbiger, N.J. 2022 Submarine groundwater discharge drives changes in reef fish herbivory. Western Society of Naturalists conference, Oxnard, CA [poster]

- Kerlin, J.R.*, **Barnas, D.M.**, Silbiger, N.J. 2022 Ecological effects of submarine groundwater discharge and neighborhood interactions on common coral species, *Porites rus*. Western Society of Naturalists conference, Oxnard, CA [poster]
- Barnas, D.M.***, Zeff, M., Silbiger, N.J. 2022 Natural environmental gradients alter community composition and functional diversity on coral reefs. Long-Term Ecological Research All Scientists Meeting conference, Asilomar, CA [poster]
- Barnas, D.M.***, Silbiger, N.J. 2021 A synthesis of biological responses to submarine groundwater discharge on coral reefs. Western Society of Naturalists conference, Remote [poster]
- Barnas, D.M.***, Hertler, H, 2015. Structural complexity impacts on coral reef community diversity and trophic assemblages. Senior Research Symposium, University of San Diego, San Diego, CA [oral].
- Barnas, D.M.***, Boatwright, L., Laybourn, K. 2013. Sediment characterization along the Southern California Bight. Geological Oceanography Research Symposium, University of San Diego, San Diego, CA [poster, oral].
- Barnas, D.M.***, Hertler, H, 2013. Structural complexity impacts on coral reef community diversity and trophic assemblages. Directed Research Community Forum, School for Field Studies Center for Marine Resource Studies, South Caicos, TCI, BVI [oral].

MENTORING

2022	Jennifer Fields, Intertidal Research Technician, CSUN
2021	Maya Zeff, Marine Ecology and Ocean Acidification Research Technician, CSUN
2018	Maria Pozo, Coral Reef Ecosystem Processes Intern, Mote Marine Lab
2017	Aaron Kent, Coral Reef Ecosystem Processes Intern, Mote Marine Lab
2017	Katie Eaton, Ocean Acidification Intern, Mote Marine Lab
2017	Sinjin Larson, Ocean Acidification Intern, Mote Marine Lab
2016	Alex Neufeld, Coral Conservation and Restoration Intern, CRF
2016	Maren Toor, Coral Conservation and Restoration Intern, CRF
2016	Justine Pickle, Coral Conservation and Restoration Intern, CRF

PROFESSIONAL SERVICE

2021	<i>mooreasgd</i> package in R, available on GitHub
2015-2018	Coral Restoration Dive Program Guide, CRF, Key Largo, FL
2016-2018	Coralpalooza Reef Restoration Guide, CRF, Key Largo, FL
2016-2018	Restoration and Conservation Services Volunteer, CRF, Key Largo, FL
2016	Coral Nursery Spawning Assistant, CRF, Key Largo, FL
2016	REEF Fish Survey Guide, REEF, Key Largo, FL
2015-2017	Diving With a Purpose Reef Restoration Guide, CRF, Key Largo, FL

2015-2017 Science Education Instructor, CRF, Key Largo, FL

SKILLS AND TRAINING CERTIFICATIONS

Skills

R and Rstudio, *Tidyverse* package, GitHub, R Markdown, CO2Sys, Image J, Mettler Toledo LabX, PreSens Measurement Studio2, Molecular Devices Softmax Pro 7.1, Neptune ApexFusion, Adobe Photoshop and Illustrator, Onset HOBOWare

Training Certifications

2019-Present Motorboat Operator Training Course Certification
 2019-Present California Boater Safety Certification
 2019-Present AAUS Scientific Diver Instructor's Assistant, Southern California Marine Institute (SCMI)
 2019-Present AAUS Scientific Diver, certified up to 60 feet
 2017-2019 AAUS Diver in Training, Mote Marine Lab
 2015-Present PADI Dive Master Certification
 2014-Present PADI Rescue Diver Certification
 2014-Present Divers Alert Network (DAN), First Aid for Hazardous Marine Life Injuries Certification
 2014-Present DAN Neurological Assessment, CPR, AED, Oxygen Administration, and First Aid
 2013-Present PADI Advanced Open Water Scuba Certification
 2011-2014 American Heart Association, CPR & First Aid Certification
 2011-Present PADI Open Water Scuba Certification
 2011-Present Maryland Boater Safety Certification

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Sigma Xi Scientific Research Honor Society
 Association for the Sciences of Limnology and Oceanography (ASLO)
 Western Society of Naturalists (WSN)
 American Academy of Underwater Sciences (AAUS)
 Professional Association of Diving Instructors (PADI Pro)
 CSUN Marine Biology Graduate Student Association (Secretary, 2021-2022; Vice President, 2022-Present)