

# Christine Settar Hale

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## EDUCATION

- Master of Science, Marine and Environmental Science, May 2009, University of the Virgin Islands (UVI), Saint Thomas, U.S. Virgin Islands
- Bachelor of Science, Marine Biology, December 2002, Millersville University, Millersville, Pennsylvania

## EMPLOYMENT

### **Program Manager, Socio-Economics Group, Harte Research Institute, Texas A&M University-Corpus Christi, September 2019-present**

- Participate in research that addresses issues related to the provisioning and demand for ecosystem goods and services and their valuation in coastal and marine environments.
- Help identify relevant and feasible socio-economic indicators to assess impacts of environmental stressors and disasters on coastal community well-being and resilience.
- Work with coastal resource managers and decision-makers, community stakeholders, restoration practitioners, ecological modelers, marine biologists, geo-spatial technicians, law and policy scientists, and economists.
- Help develop international projects that examine the interactions between humans and the natural environment.
- Support undergraduate and graduate students in an advisory role.
- Write, submit, and monitor grants and awards.
- Assist in growing and evaluating the impact of the Socio-Economics Group and Harte Research Institute.

### **Senior Research Associate/ Oil Spill Science Outreach Specialist, Texas Sea Grant College Program at Texas A&M University, August 2014 – September 2019**

- Assessed community questions and informational needs related to oil spills and disasters.
- Fostered new and continued relationships and partnerships.
- Developed outreach programming locally, regionally, nationally, and internationally.
- Reviewed and translated peer reviewed scientific literature to address needs of diverse audiences.
- Authored extension publications, reports, and articles based on community requests.
- Created multi-media outreach products in direct response to audience needs.
- Coordinated and facilitated science seminars, workshops, input sessions.
- Evaluated and adapted programming based on community feedback.
- Wrote and received grants for continued program support.
- Supervised student intern.
- Team Lead for natural resource managers, fishing communities, and environmental nonprofits.
- Team Lead for Caribbean region and international audiences.
- Chair for National Academies-Gulf Research Program Collaborative Project: Regional priority setting for health, social, and economic disruption from spills.
- Recipient of the 2018 Sea Grant Superior Outreach Programming Award
- Member of the South Texas Area Committee Meeting & Sea Grant point of contact for Region 6 Regional Response Team and Caribbean Regional Response Team

### **Extension Specialist II /Stewardship Coordinator, Sea Grant Marine Outreach Program, UVI faculty, October 2009 –January 2013**

- Developed the Adopt-A-School community education program.
- Created and coordinated Coral Reef Discovery Week, annual student summer program.

- Contributor and educator for the Virgin Islands Network of Environmental Educators.
- Educator for the USVI Non-Point Source Pollution Program.
- Grant manager and coordinator for Bring Back The Nassau Grouper fisheries conservation campaign.
- Principal Investigator for The Reef Is Closer Than You Think NOAA sponsored community engagement campaign.
- Contributor, coordinator, and scientific adviser for Learning to Sea media campaign.
- Contributing author and planning member for St. Thomas East End Marine Reserves (STEER) watershed management plan.
- Jury member and educational coordinator for Blue Flag Eco-certification Initiative in the USVI.
- Coordinated the annual Ocean Conservancy International Coastal Cleanup.
- Developed and coordinated Reef Fest, annual community-wide engagement event.
- Co-authored and revised Waves of Change: Environmental briefing book for resource managers and decision makers.
- Assisted as dive support for Territorial Coral Reef Monitoring Program and Fish Spawning Aggregation project.
- Guest lecturer for Master of Marine and Environmental Studies Program and VI-EPSCoR events.

**Program Consultant, Virgin Islands Marine Advisory Service, Sea Grant Marine Outreach Program, June – August 2009**

- Developed and authored four year Strategic Plan for the Virgin Islands Marine Advisory Service.
- Assisted in outreach and education events related to marine science and conservation.

**Graduate Research, Natural Resource Management track, “Coral Reefs and Residents of the U.S. Virgin Islands: A Relationship of Knowledge, Outdoor Activities and Stewardship”, UVI, August 2007 – May 2009**

- Conducted and analyzed Territory-wide survey of island residents to investigate how human dimensions influence local coral reef conservation.
- Defended final thesis, authored and published manuscript and peer-reviewed journal article.
- Co-authored Brewers Bay Management Plan (capstone project).

**Research Assistant “Coral-Algal-Herbivore Project” funded by U.S.G.S., UVI, May – August 2008**

- On-site contact; prepared coral reef sites for field work.
- Collected coral spat, algal samples, and urchins as part of field work investigating ecology of coral reefs in the USVI.
- Maintained laboratory equipment, regularly measured, recorded, and monitored live samples.
- Developed report for use by USGS and other partners investigating coral reef ecology.

**Teaching Assistant Introductory Biology Lab, UVI, August 2007 – May 2008**

- Instructed undergraduate students in basic science concepts and techniques in the lab.
- Advised, tested, and evaluated undergraduate students.

**Biologist, Normandeau Associates Inc., Pennsylvania & New Jersey, November 2005 – August 2007**

- Implemented long-term sampling plan for a Clean Water Act 316(b) study targeting ichthyoplankton, fish, and blue crabs in Barnegat Bay, NJ.
- Conducted survival studies of adult, juvenile, and larval fish and crustaceans.
- Worked with the State of New Jersey and Exelon Power to meet licensing requirements for nuclear power facilities.
- Conducted groundwater sampling near nuclear power facilities.
- Attained USCG safe boater certification.
- Maintained on-site sampling facilities and equipment.

**Research Technician III UNCW/NOAA Coral reproduction studies, Key Largo, FL, July – September 2006**

- Attained AAUS and NOAA diver certification.
- Transported boat and sampling equipment from North Carolina to Florida.
- Coordinated with team for regular sampling of stony coral gametes among south Florida coral reefs.
- Built offshore temporary coral spawn lab and camp at Carysfort Lighthouse for maintenance of live samples.
- Collected environmental data and coral spawn, monitored survival of gametes.
- Operated boat and routinely dived (SCUBA) for nightly surveys of local coral spawning events.
- Participated in regional *Acropora palmata* mapping project via boat and underwater scooter.

**Dolphin Tracker, *T. truncatus* habitat and behavior research, Marlborough Sounds, New Zealand, July – September 2005**

- Operated and maintained research vessel for four-member team.
- Surveyed local bays and sounds daily in search of marine mammals and seabirds.
- Tracked marine mammals by boat, photographed sightings.
- Observed and recorded environmental data.
- Determined dolphin identification via dorsal fin shape using FinBase.
- Submitted data for use by project lead.

**Science Intern, Perry Institute for Marine Science, Bahamas, April – June 2005**

- Assisted visiting researchers on various contracted marine science field studies.
- Collected fish, coral, invertebrate samples by boat and SCUBA.
- Maintained aquaria, lab equipment, and underwater cameras for use by researchers.
- Monitored live samples, recorded and reported environmental data as requested by partners.
- Assisted in construction and installation of NOAA-AOML data buoy.

**Diving Intern, P.A.D.I., Pattaya, Thailand, October – December 2004**

- Attained Divemaster, Emergency First Response, Deep, Scientific, Technical, and other dive certifications through Professional Association of Diving Instructors.
- Worked as Divemaster with Mermaid Dive Shop, leading recreational dives for locals and tourists.

**Research Assistant, Coral reef health studies, Roatan, Honduras, July 2003**

- Conducted two to three dives on daily trips to sample sites in the Mesoamerican reef system.
- Collected and recorded coral reef health data as part of long-term study for Marine Science Consortium-PA State System of Higher Education and Roatan Institute for Marine Sciences partnership.
- Advised undergraduate students in coral reef studies.

**Intern, Marine Mammal Program, National Aquarium in Baltimore, MD, September – December 2002**

- Participated in the husbandry and training of captive bottlenose dolphins.

**Technician, Fish ladder studies, Kleinschmidt Energy, Three Mile Island, PA, May – July 2002**

- Observed, identified, and recorded freshwater fish species passing through fish ladders constructed on the Susquehanna River in accordance with seasonal contract.

## **PUBLICATIONS**

- Hale, C., Covi, M., Holen, D., Partyka, M., Schulhof, M., Sempier, S., & Skelton, T. (2019). Regional priority-setting to minimize health, social, and economic disruptions from oil spills: A summary report as part of the National Academies and Sea Grant collaborative workshop series. GOMSG-W-19-002.
- Hale, C., Maung-Douglass, E., Partyka, M., Sempier, S., Skelton, T., and Swann, L. (2019). Prioritizing oil spill preparedness and human health: A Western Gulf regional workshop as part of the National Academies and Sea Grant collaborative workshop series. GOMSG-W-18-001.
- Hale, C., Graham, L., Maung-Douglass, E., Sempier, S., Skelton, T., Swann, L., Wilson, M. (2018). Oysters & Oil Spills. GOMSG-G-18-010.
- Hale, C., Graham, L., Maung-Douglass, E., Sempier, S., Skelton, T., Swann, L., and Wilson, M. (2017). Oil spill science: Sea turtles and the Deepwater Horizon oil spill. TAMU-SG-17-501.
- Hale, C., Graham, L., Maung-Douglass, E., Sempier, S., Skelton, T., Swann, L., and Wilson, M. (2017). Oil spill science: Corals and oil spills. TAMU-SG-17-501.
- Hale, C., Graham, L., Maung-Douglass, E., Sempier, S., Skelton, T., Swann, L., and Wilson, M. (2017). Helping oiled wildlife. TAMU-SG-18-513.
- Hale, C., Graham, L., Maung-Douglass, E., Sempier, S., Swann, L., and Wilson, M. (2015). Oil Spill Science: Fisheries Landings and Disasters in the Gulf of Mexico. TAMU-SG-15-504.
- Hale, C., Graham, L., Maung-Douglass, E., Sempier, S., Swann, L., and Wilson, M. (2015). Oil Spill Science: Impacts from the Deepwater Horizon Oil Spill on Gulf of Mexico Fisheries. TAMU-SG-16-502.
- Hale, C., Graham, L., Maung-Douglass, E., Sempier, S., Swann, L., and Wilson, M. (2015). Oil Spill Science: Skin lesions in fish: a connection to Deepwater Horizon? TAMU-SG-16-501
- Settar, C., and Turner, T. (2010). Coral reefs and residents of the US Virgin Islands: A relationship of knowledge, outdoor activities, and stewardship. *Revista de biologia tropical*, 58, 197-212.
- Wilson, M., Hale, C., Maung-Douglass, E., Partyka, M., Sempier, S., Skelton, T., & Swann, L. (2019). Impacts of oil on mangroves. GOMSG-G-19-010.
- Wilson, M., Hale, C., Maung-Douglass, E., Sempier, S., Skelton, T., and Swann, L. (2019). In the air and on the water: Technology used to investigate oil spills. GOMSG-G-19-007.
- Partyka, M., Hale, C., Maung-Douglass, E., Sempier, S., and Skelton, T. (2019). Preparing for oil spills in the eastern Gulf: A regional workshop report from the National Academies and Sea Grant collaborative workshop series, held May 6–7 in Mobile and Bayou La Batre, Alabama. GOMSG-W-19-001.
- Maung-Douglass, E., Graham, L., Hale, C., Sempier, S., Skelton, T., Swann, L., and Wilson, M. (2019). Frequently asked questions: Dispersants edition. GOMSG-G-19-001.
- Maung-Douglass, E., Graham, L., Hale, C., Sempier, S., Skelton, T., Swann, L., and Wilson, M. (2019). Birds of a feather - Coping with Oil. GOMSG-G-18-005.

Maung-Douglass, E., Wilson, M., Graham, L., Hale, C., Partyka, M., Sempier, S., and Swann, L. (2019). Oil Spill Science: Top 5 Frequently Asked Questions about the Deepwater Horizon oil spill - Updated 2019. GOMSG-G-19-004.

Graham, L., Hale, C., Maung-Douglass, E., Sempier, T., Skelton, S., Swann, L., and Wilson, M. (2018). Creating healthy communities to overcome oil spill disasters. GOMSG-G-18-01.

Wilson, M., Graham, L., Hale, C., Maung-Douglass, E., Sempier, S., Skelton, T., and Swann, L. (2018). Helpful oil spill science resources. GOMSG-G-18-008.

Wilson, M., Graham, L., Hale, C., Maung-Douglass, E., Sempier, S., Skelton, T., and Swann, L. (2018). Storms and spills. GOMSG-G-18-006.

Skelton, T., Hale, C., Maung-Douglass, E., Partyka, M., Sempier, S., and Wilson, M. (2018). Oil spill outreach workshop presentation tips: A guide to effectively sharing science with Sea Grant audiences. GOMSG-H-18-001.

Skelton, T., Hale, C., Maung-Douglass, E., Partyka, M., Sempier, S., and Wilson, M. (2018). Sea Grant and synthesis: How we can help. GOMSG-G-19-003.

Wilson, M., Graham, L., Hale, C., Maung-Douglass, E., Sempier, S., Skelton, T., and Swann, L. (2017). Oil spill science: Predicting the movement of oil. GOMSG-G-17-004.

Wilson, M., Graham, L., Hale, C., Maung-Douglass, E., Sempier, S., Skelton, T., and Swann, L. (2017). Oil spill science: Deepwater Horizon—Where did the oil go. GOMSG-G-17-006

Graham, L., Hale, C., Maung-Douglass, E., Sempier, T., Skelton, S., Swann, L., and Wilson, M. (2017). The Deepwater Horizon oil spill's impact on bottlenose dolphins. MASGP-17-002.

Maung-Douglass, E., Wilson, M., Graham, L., Hale, C., Sempier, S., and Swann, L. (2017). Microbes & Oil – What's the connection?. GOMSG-G-17-017.

Wilson, M., Graham, L., Hale, C., Maung-Douglass, E., Sempier, S., Skelton, T., and Swann, L. (2017). Underwater vehicles used to study oil spills. GOMSG-G-18-005.

Maung-Douglass, E., Wilson, M., Graham, L., Hale, C., Sempier, S., and Swann, L. (2017). A Boater's Guide to Oil and Fuel Spills. GOMSG-G-17-005.

Graham, L., Hale, C., Maung-Douglass, E., Sempier, T., Skelton, S., Swann, L., and Wilson, M. (2017). Is it safe? - Examining health risks from the Deepwater Horizon oil spill. MASGP-17-059.

Graham, L., Hale, C., Maung-Douglass, E., Sempier, S., and Wilson, M. (2016). Gulf of Mexico Sea Grant Oil Spill Outreach: An Introduction. MASGP-16-002.

Skelton, T., Sempier, S., Graham, L., Hale, C., Maung-Douglass, E., and Wilson, M. (2016) Oil Spill Science: You have questions. We find answers. MASGP-16-032.

Graham, L., Hale, C., Maung-Douglass, E., Sempier, S., Swann, L., and Wilson, M. (2016). Oil Spill Science: Chemical dispersants and their role in oil spill response. MASGP-15-015.

Wilson, M., Graham, L., Hale, C., Maung-Douglass, E., Sempier, S., and Swann, L. (2016). Oil Spill Science: Persistence, Fate, and Effectiveness of Dispersants used during the Deepwater Horizon Oil Spill. GOMSG-G-15-004.

Graham, L., Hale, C., Maung-Douglass, E., Sempier, S., Swann, L., and Wilson, M. (2016). Navigating shifting sands: Oil on our beaches. MASGP-15-025.

Graham, L., Hale, C., Maung-Douglass, E., Sempier, S., Swann, L., & Wilson, M. (2016). The Deepwater Horizon oil spill's impact on people's health: Increases in stress and anxiety. MASGP-16-030.

Maung-Douglass, E., Graham, L., Hale, C., Sempier, S., Swann, L., and Wilson, M. (2016). Oil Spill Science: Emerging surfactants & sorbents for oil spill clean-up. GOMSG-G-17-003.

Sempier, S.H., Graham, L., Maung-Douglass, E., Wilson, M. and Hale, C. (2015). Summary of Target Audience Input on Oil Spill Science Topics. MASGP-15-006.

Graham, L., Hale, C., Maung-Douglass, E., Sempier, S., Swann, L., and Wilson, M. (2015). Oil Spill Science: The Deepwater Horizon Oil Spill's Impact on Gulf Seafood. MASGP-15-014.

Maung-Douglass, E., Wilson, M., Graham, L., Hale, C., Sempier, S., and Swann, L. (2015). Oil Spill Science: Top 5 Frequently Asked Questions about the Deepwater Horizon oil spill. GOMSG-G-15-002

## **PRESENTATIONS**

Hale, C. (2019). Framing the spill situation: Environmental questions. Alaska and Gulf of Mexico Sea Grant Information Exchange about Oil Spills. Anchorage, AK.

Hale, C. (2019). Beyond the first year: Longer term actions. Alaska and Gulf of Mexico Sea Grant Information Exchange about Oil Spills. Anchorage, AK.

Hale, C. (2019). Sea Grant Oil Spill Science Outreach Program: Who we are, what we do, and why we're here. Sea Grant-NAS Collaborative Workshop: Mid Atlantic oil spills: Are we ready? Virginia Beach, VA.

Hale, C. Gulf (2019). Sea Grant Oil Spill Science Outreach Program: Who we are, what we do, and why we're here. Sea Grant- NAS Collaborative Workshop: Improving Oil Spill Preparedness and Response in Santa Barbara. Santa Barbara, CA.

Hale, C. (2019). Sea Grant Oil Spill Science Outreach Program: Who we are, what we do, and why we're here. Sea Grant-NAS Collaborative Workshop: Preparing for oil spills in the Eastern Gulf. Mobile, AL.

Hale, C. (2018). Science on a Sphere: An update for the GoMRI outreach community. New Orleans, LA.

Hale, C. (2018). Oil Spill Science outreach program overview and workshop introduction. Oil spill response, assessment, and restoration: Marine mammals. Galveston, TX.

Hale, C., Maung-Douglass, E., Sempier, S., Skelton, T., Swann, L., and Wilson, M. (2018). 13th International Effects of Oil on Wildlife Conference, Baltimore, MD.

Hale, C. (2018). Overview of the Sea Grant Oil Spill Team's Social Network Analysis. Sea Grant Week 2018. Portland, OR.

Hale, C. (2018). Gulf Sea Grant Oil Spill Science Outreach Program: Who we are, what we do, and why we're here. Sea Grant- NAS Collaborative Workshop: Prioritizing health and oil spill preparedness. Houma, LA.

Hale, C. (2017). Science on a Sphere. GOMOSE Outreach Coordinator's Workshop, New Orleans, LA.

- Hale, C. (2017). Oil Spill Science Bridging the Gap: Updates for GOMA's Water Resources PIT. Gulf of Mexico Alliance All Hands Meeting, Houston, TX.
- Hale, C. (2017). Oil Spill Science Bridging the Gap: Updates for GOMA's Water Resources PIT. Gulf of Mexico Alliance All Hands Meeting, Houston, TX.
- Hale, C. and Graham, L. (2017). Oil spill impacts to fisheries: Take home messages. Sea Grant Fisheries Extension Webinar.
- Hale, C. (2017). An introduction to the Sea Grant Oil Spill Science Outreach Program. Caribbean Regional Response Team Meeting, St. Croix, USVI.
- Hale, C. (2017). Oil Spill Science outreach program overview and workshop introduction. Sea turtles & Oil spills. Brownsville, TX.
- Hale, C., Sempier, S., and Wilson, M. (2017). Oil Spill Science for Healthy Island Communities. St. Croix, USVI and San Juan, PR.
- Hale, C. (2016). GoMRI Emphasis on Supporting Outreach through Sea Grant and Research Consortia. TXSG Workshop: How to Develop Outreach Plans that Strengthen Research Proposals. College Station, TX.
- Hale, C. (2016). Oil Spill Science & Fisheries Impacts from DWH. Texas Maritime Museum winter brown bag lunch series. Rockport, TX.
- Hale, C., Maung-Douglass, E., Graham, L., Sempier, S., and Wilson, M. (2016). Sharing Gulf Science Discoveries for Management. Gulf of Mexico Alliance Annual All Hands Meeting. Baton Rouge, LA.
- Hale, C., Maung-Douglass, E., Graham, L., Sempier, S., and Wilson, M. (2016). Sharing Gulf Science Discoveries for Management. GOMA Federal Working Group webinar.
- Hale, C. (2016). Sea Grant Oil Spill Science Outreach Program. DROPPS All-Hands at GoMRI meeting. Tampa, FL.
- Hale, C. (2016). The Deepwater Horizon Oil Spill: Impacts on Gulf of Mexico Fisheries. Gulf of Mexico Fisheries Management Council. Austin, TX.
- Hale, C. and Graham, L. (2015). Chilling With Your Chums: How Did the Oil Spill Impact Gulf Fisheries? Austin, TX.
- Hale, C. (2016). Oil Spill Science for the South Texas Coastal Zone Area Committee Meeting. South Texas Coastal Zone Area Committee Meeting. Corpus Christi, TX.
- Hale, C. (2016). The Deepwater Horizon oil spill's impact: extending science for collaborative management. Gulf and Caribbean Fisheries Institute 69th Annual Meeting. Grand Cayman.
- Hale, C. (2016). Translating oil spill science for the public. Texas State Aquarium Conservation Seminar Series. Corpus Christi, TX.
- Hale, C. (2015). Oil spill impacts to fish and wildlife. South Texas Chapter Master Naturalists, Brownsville, TX.
- Hale, C. (2015). Surf Rider Foundation & Sea Grant Oil Spill Science Outreach Program. Corpus Christi, TX.

Hale, C. (2015). Introduction to Sea Grant Programs Oil Spill Science Outreach Program. Oil Spill Science and Natural Resource Managers Workshop. Gulf of Mexico Oil Spill and Ecosystem Sciences Conference. Houston, TX.

Hale, C. (2015). Exploring oil spill impacts in the deep. Harte Research Institute, Corpus Christi, TX.

Hale, C., Maung-Douglass, E., Graham, L., Sempier, S., and Wilson, M. (2015). Oil spill science: An overview. Gulf Sea Grant Regional Meeting, Long Beach, MS.

H Hale, C. (2015). Sea Grant Oil Spill Science Outreach Program. Texas Sea Grant Site Review. Corpus Christi, TX.

Hale, C., Maung-Douglass, E., Graham, L., Sempier, and Wilson, M. (2015). Introduction to SG Programs Oil Spill Outreach and an overview on Deepwater Horizon Science. Gulf of Mexico Regional Sea Grant meeting. Long Beach, MS.