

## Daniel William Amato

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### EDUCATION

Ph.D in Botany, Marine Track, University of Hawai'i, Advisor Dr. Celia Smith	2015
M.S. in Botany, Marine Track, University of Hawai'i, Advisor Dr. Celia Smith	2009
B.S. in Biology, Chemistry Minor, Honors, University of Vermont, Advisor Dr. Ellen Marsden	2004
Courses in Marine Science, University of Otago, New Zealand	2003
Courses in Marine Science, University of Sydney, Australia	2002

### RESEARCH & EMPLOYMENT EXPERIENCE

**Project Leader**, Project title: *Water Quality and Reef Health in American Samoa: Assessing the Risk of Human-driven Ecosystem Degradation*. Designed and implemented a field study in Tutuila, American Samoa to detect anthropogenic nutrient input to the coast. Responsible field team management, data collection, analysis, and publication of results. 6/15 – present

**Research Assistant**, Project title: *Connecting Land-Use to Submarine Discharge Loads and Coral Reef Health within the Coastal Zones of Maui*. Developed a method to determine potential sources of nitrogen within *Ulva* spp. tissues for Hawai'i. Responsible for the design, execution, analysis, and publication of biological and geochemical experiments on Maui. 3/12 – 5/15

**USEPA Graduate Research Fellow**, United States Environmental Protection Agency STAR Graduate Fellowship Program. Responsibilities included all aspects of self-directed research. 8/11 – 7/14

**Teaching Assistant**, University of Hawai'i at Mānoa. Instructor for multiple sections of undergraduate laboratory-based classes: Biology 171L, 172L, Botany 201L, 480L. 8/08 – 5/15

**Project Leader**, Mokauea Island Fishpond Restoration, Kai Makana. Lead scientist responsible the ecological restoration of a traditional Hawaiian fishpond. Coordinated the removal of invasive species using thousands of students and community members. Conducted experiments growing native algae in the pond. Developed and tested an educational curriculum in marine ecology and water quality for middle and high school students. 6/06 – 12/12

**Research Assistant**, Water Resources Research Center, University of Hawai'i. Designed and conducted the first study that measured physiological response macroalgae to submarine groundwater discharge in the lab. Developed novel methods for the quantification of branch development in algae. Designed a flow through saltwater growth chamber. 12/05 – 12/08

**Research Assistant**, ECHO Lake Aquarium and Science Center, Burlington, Vermont. Conducted laboratory analysis investigating the relationship between aquatic snails and the density of invasive zebra mussels. Results were reported as an undergraduate honors thesis. 8/03 – 5/04

**Research Technician**, College of Medicine, University of Vermont. Assisted Dr. Corey Teuscher on a study that identified quantitative trait loci (QTL) which govern phenotypic variation in a model for multiple sclerosis in mice. Responsible for producing agarose gels, running gel electrophoresis experiments, analysis, and data management. 1/01 – 12/02

## **PUBLICATIONS**

- Bishop JM, Glenn CR, Amato DW, and H Dulai (in press). Effect of land use and groundwater flow path on submarine groundwater discharge nutrient flux. *Journal of Hydrology: Regional Studies*
- Amato DW, Bishop JM, Glenn CR, Dulai H, and CM Smith (in prep). Marine algae as a bioindicator of nutrient source and loading to coastal zones of Maui, Hawai'i. Intended for submission to *Plos One*
- Amato DW, Dulai H, Whittier RB, Smith CM, and CR Glenn (in prep). Wastewater in the watershed: A multi-tracer study of sewage-derived nitrogen in coastal waters of O'ahu, Hawai'i. Intended for submission to *Environmental Science and Pollution Research*
- Amato DW, and RB Whittier (in prep). Algal bioassays detect modeled loading of wastewater-derived nitrogen in coastal waters of O'ahu, Hawai'i. Intended for submission to *Ecohydrology*
- Amato DW, Smith CM, and TK Duarte (in prep). Submarine groundwater discharge modifies photosynthesis, growth, and morphology for two species of *Gracilaria* (Rhodophyta). Intended for submission to *Coral Reefs*
- Amato DW (2015). Ecophysiological responses of macroalgae to submarine groundwater discharge in Hawai'i. PhD dissertation. University of Hawai'i at Mānoa, Honolulu, Hawai'i
- Duarte TK, Pongkijvorasin S, Roumasset J, Amato DW, and K Burnett (2010). Optimal management of a Hawaiian coastal aquifer with nearshore marine ecological interactions. *Water Resources Research* 46, W11545
- Amato DW (2009). Physiological effects of simulated submarine groundwater discharge on the Hawaiian endemic edible alga *Gracilaria coronopifolia*. MS thesis. University of Hawai'i at Mānoa

## **PRESENTATIONS and AWARDS**

- The impact of coastal groundwater quality on Hawaiian reefs and nearshore waters. 2016 Pacific Water Conference. Honolulu Hawai'i, February 4<sup>th</sup>, 2016. (oral presentation)
- Detecting hot spots for algal blooms in shallow waters of American Samoa. Second Conference on Water Resource Sustainability Issues on Tropical Islands. Honolulu, Hawai'i, December 2<sup>nd</sup>, 2015. (poster)
- Tracking land-based N to Hawaiian coral reefs: Is submarine groundwater discharge a chronic threat to water quality and reef health? 52<sup>nd</sup> Annual Meeting of the Association for Tropical Biology and Conservation. Honolulu, Hawai'i, July 13<sup>th</sup>, 2015. (oral presentation)
- The effect of nutrient loading on shallow coral reefs in Hawai'i. Presentation given to botany 350 class. University of Hawai'i at Mānoa, October 10<sup>th</sup>, 2014. (oral presentation)
- Impacts of land-use on coastal water quality and reef health on O'ahu and Maui. Presentation given to the United States Environmental Protection Agency. Honolulu, Hawai'i, September 19<sup>th</sup> 2014. (oral presentation)
- Using algal bioassays and GIS to detect wastewater derived nitrogen in coastal waters of Hawai'i. 2<sup>nd</sup> Annual Joint Government Water Conference, University of Hawai'i at Mānoa, August 12<sup>th</sup>, 2014. (oral presentation)
- Nutrient pollution and algal invasions in Hawaiian coastal waters. Presentation given to a zoology 200 marine biology class Kapi'olani Community College, Honolulu Hawai'i, April 23<sup>rd</sup>, 2014. (oral presentation)

Testing a connection between land-use, groundwater, and coastal nutrient loading on Maui. 39<sup>th</sup> Annual Albert L. Tester Symposium Honolulu, Hawai‘i, March 13<sup>th</sup>, 2014. (oral presentation)

Using marine algae as bioindicators of anthropogenic nutrient pollution Hawaiian coastal waters. 2014 Ocean Sciences Meeting, Honolulu, Hawai‘i, February 25<sup>th</sup>, 2014. (poster)

Nutrient pollution and algal invasions in Hawaiian coastal waters. Presentation given to marine option program students at the University of Hawai‘i Maui College, February 3<sup>rd</sup>, 2014. (oral presentation)

Poop in Paradise: Detecting anthropogenic pollution in Hawaiian coastal waters. Hanauma Bay Education Center, Honolulu, Hawai‘i, November 21<sup>st</sup>, 2013. (oral presentation)

Using marine algae as a bioindicator of land-use impacts and coastal pollution in Hawai‘i. 38<sup>th</sup> Annual Albert L. Tester Symposium Honolulu, Hawai‘i, April 18<sup>th</sup>, 2013. (oral presentation)

Coral health, seaweed, and marine pollution. Presentation given to a zoology 200 marine science class at Kapi‘olani Community College, Honolulu Hawai‘i, February 14<sup>th</sup>, 2012. (oral presentation)

Submarine groundwater discharge increases marine macroalgal photosynthesis. Water Resource Sustainability Issues on Tropical Islands Conference, Honolulu Hawai‘i, November 16<sup>th</sup>, 2011. (oral presentation)

Submarine groundwater discharge: A potential resource for coastal marine ecosystems. 35<sup>th</sup> Annual Albert L. Tester Symposium Honolulu, Hawai‘i, March 18<sup>th</sup>, 2010. (oral presentation, honorable mention)

Physiological effects of simulated submarine groundwater discharge on the Hawaiian endemic edible alga *Gracilaria coronopifolia*. The American Society of Plant Biologists and the Phycological Society of America Joint Annual Meeting, Honolulu, Hawai‘i, July 18-22, 2009. (poster presentation)

Physiological effects of submarine groundwater discharge on the Hawaiian marine alga *Gracilaria coronopifolia*. 11<sup>th</sup> International Coral Reef Symposium, Fort Lauderdale, Florida, July 7-11, 2008. (poster presentation)

\$1,000 University of Hawai‘i Graduate Student Organization Grant, 2013

\$128,000 USEPA STAR Graduate Fellowship 2011- 2015

\$1,500 Stephen Lau Water Research Endowed Scholarship, 2008

## **TECHNICAL QUALIFICATIONS and EXPERIENCE**

Scientific SCUBA diver, rescue diver, master diver, nitrox certified diver, first aid/CPR. Knowledgeable in R, ArcGIS, GPS, PAM-fluorometry, SuperSting resistivity imaging, underwater photography, benthic community analyses, pigment spectrometry, radon and radium measurement, water sampling, multi-meter measurements, microbial community assessments of water and biofilm, statistical analysis, and small watercraft operation.

## **VOLUNTEER WORK**

**Surfrider Foundation: O‘ahu Chapter.** Assists the Blue Water Task Force with water monitoring  
**Polynesian Voyaging Society.** Assists with educational outreach, vessel restoration, crew training