

**Curriculum Vitae**  
**HEATHER HILLARD, MSC**

**EDUCATION**


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March 2015	<b>M.S. in Biology</b> , California State University, Northridge, CA
May 2009	<b>B.S. in Biology</b> , The College of William and Mary, Williamsburg, VA <ul style="list-style-type: none"> <li>• Cum Laude and Dean's List</li> </ul>
Fall 2007	<b>Study Abroad</b> , Griffith University, Southport, Queensland, Australia

**RESEARCH INTERESTS**


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**Coral reef ecology, conservation and management of marine and coastal resources**

**GRANTS**


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2012	<b>Graduate Fellowship for Outstanding Promise in Research in Science and Mathematics</b> , \$5,000, California State University, Northridge
2012	<b>Graduate Thesis Support Program</b> , \$1,000 California State University, Northridge

**PROFESSIONAL EXPERIENCE**


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<b>Coastal Wildlife Conservation Initiative Coordinator</b> <i>Florida Fish and Wildlife Conservation Commission</i>	April-Dec. 2015 Lake City, Florida
<ul style="list-style-type: none"> <li>• Planned and managed projects benefitting coastal wildlife in Florida. Conducted focus groups to plan outreach strategies addressing behaviors impacting coastal wildlife. Responsible for coordinating actions between staff, interagency teams, external partners, and working groups by planning and facilitating meetings, and developing and maintain a partnership network. Conducted literature reviews and helped develop whitepapers or guidelines regarding coastal wildlife management. Managed the CWCI budget and maintained content on the CWCI website and internal SharePoint site.</li> <li>• Team member of: Northern Gulf of Mexico Sentinel Site Cooperative Management team, DWH/FWC Oil Spill Response team, Florida Ecosystem Restoration Network, Big Bend Conservation Area Partnership</li> </ul>	
<b>Graduate Researcher</b> , Advisor: Dr. Robert C. Carpenter <i>California State University, Northridge</i>	Aug. 2011-Dec. 2014 Northridge, California
<ul style="list-style-type: none"> <li>• Thesis: The role of <i>Sargassum pacificum</i> in ocean acidification effects on corals.</li> <li>• Designed and implemented multiple field and laboratory experiments at the Richard B. Gump South Pacific Research Station on Moorea, French Polynesia; prepared grant proposals; conducted extensive field work surveying coral reef benthic communities; used photoquadrats; outplanted corals; planned dive logistics; navigated boats and dives; statistically analyzed data; compiling two manuscripts</li> <li>• Assisted lab mates with underwater drilling, collecting corals and algae, field experiments and surveys; trained and mentored three undergraduates on all aspects of scientific research</li> </ul>	
<b>Research Assistant</b> , Advisor: Dr. Robert C. Carpenter <i>Moorea Coral Reef Long-Term Ecological Research site</i>	Jan. 2011- Aug. 2012 Moorea, French Polynesia
<ul style="list-style-type: none"> <li>• Participated in the benthic habitat monitoring efforts for the Moorea Coral Reef LTER; surveyed invertebrate-herbivore abundance on SCUBA; input/organized images and data</li> </ul>	

- Analyzed the carbonate chemistry of seawater samples from across the reef; collected and prepared algae for CHN analyses; deployed heavy instruments to measure reef metabolism; recorded metabolic activity of corals and algae with a flume and oxygen sensors

**Edwin W. Pauley Summer Program Participant**, Supervisor: Hollie Putnam June 2011  
*Hawaii Institute of Marine Biology* Oahu, HI

- Investigated the acclimation potential of *Monitpora capitata* to the stressors of increased temperature and carbon dioxide concentrations
- Assisted with analysis of seawater carbonate chemistry and various laboratory procedures

**Monitoring Coordinator**, Supervisor: Jennifer I. Barrett Nov. 2009-June 2011  
*Reef Watch Waikiki*, University of Hawaii Sea Grant College Program Honolulu, HI

- Developed a biological monitoring program to assess the long-term populations of benthic marine life of Waikiki; trained volunteers on near-shore survey techniques using snorkel equipment, photoquadrats, belt transects and the grid point-intercept method; built quadrats and prepared survey gear; taught volunteers to identify scleractinian corals, algae and fish; planned monitoring efforts; coordinated teams of volunteers while snorkeling; independently managed and input data; organized images; assisted with grant writing and proposal editing

**Student Researcher**, Advisor: Dr. Jason Turner June 2010  
*Quantitative Underwater Ecological Survey Techniques*, University of Hawaii, Hilo Hilo, HI

- Completed an extensive course on taxonomy of coral reef organisms; trained on SCUBA to learn various benthic habitat surveying techniques; planned and navigated dives; processed and input field data; completed a research project investigating the effect of depth on benthic organisms; created a written report with statistical analyses and presented the findings

**Undergraduate Field Assistant**, Supervisor: Christy Fairman Jan. 2008-May 2009  
*The College of William and Mary* Williamsburg, VA

- Evaluated the occupancy of the Mabee's salamander (*Ambystoma mabeei*) and the Marbled salamander (*Ambystoma opacum*) in the Grafton Ponds Natural Area Preserve
- Conducted weekly amphibian surveys; mapped the ponds with a GPS; identified species

**Field and Laboratory Assistant**, Advisor: Dr. Jonathan Werry Aug.-Nov. 2007  
*Griffith University, Gold Coast* Queensland, Australia

- Investigated the distribution and foraging ecology of shark populations in coastal and estuarine habitats of southeast Queensland
- Prepared tissue samples for stable isotope analysis; recorded temperature, salinity, turbidity, dissolved oxygen levels at sites; baited and set fishing lines; assisted with boat handling

**Earthwatch Volunteer** June 2004  
*Hawksbill Sea Turtle Project* Barbados

- Conducted sea turtle behavior and nesting surveys to assess the effects of light pollution on hatchlings and nesting, female sea turtles; maintained data sheets; relocated nests

## TEACHING EXPERIENCE

**Field Instructor**, Supervisor: Michael A. Gil Jan.-June 2014  
*Marine Ecology, Spring Extended*, University of Florida Gainesville, FL

- Helped students plan and design effective field experiments; created the coral reef taxonomy guide; trained students on snorkel survey methods in French Polynesia; supervised the field work, data entry and processing, statistical analysis, final written report and presentation

February 2017

**Graduate Associate**, Professor: Robert C. Carpenter Aug.-Dec. 2013  
*Phycology Lab*, California State University, Northridge Northridge, CA

- Managed the Phycology lab; collected algae to teach students basic algal taxonomy; graded lab notebooks and written reports; supervised student's individual research projects including experimental design, data entry and analysis, and the written report

**Teaching Associate**, Supervisor: Karen A. Moore Aug. 2011-May 2012  
*Introduction to Biology Lab*, California State University, Northridge Northridge, CA

- Instructed and prepared two labs weekly; graded laboratory reports and exams

**Outreach Educator**, Supervisor: Jennifer I. Barrett Nov. 2009-June 2011  
*Reef Fish ID and Sea Turtle Ecology Classes*, Reef Watch Waikiki Honolulu, HI

- Hawaii Youth Conservation Corps Intern with RWW; developed and taught reef fish taxonomy and sea turtle ecology classes; created coral and algal taxonomy materials along with materials promoting marine resource conservation; staffed outreach education booths

**Docent** Jan.-May 2008  
*Virginia Zoological Park* Norfolk, VA

- Animal-station interpreter, exhibit host and a public educator

#### OTHER EMPLOYMENT

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**Tutor**, Ecology and Evolution, California State University, Northridge, CA Jan.-May 2013

**Grader**, Biological Principles I, California State University, Northridge, CA Jan.-May 2013

**Dive Shop Sales Associate**, South Seas Aquatics, Oahu, HI July 2009-Nov. 2009

#### VOLUNTEER EXPERIENCE

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**Site Leader**, NOAA's Hawaiian Islands Humpback Whale National Marine Sanctuary Spring 2011

- Collected data estimating the relative humpback whale populations migrating to Hawaii; trained and guided volunteers on protocols; educated volunteers about Humpback whales

**Makai Watch Volunteer**, *Malama Maunalua*, Oahu, HI Jan. 2010-June 2011

- Conducted benthic habitat surveys in Maunalua Bay assessing invasive and native algae

**Volunteer**, *Hawaii Conservation Alliance*, Oahu, HI Nov. 2009-Aug. 2010

- Helped staff a craft table and silent auction at the My Hawai'i Celebration

**Botany Volunteer**, *Botanical Research Institute of Texas*, Fort Worth, TX June 2009

- Transferred and organized data from plant slides; maintained data records and documents; collected and pressed plants in the field; recorded and entered field data

**Intern**, *Seabird Rehabilitation Facility, Sea Life Park*, Oahu, HI May-Aug. 2008

- Facilitated the rehabilitation of seabirds; assisted in the training of an albatross for flight; entered data on bird feeding behavior; compiled a seabird rehabilitation manual

**Camp Counselor/Tutor**, Caribbean Service Learning Program, Bequia Winter 2007

- Implemented a weeklong camp at the local high school; created an arts and crafts class; tutored children with disabilities at the Sunshine School

#### SKILLS

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**Software:** Microsoft Office (Word, PowerPoint and Excel), ArcGIS 9.3, PhotoGrid, SYSTAT 13, ImageJ 1.47v, Coral Point Count with Excel extensions, LabXLight Titration

**Certified Interpretive Guide:** certified by the National Association for Interpretation in 2010 to effectively communicate science to the public

**SCUBA:** 200+ dives in California, Hawaii, Australia, Mexico, French Polynesia, Caymans, Fiji  
 PADI: Open Water (1999), Advanced (2009), and Rescue (2010)  
 NAUI: Rescue, Nitrox, Master Diver, Oxygen Administration, AED and First Aid (2011)  
 AAUS: Scientific Diver, certified 60ft (2011)

**Boating:** regularly maintained, operated and navigated small research vessels; assisted with larger boat operations including mooring, navigating, docking and trailering

#### PROFESSIONAL SERVICE

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<b>Reviewer</b> , <i>Global Change Biology</i>	2015
<b>Treasurer</b> , <i>Marine Biology Graduate Student's Association</i> , CSUN	2011-2012
<b>Poster Coordinator</b> , <i>Hawaii Conservation Conference</i> , Hawaii Conservation Alliance	2009-2010
<b>Co-chair for Special Events</b> , <i>Bone Marrow Drive</i> , W&M	2007-2008

#### WORKSHOPS AND CLASSES

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<b>Arguments for Scientists</b> , NCTC Biologist Writing Training Course, 4 days	April 2015
<b>Visionary Leadership</b> , Management Assistance Team, 6 weeks	April-May 2015
<b>Blue Carbon Workshop</b> , Apalachicola National Estuarine Research Reserve	July 2015
<b>Behavior Change Workshop</b> , Charlotte Harbor National Estuary Program	Aug. 2015

#### PROFESSIONAL ASSOCIATIONS

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- Reef Environmental Education Foundation (2010)
  - Society for Conservation Biology (2010)
  - Society of Integrative and Comparative Biology (2013)
  - Western Society of Naturalists (2011)
  - Society for International Ecotourism (2014)

#### PRESENTATIONS <sup>Δ</sup> = presenter, <sup>†</sup> = undergraduate

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<sup>Δ</sup> Zimmerman, S.A. <sup>†</sup>, **H. Hillard**, and P.J. Edmunds. 2014. "Associational refuges between macroalgae and invertebrates across a flow gradient on the north shore of Moorea." Western Society of Naturalists, Ventura, CA. Oral presentation

<sup>Δ</sup> **Hillard, H.** and R.C. Carpenter. 2014. "Acidification and algae, do they have interactive effects?" 43<sup>rd</sup> Benthic Ecology Meeting, Jacksonville, FL. Oral presentation

<sup>Δ</sup> **Hillard, H.** and R.C. Carpenter. 2014. "Acidification and Algae: Do they have interactive effects?" Society of Integrative and Conservation Biology, Austin, TX. Oral presentation

<sup>Δ</sup> Zimmerman, S.A. <sup>†</sup>, **H. Hillard**, and P.J. Edmunds. 2013. "Associational refuges across a stress gradient on the north shore of Moorea." Western Society of Naturalists, Ventura, CA. Poster

<sup>Δ</sup> **Hillard, H.** and R.C. Carpenter. 2013. "The effect of *Sargassum pacificum* on the calcification of juvenile *Porites rus* in elevated CO<sub>2</sub> conditions." Moorea Coral Reef LTER Site Review, Moorea, French Polynesia. Poster

<sup>Δ</sup> **Hillard, H.** and R.C. Carpenter. 2013. "Acidification and Algae: Do they have interactive effects?" Moorea Coral Reef LTER, All Investigator's Meeting, CA. Oral presentation

<sup>Δ</sup> **Hillard, H.** and R.C. Carpenter. 2013. "Can macroalgae mitigate the effects of ocean acidification on juvenile corals?" 42<sup>nd</sup> Benthic Ecology Meeting, Savannah, GA. Oral presentation

<sup>Δ</sup> **Hillard, H.** and R.C. Carpenter. 2013. “The effect of *Sargassum pacificum* on the calcification of juvenile *Porites rus* in elevated CO<sub>2</sub> conditions.” CSUN Annual Student Research and Creative Works Symposium, Northridge, CA. Oral presentation

<sup>Δ</sup> **Hillard, H.** and R.C. Carpenter. 2012. “The effect of *Eisenia arborea* on the calcification of *Corallina chilensis* in elevated CO<sub>2</sub> conditions.” CSU Marine Biology Semester, Mini-symposium, Catalina Island, CA. Oral presentation

<sup>Δ</sup> **Hillard, H.** and R.C. Carpenter. 2012. “Effect of *Sargassum pacificum* on the calcification of juvenile *Porites rus* in elevated CO<sub>2</sub> conditions.” LTER All Scientist’s Meeting, CO. Poster

<sup>Δ</sup> **Hillard, H.** and R.C. Carpenter. 2012. “Impact of ocean acidification on juvenile corals associated with *T. ornata* and *Halimeda* spp.” 41<sup>st</sup> Benthic Ecology Meeting, Norfolk, VA. Poster

<sup>Δ</sup> **Hillard, H.** and J.I. Barrett. 2011. “Developing a community-based biological monitoring program for the Waikiki Marine Life Conservation District.” Hawaii Conservation Conference, Honolulu, HI. Poster

<sup>Δ</sup> **Hillard, H.** and J.I. Barrett. 2010. “Pu ‘uHONUa: Ensuring a safe place for Honu (sea turtles) in Waikiki.” Hawaii Conservation Conference, Honolulu, HI. Poster

<sup>Δ</sup> **Hillard, H.** and J.I. Barrett. 2010. “Fish fanatics: a community-based fish monitoring program in Waikiki.” Hawaii Conservation Conference, Honolulu, HI. Poster

GRADUATE ADVISORY COMMITTEE

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<b>Robert C. Carpenter</b> (chair) California State University Northridge, Department of Biology	robert.carpenter@csun.edu (818) 677-3256
<b>Peter J. Edmunds</b> California State University Northridge, Department of Biology	peter.edmunds@csun.edu (818) 677-2502
<b>Mark A. Steele</b> California State University Northridge, Department of Biology	mark.steele@csun.edu (818) 677-4270