

# Sarah Horwath

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## Education

**B.S. Aquatic Biology, University of California Santa Barbara, 2005–2009.**

- *High Honors*
- 3.73 GPA, 3.85 upper-division major GPA

## Awards & Academic Affiliations

Undergraduate research funds, *UC Leadership and Excellence through Advanced Degrees*, \$3000. 2008-2009.

Undergraduate research funds, *UC Leadership and Excellence through Advanced Degrees*, \$3000. 2007-2008.

Nejat B. Ezal Diver Award, *Research Diver's Association, UC Santa Barbara*, \$250. 2007.

University of California Santa Barbara Honors Program. 2005–2009.

University of California Santa Barbara Dean's Honors (6 quarters). 2005–2009.

Governor's Scholarship, California. 2003.

American Academy of Underwater Sciences – Member. 2007–present.

American Association for the Advancement of Science – Student Member. 2007–2009.

Ecological Society of America – Student Member. 2007–2008.

Western Society of Naturalists – Student Member. 2007–2008.

## Peer-Reviewed Publications

07/2011 Medina, F. M., E. Bonnaud, E. Vidal, B. R. Tershy, E. S. Zavaleta, C. J. Donlan, B. S. Keitt, M. Le Corre, S.V. Horwath, M. Nogales. **A global review of the impacts of invasive cats on island endangered vertebrates.** *Global Change Biology*, 7 July 2011. DOI 10.1111/j.1365-2486.2011.02464.x

09/2010 Bonnaud, E., F. M. Medina, E. Vidal, M. Nogales, B. Tershy, E. Zavaleta, C. J. Donlan, B. Keitt, M. Le Corre, S.V. Horwath. **The diet of feral cats on islands: a review and call for more studies.** *Biological Invasions*, 8 September 2010. DOI 10.1007/s10530-010-9851-3

## **Reports, Presentations & Conference Attendances**

- 04/2011      **Insights Gained from Scale Analyses of the Endangered Southern Steelhead in the Lower Santa Ynez River, Santa Barbara County.** (Talk)  
Presented at the Board of Directors Meeting of the Cachuma Operation & Maintenance Board, Santa Barbara, California
- 03/2011      **Insights Gained from Scale Analyses of the Endangered Southern Steelhead in the Lower Santa Ynez River, Santa Barbara County.** (Poster)  
Presented at the 29<sup>th</sup> Salmonid Restoration Conference, San Luis Obispo, California
- 03/2011      **Insights Gained from Scale Analyses of the Endangered Southern Steelhead in the Lower Santa Ynez River, Santa Barbara County.** (Poster)  
Presented by Dr. Tim Robinson at the 45<sup>th</sup> Cal-Neva conference of the American Fisheries Society, Folsom, California
- 08/2010      Barilotti, D.C, A.A. Barilotti, S. Horwath. **Essential Fish Habitat Report: Kelp Growing Study, Ellwood, Santa Barbara County.** Bio Architecture Lab, Inc.  
Prepared in support of permit applications to the California Coastal Commission and U.S. Army Corps of Engineers.
- 03/2009      **Global island prioritization for a conservation-based nonprofit.** (Poster)  
Presented at *Koret University of California Leadership Excellence through Advanced Degrees, Research and Leadership Symposium*  
University of California Davis, Davis, California
- 11/2008      Funded attendance to *The Seventh William R. and Lenore Mote International Symposium in Fisheries Ecology*  
Mote Marine Lab, Sarasota, Florida
- 08/2008      **Global island prioritization for a conservation-based nonprofit.** (Talk)  
Presented at *University of California Leadership Excellence through Advanced Degrees, Summer Symposium*  
University of California Santa Cruz, Santa Cruz, California
- 05/2008      **Recruitment of the puerulus stage of California spiny lobster (*Panulirus interruptus*) in the Santa Barbara Channel.** (Poster)  
Presented at *Koret University of California Leadership Excellence through Advanced Degrees, Research and Leadership Symposium*  
University of California, Santa Barbara
- 11/2007      Funded attendance to the *2007 Annual Meeting of Western Society of Naturalists*  
Ventura, California

## **Professional & Research Experience**

### 5/2012-present **Assistant Staff Scientist**

CadnoENTRIX, Santa Barbara, CA

Supervisor: Joel Mulder, Project Scientist

- Fisheries biology / aquatic ecology surveys, field work, and report writing for projects involving federally and state regulated species.
- Mapping and analyzing data with ArcGIS software.

### 1/2010-5/2012 **Seasonal Biologist Aide / Seasonal Biologist**

Cachuma Operation and Maintenance Board, Santa Barbara, CA

Supervisor: Dr. Tim Robinson, Senior Resources Scientist

- Trapping and sampling steelhead and rainbow trout (*Onchorhynchus mykiss*) unsupervised at remote locations in the Santa Ynez River, including night and early morning shifts, sometimes in adverse weather and high-flow conditions.
- Determining fish ages by scale analysis utilizing microscopes and digital imaging software.
- Mapping and analyzing data with ArcGIS software.
- Presenting results in reports, at scientific conferences, and to policy makers and stakeholders.
- Operating government vehicles.

### 7/2011-present **Deckhand on “Conception” live-aboard dive boat**

Truth Aquatics, Santa Barbara, CA

Captain: Jerry Boylan

- Filling SCUBA tanks and assisting passengers with SCUBA gear.
- Daily boat operations including anchoring, docking and cleaning.
- Maintaining engines, generators compressors, tools and equipment.
- Skiff handling and diving for maintenance purposes.
- Safety diving, rescue swimming and emergency evacuations.

### 7/2010-11/2010 **Marine Technician**

Bio Architecture Lab, Ellwood Kelp Growing Project, Goleta, CA

Supervisor: Beth Zotter, Project Manager

- Conducted Essential Fish Habitat surveys and *in situ* kelp aquaculture experiments using SCUBA at a remote coastal site in adverse weather and poor visibility conditions.
- Collaborated in project design.
- Managed data, mapped and analyzed results with Manifold GIS software.
- Presented results in written reports.
- Maintained field equipment and handled small boats.

### 6/2009–10/2009 **Student Dive Intern**

Reef Check California

Supervisor: Colleen Wisniewski, Southern California Regional Manager

- Supervised volunteer divers and lead subtidal SCUBA surveys of rocky reefs.
- Trained volunteer divers on survey procedures and identification of subtidal marine organisms.
- Data quality control, organization and database entry.
- Outreach to new volunteers and public education.

9/2008–9/2009 **Field and Laboratory Assistant**

Institute for Computational Earth Systems Science, UC Santa Barbara  
Supervisors: Matthew Kay & Jono Wilson, Ph.D candidates in Donald Bren School of Environmental Science and Management, UC Santa Barbara

- Assisted with dive surveys on SCUBA and spiny lobster tag-recapture study at the Northern Channel Islands from campus boats
- Mapping and analyses using ArcGIS software
- Data entry and quality control

6/2007–6/2009 **Undergraduate Researcher**

Lenihan Lab of the Donald Bren School of Environmental Science and Management and UC LEADs, Graduate Division, UC Santa Barbara  
Advisor: Hunter Lenihan, PhD, Professor of Applied Marine and Fisheries Ecology

- Investigated spatial and temporal variation in recruitment of California spiny lobster using *in situ* recruit (pueruli) collectors, requiring skin diving from small boats, including at remote island sites.
- Examined California spiny lobster prey selection and influence of molting.
- Aquaria maintenance and husbandry.
- Presented results at undergraduate research symposiums.

6/2008–8/2008 **Geographic Information Systems Intern**

Island Conservation and UC LEADs, Graduate Division, UC Santa Cruz  
Advisors: Dr. Bernie Tershy, Assistant Adjunct Professor & Dr. Donald Croll, Professor, Department of Ecology and Evolutionary Biology, UC Santa Cruz

- Analyzed global prioritization of islands for conservation of endangered species projects with ArcGIS software.
- Designed maps and figures using ArcGIS software.
- Presented results at undergraduate research symposiums.
- Results were taken to the Island Conservation Board of Directors for management decisions on global conservation investments.

4/2006–6/2007 **Research Assistant**

Marine Science Institute, University of California Santa Barbara  
Supervisor: Dr. Jack Engle, Associate Research Biologist

- Organized and managed photographic and logistical information.
- Assisted with intertidal and subtidal monitoring on SCUBA

1/2006–6/2007 **Volunteer and Intern**

Research, Experience & Education Facility, Marine Science Institute,  
University of California Santa Barbara

Supervisor: Scott Simon, Manager

- Increased public awareness on coastal and ocean ecosystems and processes by guided tours and workshops for elementary ages and up.
- Identification and natural history of marine organisms.
- Aquaria maintenance and husbandry.

## **Special Skills**

- Mapping, spatial modeling, and data analysis (ArcGIS and Manifold GIS softwares, familiarity with MatLab software); database management (ArcGIS, Microsoft Access, FileMaker Pro, Oracle Clinical, Integrated Review softwares); photo uploading and editing.
- SCUBA certifications: SSI Openwater I (2005), American Academy of Underwater Sciences – Scientific Diver (2007), UCSB certified scientific diver (2001); CPR and oxygen first aid certification, current through 2012, with the ability for extension.
- Design and execution of SCUBA surveys for habitats, algae, invertebrate and vertebrate species in subtidal environments; implementation of marine *in situ* experiments; digital underwater photography; small boat handling at remote and weather-affected sites; SCUBA tank fills and air compressor maintenance.
- River and riparian surveys in challenging field conditions including under high flows; flow measurements; surveying; handling and monitoring of endangered species; identification of fresh water fish, reptile and amphibian species.
- Aquaria maintenance and husbandry of aquatic organisms; dissections and otolith removals; plankton identification and enumeration; DNA extraction and PCR.
- Collaborative interaction with scientists, stakeholders and management agencies.
- Hobbies/interests: natural history and field identification of marine and terrestrial organisms, surfing, SCUBA diving, nature photography, snowboarding, rock climbing, hiking, camping and travel.

## **References**

Dr. Tim Robinson  
Senior Resources Scientist  
Cachuma Operation & Maintenance Board  
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Matthew Kay  
Ph.D. candidate  
Lenihan Lab at the Bren School, UCSB  
805-893-5054  
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Dr. Jack Engle  
Associate Research Biologist, Marine Science  
Institute, UC Santa Barbara  
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Dr. Donald Croll  
Professor of Ecology and Evolutionary  
Biology, UC Santa Cruz  
Co-founder of Island Conservation  
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