

ALEXANDRIA M. WARNEKE

CABRILLO NATIONAL MONUMENT
1800 CABRILLO MEMORIAL DRIVE
SAN DIEGO, CA 92106
COUNTRY OF CITIZENSHIP: UNITED STATES

EMAIL: A.WARNEKE@YAHOO.COM
WEBSITE: ALEXWARNEKE.COM
DAY/NIGHT PHONE: 858-602-7097

EDUCATION

- M.S. Biology, San Diego State University (SDSU), San Diego, CA** 2012- 2014
Program Specialty: Chemical Ecology, Advisor: Dr. Jeremy Long
Specialty Courses: Design and Analysis of Ecological Experiments,
Instructors: Dr. Tony Underwood and Dr. Gee Chapman
- B.S. Marine Biology, San Diego State University (SDSU), San Diego, CA** 2008- 2012
Cum Laude with Distinction and Honors in the Biological Sciences
- CSU Marine Biology Semester, Santa Catalina Island, CA** Fall 2011
Specialty Courses: Marine Ichthyology, Aquatic Toxicology
Marine Ecological Processes, Independent Research
- PSG Institute of Management, Coimbatore, India** Winter 2011
SDSU Study Abroad Program
- Mount Carmel High School, San Diego, CA** 2004-2008

Work EXPERIENCE

Scientific Programs Coordinator/Marine Biologist (GS-9), Cabrillo National Monument- NPS

Duties and Accomplishments:

- Responsible for coordination and management of the science education and community outreach team and development of all K-12th grade curriculum and public programs focused on citizen science participation and natural resource stewardship. All programs are aligned with Next Generation Science Standards and integrate, hands-on inquiry based learning, project-based learning, technology, and artistic components.
Estimated on-site program reach: 17,000-students/year and 1,000,000-park visitors/year
Estimated off-site program reach: 200,000-community contacts/year
- Responsible for interpretation and communication of complex scientific data to the general public and resource managers using novel communication techniques and platforms. Designed and implemented eight traveling and wayside exhibits in two years highlighting resource management, biodiversity, endemic species, and climate change themes for park visitors center and wider community use in libraries and other places of informal education. Responsible for public information dissemination as it pertains to scientific information and for the creation of annual publications, press releases, data visualizations, brochures, fact sheets, presentations, and videos to communicate resource issues to over 1,000,000 park guests, volunteers, staff, and online visitors.

- Responsible for online content strategy, generation, and maintenance of park website, digital and social media outlets. Regularly compile detailed reports for online and mass media outlets documenting existing conditions of park's natural resources and research activities performed.
Current social media impact: 18,100 (Instagram), 5,505 (Facebook), 5, 356 (Twitter)
- Coordinated and developed short- and long-term (5 year) Science Communication and Education Vision Plans to ensure a unified team vision and approach across 5 staff members and volunteer core of 30-50 individuals supervised. Current projections for achieving the ambitious goals of this vision plan are ahead of schedule.
- Established and currently maintain a successful mentoring program for a diverse group of high school student interns, members from youth serving organizations (Americorps, Vista, SCA, Mosaics in Science), and Teacher-Ranger-Teachers interested in digital communications, citizen science, and natural resource management. Through this initiative we train and coordinate individuals to safely participate in our biological monitoring programs as well as utilize relevant media platforms to translate complex biological data into interpretive displays for the public.
Students mentored over two years: 35
- In collaboration with community partners and our cooperating associations, prepared 10 research proposals and secured over \$200,000 of program funding in the last fiscal year from both NPS and outside funding agencies. Currently oversee and administer a \$175,000 program-operating budget.
- Regularly perform marine resource monitoring through intertidal and subtidal survey and assist as expert in California marine algal and invertebrate identification. In May 2016, assisted in outfitting the site for ongoing monitoring regard the influences of ocean acidification and climate change. Surveys are conducted using quadrats, band transects, photo plots, and timed counts to monitor and quantify biological information. Surveys are conducted throughout the Southern California coast, including remote field locations of the Channel Islands.
- Responsible for cultivating partnerships and collaborative relationships with several local, state, and government agencies, tribal nations, non-profits, and universities. Our current collaborations with the San Diego Natural History Museum, Climate Science Alliance (CA-Department of Fish and Wildlife), Scripps Institution of Oceanography, Ocean Discovery Institute, San Diego City Public Libraries, and the High Tech High school system work to promote and significantly enhance marine resources stewardship within the greater San Diego community, specifically on the topics of climate change, biodiversity, and resiliency.

Employer Name and Address: National Park Service (1800 Cabrillo Memorial Drive, San Diego, California 92106)

Supervisor's Name and Phone: Dr. Keith Lombardo (1-619-557-5450 ext. 4582)

Starting and Ending Dates: 5/2014-Present – 40 hours/week

Salary: \$53,000/year

Can Contact Supervisor?: Yes

Centennial Volunteer Ambassador, Student Conservation Association/Americorps

Duties and Accomplishments:

- Facilitated public engagement, involvement, and exploration for the Cabrillo National Monument (NPS) as an Ambassador.
- Assisted in preparing work schedules, training, recruiting, and coordinating volunteers and interns to support our rocky intertidal monitoring program (data collection), science education programs, and overall park functions. Estimated volunteer increase: 5% in a year
- Developed and maintained liaisons and partnerships with the Bureau of Land Management, the Girl Scouts and Boy Scouts of America, YMCA, and other influential community stakeholders to host community engagement activities and encourage and facilitate cooperative park management strategies. Managed several connections with national initiatives independently and on a regular basis, with minimal direct supervision.
- Coordinated large-scale community events to promote the park's volunteer and educational events, and the value and importance of volunteerism in National Parks and on public lands.
- Used national recruitment and reporting tools to compile and promote quarterly accomplishments.
- Assisted in developing and enhancing current volunteer engagement tools to facilitate a long term, sustainable outreach, and volunteer engagement initiatives.
- Represented Cabrillo National Monument on a national scale, while making steps to transform how the general public engages with national parks through specific avenues of art, physical fitness, and science.

Employer Name and Address: Student Conservation Association (4245 North Fairfax Drive, Suite 825, Arlington, VA 22203)

Supervisor's Name and Phone: Dr. Keith Lombardo (1-619-557-5450 ext. 4582)

Starting and Ending Dates: 5/2014-5/2016 – 40 hours/week

Salary: \$200/week

Can Contact Supervisor?: Yes

Science Education Consultant, Department of Fish and Wildlife

Duties and Accomplishments:

- Responsible for facilitating an independent education evaluation of the Elkhorn Slough Research Reserve's Estuary Explorers Program.
- Established a system for tracking participants throughout program. Tabulated complex and extensive qualitative metrics of student performance and converted to quantitative data points. Compiled data was statistically analyzed and transformed to tables and graphs for client use in presentations and visualizations.
- Findings were synthesized into a detailed final report documenting the activities performed and success of the program. Report was used to assist program managers in strengthening existing programs and ensuring program quality, efficacy, and consistency.

Employer Name and Address: Elkhorn Slough National Estuarine Research Reserve (1700 Elkhorn Rd, Watsonville, CA 95076)

Supervisor's Name and Phone: Virginia Guhin (1-831-728-2822)

Starting and Ending Dates: 8/2015-Present – Project-based Consulting

Salary: \$35/hour

Can Contact Supervisor?: Yes

Masters Candidate, San Diego State University

Duties and Accomplishments:

- Managed research explorations into the behavioral and ecological consequences of pollutants on ecological processes in marine intertidal environments. Experiments were conducted over the course of two years and required extensive knowledge of experimental design, California intertidal algae and invertebrate species, toxicology, and marine chemical ecology.
- Garnered over \$40,000 in research funding to conduct experimental protocols. Including building a crowd-funding platform to directly engage the public with scientific research.
- Trained and oversaw over 15 undergraduate and high school volunteers. Training included how to conduct ecological experiments both in laboratory settings and in harsh sub-tidal marine environments, how to safely work with and dispose of hazardous chemicals, and how to compile and analyze large datasets.
- Utilized photographic and video equipment and software to monitor changes in invertebrate growth as a metric of ecological and anthropogenic stress. Photos were then archived in a larger database for further examination.
- Developed low-cost recirculating seawater systems for use in large-scale pollution experiments. These systems monitored and controlled for diurnal changes in tide, temperature, pH, and light using associated logging devices.
- Worked with interdisciplinary team of ecologists, chemists, and toxicologists to understand how pollutants and other ecological stressors drive changes in marine environments.
- Compiled and analyzed large ecological data sets into comprehensive and published reports.

Employer Name and Address: San Diego State University (5500 Campanile Dr., San Diego, CA 92182)

Supervisor's Name and Phone: Dr. Jeremy Long (1-619-594-3598)

Starting and Ending Dates: 5/2012-4/2014 – 40 hours/week

Salary: \$12,000/year

Can Contact Supervisor?: Yes

Assistant Marine Collector, San Diego State University

Duties and Accomplishments:

- Responsible for extensive laboratory and field identification of intertidal and sub-tidal algal and invertebrate specimens within the Southern California Bight, including larval and juvenile specimens.
- Maintained and curated the physical and digital marine invertebrate and algal collections for San Diego State University.
- Regularly performed sub-tidal dive surveys, specimen collections, and challenging field operations in arduous and potentially hazardous underwater conditions.
- Supervised undergraduate coursework for Marine Ecology, Phycology, and Marine Invertebrate Zoology.
- Assisted in general maintenance of laboratory aquaria and specimen husbandry.
- Extensive experience in operations and maintenance of small watercraft (10-25' long).

Employer Name and Address: San Diego State University (5500 Campanile Dr., San Diego, CA 92182)

Supervisor's Name and Address: Constance Gramlich (1-619-594-4676)

Starting and Ending Dates: 5/2012-4/2014 – 40 hours/week

Salary: \$12,000/year

Can Contact Supervisor?: Yes

Scientific Aide, California Department of Fish and Wildlife

Duties and Accomplishments:

- Collaborated with interdisciplinary team (San Diego State University, Southern California Coast Lobster Fishermen, and the Department of Fish and Wildlife) to perform a stock assessment of the California Spiny Lobster, *Panulirus interruptus*, before and after the 2012 implementation of marine protected areas throughout California.
- Conducted and directed extensive marine resource monitoring of lobster populations utilizing tag/recapture and acoustic tracking protocols in often challenging field conditions.
- Summarized and analyzed population distribution datasets the statistical program, MatLab. Data was visualized using ArcGIS software.
- Contributed to stock management report and recommendations.

Employer Name and Address: Department of Fish and Wildlife (3883 Ruffin Rd., San Diego, CA 92123)

Supervisor's Name and Address: Dr. Doug Neilson (1-858-467-4201)

Starting and Ending Dates: 9/2011- 4/2012 – 25 hours/week

Salary: \$12/hour

Can Contact Supervisor?: Yes

Research Technician, Georgia Institute of Technology

Duties and Accomplishments:

- Investigated the chemical ecology of coral-algal interactions at the National Undersea Research Center in Key Largo, FL and at Georgia Tech Marine Ecology Field Station in Viti Levu, Fiji. We monitored the most toxic algal-coral combinations through field experiments. Using video equipment, herbivorous fish were observed for their ability to control toxic algal populations. This information was provided to local village leaders so that they could best monitor and manage their marine resources.
- Extensive identification knowledge of over 100 species of Indo-pacific algae, invertebrates, corals, and fish.
- Worked independently with minimal direct supervision and lived in arduous and remote field conditions for 3 months.
- Performed sub-tidal fish/coral transects and surveys with experimental manipulations in highly strenuous diving conditions.
- Performed allelopathic chemical extractions and bioassay-guided fractionation utilizing Rotovap, Savant, High Performance Liquid Chromatography (HPLC), and a Pulse-amplitude-modulated fluorometer (PAM).
- Created a mini-documentary focusing on connections between ancestral villages, their marine resources, and the importance of preserving these regions for current and future generations. This video has widely used by local Fijian conservation groups to promote and enhance marine resource stewardship.

Employer Name and Address: Georgia Institute of Technology (North Ave NW, Atlanta, GA 30332)

Supervisor's Name and Address: Dr. Mark Hay (1-404-894-8429)

Starting and Ending Dates: 5/2011-8/2011 – 40 hours/week

Salary: \$15/hour

Can Contact Supervisor?: Yes

Research Assistant, SDSU Coastal and Marine Institute Laboratory

Duties and Accomplishments:

- Study Topics: 1) Investigating effects of seagrass habitat (*Zostera marina*) on predator-prey interactions between the giant kelp fish (*Heterostrictus rostratus*) and grass shrimp (*Hippolyte californiensis*); 2) Behavioral responses of marine invertebrate larvae to halocline thin layers; 3) effects of toxic metals on an estuarine polychaete; 4) Spatial distribution, reproductive behavior and dispersal processes of Pink Abalone, *Haliotis Corrugata*; and 5) Movement and habitat use of the California Spiny Lobster, *Panulirus interruptis*
- Conducted fish and invertebrate behavioral assays using fish counts and video transects in laboratory and *in situ* using SCUBA.
- Cultured and reared several California larval invertebrate and phytoplankton species.
- Use the image analysis software, Image J, to monitor changes in specimen growth, behavior, and and reproductive output. Archived digital photo collections for use in further investigations.
- Laboratory identification of epifaunal invertebrates down to species level.
- Worked with team of undergraduate and graduate students to prepare research proposals, apply and obtain funding, analyze data, and present detailed reports for presentation and publication.

Employer Name and Address: San Diego State University Research Foundation (5250 Campanile Drive, San Diego, CA 92182)

Supervisor's Name and Address: Dr. Kevin Hovel (1-619-594-6322)

Starting and Ending Dates: 11/2008-5/2011– 40 hours/week

Salary: \$12/hour

Can Contact Supervisor?: Yes

Scientific Scuba Diver, SDSU Coastal and Marine Institute Laboratory

Duties and Accomplishments:

- Study Topics: 1) Spatial distribution, reproductive behavior and dispersal processes of Pink Abalone, *Haliotis Corrugata*; and 2) Movement and habitat use of the California Spiny Lobster, *Panulirus interruptis*
- Conducted transect surveys and underwater sampling of adult and juvenile Pink Abalone in the Point Loma Kelp Forest to better monitor declining populations.
- Recovered and replaced data logging devices and maintained underwater anchoring system for acoustic telemetry array in Point Loma Kelp Forest and San Diego Bay.
- Over 200 logged dives in San Diego Bay with little, to zero visibility.
- Assisted in general maintenance of laboratory aquaria and specimen husbandry.
- Extensive experience in operations and maintenance of small watercraft (10-25' long).

Employer Name and Address: San Diego State University Research Foundation (5250 Campanile Drive, San Diego, CA 92182)

Supervisor's Name and Address: Dr. Kevin Hovel (1-619-594-6322)

Starting and Ending Dates: 11/2008-5/2011– 40 hours/week

Salary: \$15/hour

Can Contact Supervisor?: Yes

PUBLICATIONS

Warneke, A.M. and Long, J.D. 2015. *Copper contamination impairs herbivore initiation of seaweed inducible defenses and decreases their effectiveness*. PLoS One. 10(8): e0135395. doi: 10.1371/journal.pone.0135395

Hovel, K.A., Warneke, A.M., Virtue, S., & Sanchez, A. 2016. *Mesopredator foraging success in eelgrass (Zostera marina): relative effects of epiphytes, shoot density, and prey abundance*. JEMBE. 474: 142-147. Doi: 10.1016/j.jembe.2015.10.014

Bik H.H., Dove A.D.M., Goldstein M.C., Helm R., MacPherson R., Martini K., Warneke A.M., & McClain C. 2015. *Ten Simple Rules for Effective Online Outreach*. PLoS Comput Biol. 11(4): e1003906. doi: 10.1371/journal.pcbi.1003906

Staaterman, E.R., Gallagher A.J., Reichenbach Z.C., Bhandiwad A.A., Gravinese P.M., Moeller P.M., Shantz A.A., Shiffman D.S., Toth L.T., & Warneke A.M. 2014. *Lights, camera, science: The utility and growing popularity of film festivals at scientific meetings*. Ideas in Ecology and Evolution 7: 11-16.

PROFESSIONAL PRESENTATIONS*

A Disturbance in the Force: Copper impairs herbivore response to seaweed inducible defenses

- SoCal Society of Ecotoxicology and Chemistry. San Diego, CA, 2014
- Benthic Ecology Meeting. Jacksonville, FL, 2014
- SDSU Student Symposium. San Diego, CA, 2014

The impact of human chemicals on ecological interactions

- Invited Talk, CMIL Open House, 2014
- Invited Talk, Skype in the Classroom “Exploring Oceans,” 2013

Social media as a tool for marine education and outreach.

- Session Moderator, ScienceOnline Oceans, Miami, FL, 2013

Info-disruption: Examining contaminants through an ecological lens.

- Invited Talk, San Diego State University, Chemical Ecology Class, San Diego, CA, 2013

Consequences of the plastic leachate, Bisphenol-A, on the palatability of a primary producer

- Student Symposium, Wrigley Institute for Marine Science, Catalina Island, CA, 2011

Seagrass nursery habitat function: Relative effects of habitat structure and prey density on mesopredator foraging efficiency

- SDSU Student Symposium. San Diego, CA, 2011
<http://www.youtube.com/watch?v=yNASxZLctMY>
- Western Society of Naturalists Meeting. San Diego, CA, 2010

The response of Echinopluteus larvae of Dendraster excentricus to haloclines varies with larval age and maternal effects

- SDSU Student Symposium. San Diego, CA, 2010
- ASLO Ocean Sciences Meeting. Portland, OR, 2010
- Western Society of Naturalists Meeting. Monterey Bay, CA, 2009

* 2014-2017 Current work with the National Park Service consists of regular presentations to the public and community stakeholders on topics pertinent to marine ecology, climate change, science education, and the NPS mission.

AWARDS AND DISTINCTIONS

2016 – San Diego Unified School District Distinguished Mentor

2014 - SDSU Student Research Symposium Provost Award - Phi Kappa Phi Love of Learning Award - CSU COAST Student Travel Award - Harold and June Grant Memorial Scholarship - State University Grant - Common Experience International Photo Contest Honorable Mention - Neel Endowed Scholarship

2013 - Dave Ferris Travel Fund - Women's Environmental Council Scholarship - Harold and June Grant Memorial Scholarship - CSU COAST Student Fellowship - Graduate Equity Grant - State University Grant

2012 - Inamori Fellowship - #SciFund Challenge - ScienceOnline Student Travel Grant - SDSU Most Outstanding Biology Student - Harold and June Grant Memorial Scholarship - Association of Environmental Professionals Student Scholarship - Phi Kappa Phi Love of Learning Award - Common Experience International Photo Contest 1st Place Winner - Graduate Equity Grant -

State University Grant - Henry L. Janssen Mortar Board Alumni Scholarship - Mabel Myers Memorial Scholarship

2011- Harry E. Hamber Memorial Scholarship (2011) - Mabel Myers Memorial Scholarship

2010- Robert Harwood Memorial Scholarship - PSG Institute-India Study Abroad Scholarship - SDSU Associated Students Study Abroad Scholarship - Scholars without Borders Study Abroad Scholarship - Mabel Myers Memorial Scholarship

2009- Louise and Raymond Clark Endowed Scholarship - Mabel Myers Memorial Scholarship

PROFESSIONAL MEMBERSHIPS

American Academy of Underwater Sciences (AAUS)

American Geophysical Union (AGU)

American Society of Limnology and Oceanography (ASLO)

Association of Environmental Professionals-San Diego Chapter (AEP)

Association of Women in Science (AWIS)

Golden Key International Honors Society

- President (2011-2012)

Graduate Women in Science (GWIS)

International Society of Chemical Ecology

Mortar Board International Honors Society

- Active/Alumni Liaison (2011-2012)

- Ruth Weimer Mount Chapter Excellence and Golden Torch Award Winner (2012)

National Association of Science Writers (NASW)

National Association of Underwater Instructors (NAUI)

Phi Eta Sigma Honors Society

The Honors Society of Phi Kappa Phi

SDSU Scholars Without Borders

Society of Environmental Toxicology and Chemistry (SETAC)

Western Society of Naturalists (WSN)

Women's Environmental Council (WEC)

OUTREACH AND SYNERGISTIC ACTIVITIES

Deep Sea News *Ocean Science Blog, Writer* (2014-Present)
www.deepseanews.com

PangeaSeed Foundation *Board of Directors-Vice President* (2015-Present)
www.pangeaseed.foundation.org

Climate Science Alliance *Innovative Community Engagement – Team Lead* (2017-Present)
www.climatesciencealliance.org

The Escondido Creek Conservancy *Ed. Advisory Board-Informal Education Chair* (2017-Present)
www.escondidocreek.org

Beneath the Waves, Inc. *Director of Social Media and Marketing* (2011-2016)
www.beneaththewaves.org

Managed Festivals: Living Coast Discovery Center (2014)

Western Society of Naturalist Annual Meeting (2013)

PangeaSeed's Great West Coast Migration (2012)

SDSU Marine Ecology and Biology Student Association

Seminar Series Co-Coordinator (2013-2014)

Outreach and Education Coordinator (2012-2013)

Organization Co-founder & Undergraduate Representative (2011-2012)

Coastal and Marine Institute Laboratory Annual Open House (2012, 2013, 2014)

"So You Think You Can Be a Marine Biologist?" Undergraduate Seminar Coordinator

www.mebsa.wordpress.com

Awards Received: San Diego Oceans Foundation Ocean Leadership Award (2012)

Maritime Alliance Environmental Leadership Award (2013)

RELEVANT CERTIFICATIONS

National Park Service (NPS): Fundamentals of Interpretation, History of the NPS, Media Fundamentals for Interpretation, Interpretive Writing, Scientific Integrity, How to Prepare an Interpretive Program, Communicating with Tact, Interpreting Climate Change, Civil Treatment, Operational Leadership

National Association of Underwater Instructors (NAUI): Assistant Instructor, Training Assistant, Advanced Scuba Diver, Rescue Diver, Nitrox Diver, Field Neuro & Oxygen Administration, CPR/First Aid

American Academy of Underwater Sciences (AAUS): Scientific Diver

Professional Association of Diving Instructors (PADI): Open Water

California Department of Boating and Waterways: Boating Safety Certification

University of California: Certified California Naturalist

Other: Scientific Illustration, GIS for Biologists, Data Science Certificate

TECHNOLOGICAL PROFICIENCIES

Adobe: InDesign, Illustrator, Photoshop

Microsoft: Word, Excel, Powerpoint, Outlook

Macintosh: Final Cut Pro, Imovie, Garageband

Statistical Software: Prism, Systat, Minitab, Image J, R Studio

Social Networking: Wordpress, Squarespace, Pictochart, Snapchat, YouTube, Twitter, Facebook, Hootsuite, TweetDeck, Google+, Instagram, Buffer, MailChimp

Other: 123D Catch, Autodesk, Meshmixer, 3D Printing, ARCGIS

ACTIVITIES & HOBBIES

Advanced Yoga (Yoga Alliance: 200 hr. Vinyasa Instructor Certification, 3 years teaching experience)

Proficient in Saxophone, Flute, Cello, & Piano

Recreational Scuba Diving

REFERENCES

Keith J. Lombardo, Ph.D.

Chief of Natural Resources and Science, Cabrillo National Monument, National Park Service
(619) 557-5450 ext. 4582, keith_lombardo@nps.gov

Andrea Compton

Superintendent, Cabrillo National Monument, National Park Service
(619) 557-5450 ext. 4560, andrea_compton@nps.gov

Amber Pairis, Ph.D.

Director, Climate Science Alliance, CA Department of Fish and Wildlife
(916) 205-9478, amber.pairis@wildlife.ca.gov

Jeremy D. Long, Ph.D.

Assistant Professor, Department of Biology, San Diego State University
Phone Currently Unavailable- On Sabbatical, jlong@mail.sdsu.edu

Kevin A. Hovel, Ph.D.

Associate Professor, Department of Biology, San Diego State University
(619) 594-6322, hovel@mail.sdsu.edu

Craig R. McClain, Ph.D.

Chief Editor, Deep Sea News
Executive Director, Louisiana University Marine Consortium (LUMCON)
(985) 851-2801 , cmcclain@lumcon.edu, www.deepseanews.com

Austin J. Gallagher, Ph.D.

Director, Beneath the Waves, Inc.
(617) 633-0207, austin@beneaththewaves.org, www.beneaththewaves.org

Additional references available upon request

E: a.warneke@yahoo.com

W: www.alexwarneke.com

B: www.deepseanews.com

P: 858-602-7097