

Amanda C. Bird

Curriculum Vitae

Email: Amanda@pauamarineresearch.com

San Diego, CA 92107

Education

M.S.	Biology, California State University, Fullerton M.S. Thesis: Determining population structure, reproductive potential and habitat associations of pinto abalone (<i>Haliotis kamtschatkana</i>) in southern California Adviser: Dr. Danielle Zacherl	2018
C.Ed.	California State University, Long Beach Continued education courses in Physics (2 semesters) and Human Anatomy	2012
B. S.	Conservation Biology, Arizona State University, Tempe, AZ Senior thesis: The effectiveness of marine protected areas around the world	2008
H.S.	Seton Catholic Preparatory School, Chandler, AZ	2004

Research Interests

- Conservation biology
- Marine invertebrate ecology
- Trophic ecology
- Ecosystem-based management
- Anthropogenic influences on marine ecosystems
- Public education & outreach
- MPA research

Work Experience

Senior Marine Biologist / Owner January 2016 to Present

Paua Marine Research Group, LLC - San Diego, CA

- Rare and endangered species' research and restoration for NOAA Fisheries
- Abalone aquaculture at the NOAA Southwest Fisheries Science Center
- Eelgrass monitoring, restoration and mitigation
- Invasive marine species surveys
- Kelp forest community ecology

M.S. Student Researcher

California State University, Fullerton

2013 – 2017

Department of Biological Science (MH-282), PO Box 6850, Fullerton, CA 92834

- Thesis research: Determining population structure, reproductive potential and habitat associations of pinto abalone (*Haliotis kamtschatkana*) in southern California
- Field surveys involve assays of abalone abundance, spatial distribution, size frequencies, and habitat associations measured through the use of SCUBA-based line transect surveys and video transects.

- *Post hoc* analysis of habitat associations (e.g., substratum composition, relief structure, invertebrates, macroalgal species, and fishes), from video transect surveys and photo plots
- Analysis of habitat associations, depth preferences, and spatial distribution using spatial analysis in GRASS and ArcGIS; other statistical analysis using R and JMP
- Over 100 hours operating an 18' Boston Whaler research vessel in southern California
- Coordinating, training and supervision of 12 dedicated American Academy of Underwater Sciences (AAUS) volunteer scientific divers
- Purchase and maintenance of all diving and boating-related equipment and supplies including diving equipment and tanks, survey supplies, annual dive gear maintenance, and boat safety supplies (e.g., PFDs, First Aid, Oxygen)
- Obtained over \$28,000 in grant and scholarship funding for this project

Biological Technician

Tierra Data, Inc.

11/2015 to 2017

10110 W Lilac Rd, Escondido, CA 92026

- Project-based field work associated with U.S. Navy marine biological assessments in San Diego Bay
- Eelgrass habitat impact assessments
- Sensitive and endangered species' monitoring for in-water construction projects
- Sediment and water quality sampling

Biological Technician

Coastal Resources Management, Inc.

06/2009 to November 2016

PMB 327, 3334 E. Coast Hwy Corona Del Mar, CA 92625

- Impact assessments for kelp forest, rocky reef, intertidal, bay/estuarine mudflat, eelgrass and salt marsh habitats and sensitive/endangered species
- Surveys of eelgrass density, percent cover, and associated epifaunal diversity and abundance to inform mitigation and restoration efforts
- Water quality/light sensor deployment and maintenance – YSI, Apogee PAR meters, and HOBO remote temperature/light loggers
- Field collection, processing, and quality analysis of fresh and saltwater samples using SCUBA or methods from boat using Van Dorn water samplers and Ekman/Ponar/Van Veen grab samplers
- Collection of bay sediment for toxicity testing
- Underwater seagrass habitat mapping using surface-supplied air and OTS Guardian underwater communication mask systems
- Kayak-based GPS mapping of eelgrass areal cover
- Eelgrass collection, transport, and transplantation in bay/estuarine habitats
- Eelgrass transplantation using novel techniques including hand-bundling, Transplanting Eelgrass Remotely with FrameS, and Buoy-Deployed Seeding methods
- *Caulerpa* surveys

Seasonal Biological Technician (GS-04)

National Park Service, Channel Islands National Park

May – October 2015

1901 Spinnaker Dr., Ventura, CA 93001

- Seasonal position performing kelp forest surveys at 33 long-term monitoring sites at each of the Channel Islands (San Miguel, Santa Rosa, Santa Cruz, Anacapa and Santa Barbara Island)

- Bi-monthly, multi-day (typically 5 or less) research cruises on a 60ft research vessel with 10 biologist/divers and up to five dives per day in water temperatures ranging from 50-72°F
- Collected data on population dynamics of over 150 kelp forest community species using SCUBA and surface-supplied air diving techniques
- Fish, invertebrate, and benthic composition band transects, quadrats, random point contacts, video transects, fish transects, size-frequency measurements, and photo/video documentation in kelp forest/rocky reef habitats
- Data entry, QA/QC, analysis, and reporting
- Maintenance and organization of dive gear, sampling equipment, and NPS research vessel
- Purchasing of food for each 5-day monitoring cruise

Marine Restoration Coordinator

Orange County Coastkeeper, Costa Mesa, CA 2009 to 2014
 3151 Airway Avenue, Ste. F-110, Costa Mesa, CA 92626

- Designed and implemented a four-year, community-based eelgrass (*Zostera marina*) restoration project in Newport Bay, Newport Beach, CA using eelgrass survey and water quality sampling methodologies used as a Marine Biologist for Coastal Resources Management, Inc.
- Oversaw a team of scientific volunteer divers to collect epipodial tissue samples from green abalone (*Haliotis fulgens*) in nearshore kelp forests in Orange County in order to examine the genetic structure of green abalone in the southern California Bight in coordination with federal and state agencies, academic institutions and other non-profits
- Assisted Dr. Danielle Zacherl at California State University, Fullerton in the implementation of a native Olympia oyster (*Ostrea lurida*) restoration project in Alamitos Bay, Long Beach, CA
- Designed and implemented a junior high and high school educational field trip program directly associated with the Olympia oyster restoration project
- Obtained over \$400,000 in grant funding for educational programs, public outreach, and restoration projects

Professional Skills, Certifications & Qualifications

Megalodon 2.7 CCR Air Dil	11/2018
TDI Hammerhead CCR Heliotrox/Decompression	04/2017
TDI Advanced Nitrox/Decompression Procedures/Trimix	10/2016
Certified for <i>Caulerpa</i> surveys	2013
AAUS Scientific Diver	2012
PADI Master Scuba Diver Trainer #316224	2012
<ul style="list-style-type: none"> • Courses taught: Open Water, Advanced, Rescue, and Divemaster • Specialties taught: Deep, Wreck, Night, Navigation, EANx, and Drysuit 	
Emergency First Response Instructor #316224	2012
First Aid / CPR / AED / Emergency O2 Administration	
NAUI Scuba Instructor #52022	2009
<ul style="list-style-type: none"> • Courses taught: Open Water, Advanced, Rescue, EANx and Divemaster 	
Grant Writer, The Grantsmanship Center, Los Angeles, CA	December 2008
<ul style="list-style-type: none"> • 100-hour intensive course on grant research and writing • Seven years of grant research, writing and administrative experience and over \$430,000 in grant funding 	

Selected Grants & Awards

2016	Associated Students Inc. Graduate Student Research Grant - \$950
2015	Western Society of Malacologists Student Research Grant - \$500
2015	Dr. and Mrs. Donald Bright Environmental Scholarship - \$3,000
2015	CSU COAST Graduate Student Research Award - \$3,000
2014	CSU Initiative Grant, Determining population structure, reproductive potential and habitat associations of threaded abalone (<i>Haliotis kamtschatkana assimilis</i>) in southern California - \$10,000
2014	California Sea Grant Program Development Award, Determining population structure, reproductive potential and habitat associations of threaded abalone (<i>Haliotis kamtschatkana assimilis</i>) in southern California - \$10,000
2014	Rachel Carson Scholarship in Conservation Biology, Department of Biological Science, CSU Fullerton - \$1,000
2014	Southern California Wetlands Recovery Project, Community-Based Restoration Grant, Eelgrass restoration in Upper Newport Bay. With Orange County Coastkeeper - \$15,000
2013	California State Parks Foundation, Restoration and Conservation of Green abalone (<i>Haliotis fulgens</i>) in Southern California. With OC Coastkeeper and Reef Check California - \$7,400
2012	NOAA Habitat Restoration Center and State Coastal Conservancy, Restoration of native oysters, <i>Ostrea lurida</i> , in Alamitos Bay, CA. With Dr. Danielle Zacherl, California State University, Fullerton, OC Coastkeeper, and KZO Education - \$89,100
2012	The Surfer's Journal, Restoration and Conservation of Green (<i>Haliotis fulgens</i>) in Southern California. With OC Coastkeeper - \$10,000
2011	NOAA Habitat Restoration Center and State Coastal Conservancy, Upper Newport Bay Eelgrass Restoration Project. With OC Coastkeeper and Coastal Resources Management, Inc - \$156,000
2004-2008	Arizona State University Provost's Scholarship, full 4-year academic scholarship

Publications

Gruenthal, K.M., Witting, D.A., Ford, T., Neuman, M.J., Williams, J.P., Pondella II, D.J., Bird, A., Caruso, N., Hyde, J.R., Seeb, L.W., and Larson, W.A. (2013). Development and application of genomic tools to the restoration of green abalone in southern California. *Conservation Genetics*. doi: 10.1007/s10592-013-0524-5.

Presentations

Poster Presentations

Bird, A. B., M. Neuman, and D. Zacherl. 2015. Determining population structure, reproductive potential and habitat associations of threaded abalone (*Haliotis kamtschatkana assimilis*) in southern California. National Shellfisheries Association Annual Meeting, Monterey, CA.

Bird, A. B., and D. Zacherl. November 13 – 16, 2014. Determining population structure, reproductive potential and habitat associations of threaded abalone (*Haliotis kamtschatkana assimilis*) in southern California. Western Society of Naturalists Annual Meeting, Tacoma, WA. ~600 attendees.

Oral Presentations

Bird, A.B., Neuman, M.J., Ostrowski, E., and Zacherl, D.C. 2016. *Determining population structure and habitat associations of pinto abalone (Haliotis kamtschatkana) in southern California*. Western Society of Naturalists Annual Meeting, Monterey, CA.

- Bird, A.B.,** Neuman, M.J., Ostrowski, E., and Zacherl, D.C. 2016. *Determining population structure and habitat associations of pinto abalone (Haliotis kamtschatkana) in southern California.* Western Society of Malacologists Annual Meeting, Ensenada, Baja California Sur, Mexico.
- Bird, A. B.** 2014. Restoration and conservation of green abalone (*Haliotis fulgens*) in southern California. Orange County Coastal Coalition, Newport Beach, CA.
- Bird, A. B.** and Briley, S. 2012. Marine Habitat Restoration Techniques: Eelgrass (*Zostera marina*) in Upper Newport Bay and Olympia Oysters (*Ostrea lurida*) in Alamitos Bay, CA. Guest lecture for Saddleback College course, “Ecological Restoration Techniques”, Newport Beach, CA.
- Bird, A. B.** 2010. Eelgrass education and restoration in Upper Newport Bay. Monthly meeting of the Orange County Coastal Coalition, Newport Beach, CA.
- Ware, R. R., M. Curtis, B. Chesney, and A. B. Bird. 2010. Eelgrass. What is it, where is it, and why is it important? Orange County Natural History Lecture Series, Newport Beach, CA.
- Bird, A. B.** 2010. Upper Newport Bay Eelgrass Restoration Project. Biannual meeting of the Southern California Wetlands Recovery Project, Costa Mesa, CA.

Professional Affiliations

American Academy of Underwater Sciences	Technical Diving International (TDI)
Professional Association of Diving Instructors (PADI)	National Shellfisheries Association
National Association of Underwater Instructors (NAUI)	Western Society of Naturalists
	Western Society of Malacologists
	Society for Conservation Biology

Service

Volunteer Aquarist	January 2016 to Present
NOAA Southwest Fisheries Science Center, La Jolla, CA	
<ul style="list-style-type: none"> Assist the head aquarist with daily feeding, tank maintenance and health assessments for the resident fish and abalone species 	
Volunteer Marine Educator	2009 to 2014
Back Bay Science Center, Newport Beach, CA	
<ul style="list-style-type: none"> Assisted CDFW staff with monthly Marine Life Inventory and other special events 	
Grant Researcher/Field Technician	2008 to 2009
San Diego Habitat Conservancy, San Diego, CA	
<ul style="list-style-type: none"> Performed grant research and writing Assisted the Senior Habitat Biologist with surveys of vegetation, birds, and mammals within lands managed by the Conservancy 	
Education and Events Volunteer	2008 to 2009
San Diego Coastkeeper, San Diego, CA	
<ul style="list-style-type: none"> Assisted with public outreach events and volunteer coordination 	