

Sarah K. Henkel

Oregon State University
Hatfield Marine Science Center
2030 S.E. Marine Science Dr., Newport, OR 97365

Department of Integrative Biology
Phone: (541) 867-0316
Email: sarah.henkel@oregonstate.edu

Education

Ph.D. *University of California, Santa Barbara*, 2008 (Marine Science)
M.S. *California State University, Fullerton*, 2003 (Biological Science)
B.S. *College of William and Mary*, 2000 (Biology)

Current Position

Assistant Professor, Senior Research: Oregon State University, 2009–present

Past Experience

Consultant: MPA Monitoring Enterprise, 2009
California Sea Grant State Fellow: Ocean Science Trust, 2008–2009
EPA Star Fellow: University of California Santa Barbara, 2005–2008
Research Assistant: Partnership for Interdisciplinary Studies of Coastal Oceans, 2004–2005
Sea Grant Trainee & Research Assistant: California State University, Fullerton, 2000–2003
Research Assistant: College of William and Mary, 2000, Virginia Institute of Marine Science, 1999

Teaching Experience

BI 450 Marine Biology-Marine Conservation: Oregon State University, 2010-2014
MCDB1B/EEMB2 Introductory Biology 2: University of California Santa Barbara, 2004
EEMB 112 Invertebrate Biology: University of California Santa Barbara, 2003
Biology 422 Coastal Ecology: California State University, Fullerton, 2002
Biology 241 Botany: California State University, Fullerton (Grader), 2002
Biology 317 Field Marine Biology: California State University, Fullerton, 2001
Biology 500 Professional Aspects of Biology: California State University, Fullerton, 2001
Biology 101 Elements of Biology Lab: California State University, Fullerton, 2000

Peer-Reviewed Publications

Henkel, SK, Conway, F, Boehlert, G. 2013. Environmental and Human Dimensions of Ocean Renewable Energy Development. *Proceedings of the IEEE* 101(4): 991–998. (*Invited*)
LeDee, O, Barnes, RT, Emanuel, R, Fisher, PB, **Henkel, SK**, Marlon, JR. 2011. Training a “New Scientist” to Meet the Challenges of a Changing Environment. *EOS Trans.* 92(16):135–136.
Henkel, SK, Kawai, H and Hofmann, GE. 2009. Interspecific and interhabitat variation in *hsp70* gene expression in native and invasive kelp populations. *MEPS* 386: 1–13. (*Feature article*)
Henkel, SK and Hofmann, GE. 2008. Thermal ecophysiology of gametophytes cultured from invasive *Undaria pinnatifida* (Harvey) Suringar in coastal California harbors. *JEMBE* 367: 164–173.
Henkel, SK and Hofmann, GE. 2008. Differing patterns of *hsp70* gene expression in invasive and native kelp species: Evidence for acclimation-induced variation. *J App Phyc* 20: 915–924.
Woodson, CB, DI Eerkes-Medrano, A Flores-Morales, M Foley, **S Henkel**, M Hessing-Lewis, D Jacinto, L Needles, M Nishizaki, J O’Leary, CE Ostrander, M Pespeni, K Schwager, JA Tyburczy, KA Weersing, A Kirincich, J Barth, MA McManus, and L Washburn. 2007. Local diurnal upwelling driven by sea breezes in northern Monterey Bay. *Cont Shelf Res* 27(18): 2289–2302.
Henkel, SK, Hofmann, GE and Whitmer, AC. 2007. Morphological and genetic variation in *Egregia menziesii* over a latitudinal gradient. *Bot Mar* 50: 159–170.
Henkel, SK and Murray, SN. 2007. Reproduction and morphological variation in southern California populations of the lower intertidal kelp *Egregia menziesii* (O. Laminariales). *J Phycol* 43:242–255.

Book Chapter

Henkel, SK, Suryan, RM, Lagerquist, B. 2014. "Marine Renewable Energy and Environmental Interactions: Baseline Assessments of Seabirds, Marine Mammals, and Benthic Communities on the Oregon Shelf" In Marine Renewable Energy Technology and Environmental Interactions. Ed. by M. A. Shields, A.I.L. Payne. Springer, Dordrecht pp. 93-110.

Reports

Henkel, SK. 2011. Baseline characterization and monitoring of the OSU Mobile Ocean Test Berth Site: Benthic habitat characteristics and organisms on the central Oregon coast. A report prepared for the Oregon Wave Energy Trust. 31 pp. Available online at www.oregonwave.org

Henkel, SK. 2011. Characterization of benthic conditions and organisms on the Oregon south coast: A rapid evaluation of habitat characteristics and benthic organisms at the proposed Reedsport wave park. A report prepared for OWET. 15 pp. Available online at www.oregonwave.org

Carlisle, J, Chan, D, Golub, M, **Henkel, S**, Painter, P, Wu, K. 2009. Toxicological Profile for Bisphenol A (BPA). D. Seigel (Ed.), Office of Environmental Health Hazard Assessment. Prepared for Cal-OPC.

Carlisle, J, Painter, P, Qiao, D, Li, L-H, **Henkel, S**. 2009. Toxicological Profile for Di-(2-Ethylhexyl) Phthalate (DEHP). D. Seigel (Ed.), Office of Environmental Health Hazard Assessment. Prepared for California Ocean Protection Council.

Murray, SN, Cox, E, Kido, J, Yee, E, Smith, J, Frisch, S, **Henkel, S**, Gilbane, L, Bullard, A, Gerrard, A. 2002. Trends in the status of selected rocky intertidal populations in Orange County, California. A progress report: 1996-97 through 2002-03. Coastal Marine Ecology Laboratory, CSUF 75 pp.

Professional Activities

North Central Coast California MPA Baseline Program final reports review panel: 2013

Oregon Marine Renewable Energy Environmental Science Experts Workshop: Corvallis, OR, Invited participant. November 2012

Coastal and Marine Spatial Planning Science Workshop: Corvallis, Oregon, November 2011

Research at the Intersection of Marine/Hydrokinetic Energy and the Environment, NSF-funded workshop: University of Minnesota, St. Anthony Falls Lab, Invited speaker, October 2011

Advanced MRE Instrumentation Experts Workshop: Golden, CO, Invited speaker, April 2011

Oregon Wave Energy Trust Ecological Committee Member, 2010–2011

International Energy Agency Annex IV Experts Workshop on Environmental Effects of Marine Hydrokinetic Energy: Dublin, Ireland, Invited participant, September 2010

California Ocean Protection Council Meeting: Hydrokinetic Energy Development: Sacramento, CA, Invited panel member, March 2010

Oregon Marine Reserves Community Team: Scientist Stakeholder Representative, 2010

Research Grants

U.S. Department of Energy (PI) Using Multiple *In Situ* Approaches to Assess Fish Communities and Their Connectivity in the Vicinity of Natural Rocky Outcrops and an Adjacent Active Wave Energy Converter Site in the Pacific Northwest September 2014 – March 2016.

U.S. Department of Energy (Co-PI on sub-award) WindFloat Pacific Pilot Project March 2013 – March 2015.

Oregon Built Environment and Sustainable Technologies (PI) Environmental assessment strategy and system monitoring plan to support industry commercialization of a submerged wave energy conversion technology. August 2012 – April 2013

Bureau of Ocean Energy Management (Co-PI) Oregon Renewable Energy Science Conference

City of Newport, Oregon (PI) Ocean Bioaccumulation Survey (Testing for potential accumulation of metals & organics in benthic fish & invertebrates from paper plant outfall) July 2012 – February 2014

Oregon Wave Energy Trust (PI) Characterization of Benthic Organisms on the Oregon South Coast in Areas Targeted for Wave Energy Development, June – December 2011

Minerals Management Service (now BOEM) (Co-PI) Survey of Benthic Communities near Potential Renewable Energy Sites Offshore the Pacific Northwest, June 2010 – August 2014

Oregon Wave Energy Trust (PI) Baseline Characterization and Monitoring of Mobile Ocean Test Berth Site, May 2010 – December 2011

Environmental Protection Agency: Science to Achieve Results (STAR), 2005

Advising

Supervision of Graduate Student Research

Stephanie Fields: M.S. Marine Resource Management Program, expected completion Summer 2015. Thesis: Assessing macrofaunal responses to dredged material disposal.

Nate Lewis: M.S. Marine Resource Management Program, completed Fall 2013. Thesis: Recovery of ecosystem structure and function in replanted native eelgrass beds.

Stephanie Labou: M.S. Marine Resource Management Program, completed August 2013. Thesis: Physical Factors Affecting the Spatial Distribution of Infaunal Bivalve Assemblages and Species along the Continental Shelf of the Pacific Northwest.

Timothy Seung-chul Lee: M.S. Environmental Science Program, completed Spring 2012. Thesis: Patterns of benthic macroinvertebrate communities and habitat associations in temperate continental shelf waters of the Pacific Northwest. Current position: PhD student at the University of South Florida.

Danny Lockett: M.S. Marine Resource Management Program, completed Spring 2012 (Co-advised with Chris Goldfinger). Thesis: Bayesian Learning for Mapping Benthic Invertebrate Distribution. Current position: Biogeochemical Research Associate at OHSU

Graduate Thesis Committee Service

Sarah Close: PhD, Zoology, expected completion Winter 2014. Thesis: Nutrient dynamics and the structure of macrophyte assemblages.

Jeremy Henderson: M.S., Zoology, completed Spring 2013. Thesis: Life history analysis of invasive eelgrass in Pacific estuaries.

Jessica Ramsay: M.S., Environmental Science Program, completed Spring 2012. Thesis: Dungeness crab production: an ecosystem service provided by the oysters *Ostrea lurida* and *Crassostrea gigas*

Orissa Moulton: M.S., Zoology, completed Fall 2010. Thesis: Surfgrasses (*Phyllospadix* spp.) as dynamic foundation species for macroinvertebrates along the Oregon coast.

Supervision of Undergraduate Research

Robin Baker: 2013 NSF REU. Home Institution: University of Idaho. Project: Assessing infaunal invertebrate communities among replanted and natural *Zostera marina* beds.

Caitlyn Clark: OSU University Honors College (also 2011 REU), expected completion Spring 2014. Thesis: Seasonal variation in feeding and condition of nearshore flatfish species

Becca Givens: OSU University Honors College, completed Spring 2012. Thesis: Population structure and distribution of preferred grey whale food source: mysid shrimp in nearshore habitats

Nikoli Danilchik: OSU Biology. Sample processing and data entry. Developing thesis on *Crangon* shrimp

Allan Chan and Steven Van Auken: OSU Biology, Mentored project and submitted manuscript: Orientation and movement of *Cryptochiton stelleri* in natural and enhanced magnetic fields

Cynthia Sells: OSU Fisheries and Wildlife, served as mentor for Fisheries and Wildlife internship

Caleb Wilson: OSU Biology Student, completed spring 2011. Project: Comparison of burial speed and duration of Dungeness and Red Rock crab. Current position: Pacific Northwest National Laboratories, Sequim, WA.

Elizabeth Lopez: Home Institution: California State University, Monterey Bay.

2010 NSF REU. Project: Baseline survey of macroinfaunal invertebrate community at a potential wave energy site off the Oregon coast.

2012 McNair Scholar. Project: Fish-macroinvertebrate associations on the continental shelf as observed using ROV video.

Maha Haji: 2010 NOAA Hollings Scholar. Home Institution: University of California Berkeley. Co-advised with Dr. Robert Emmett Supervisory Research Fishery Biologist, NOAA Fisheries, NWFSC. Project: Interaction of wave energy devices and the environment: Biofouling concerns on mooring systems.

Honors and Awards

ICES/PICES Oceans of Change Early Career Scientist, 2012

Honorable Mention – Hatfield Marine Science Center Community Service Award, 2011

DISCCRS (DISsertations initiative for the advancement of Climate Change ReSearch) Scholar, 2010

British Phycological Society Annual Meeting Best Student Poster Award, 2005

Service to Department Award, CSUF Department of Biological Science, 2003

Northwest Algal Symposium Best Student Presenter Award. 2002