

Rebecca Ann Howard

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EDUCATION

- Ph.D. Ocean Ecology and Biogeochemistry, Oregon State University, Corvallis, OR, 2025 Expected
Minor in Statistics
Dissertation: “Influence of oceanography and climate on spatial structuring of groundfish populations”
- M.S. Marine Resource Management, Oregon State University, Corvallis, OR, September 2020
Thesis: “Change in Oregon’s nearshore groundfish trawl fishery: Perspectives from science and industry data”
- B.S. Aquatic Biology, University of California, Santa Barbara, CA, June 2015
Minor in Earth Science
Thesis: “Larval swimming duration of *Watersipora subtorquata*”

RESEARCH EXPERIENCE

- 2020 - Present **North Pacific Research Board Graduate Research Assistant**
Forecasting Bering Sea groundfish distributions using the Bering10K ROMS model
- 2018 – 2020 **Oregon Sea Grant Graduate Research Assistant**
Oregon State University, College of Earth, Ocean, and Atmospheric Sciences
Used statistical models to investigate the effects of oceanography and climate on groundfish long-term distribution and abundance in the northern California Current. Studied the overlap of fishery-independent (NMFS survey) and -dependent (logbook and landings) data sources on the Oregon continental shelf and their potential utility for assessment of nearshore flatfishes. Two manuscripts are in preparation. Analyses completed using R.
- 2014 – 2015 **Undergraduate Research Assistant**
Marine Science Institute, University of California Santa Barbara (Page/Dugan Lab)
Tested the swimming duration of *Watersipora subtorquata* to determine potential to spread as invasive species in the Santa Barbara Channel. Participated in SCUBA settlement plate surveys for presence of recently settled *W. subtorquata*. Conducted SCUBA surveys for eelgrass presence.
- 2014 **Undergraduate Research Assistant**
Earth Research Institute, University of California Santa Barbara (CEIN)
Development of settlement plate frames and antifouling paint treatments to test effectiveness of zinc and copper on invertebrate fouling communities.
- 2013 – 2014 **Undergraduate Research Assistant**
EEMB Dept., University of California Santa Barbara (Dr. Peter Collins’ Lab)
Documented the embryonic development of cabezon (*Scorpaenichthys marmoratus*) using photomicroscopy. Assisted in larval rockfish laboratory hypoxia studies.

EMPLOYMENT

- 2016 – 2017 **AmeriCorps Member**
Watershed Stewards Program, place at the NMFS SWFSC

Collected data for population assessment of endangered Central California Coho salmon and threatened steelhead trout by stream surveys, juvenile trapping, and tagging. Created maps using ArcGIS for conference poster and future publications. Archived historical biological samples. Taught watershed curriculum to 3rd grade students and put on restoration event at a state park.

2015 – 2017 **North Pacific Groundfish Observer**

Alaskan Observers, Inc., contracted for the NMFS AFSC

Collected biological, safety, and effort data aboard commercial bottom trawlers in the Bering Sea. Biological data included maturity scans, otoliths, and salmon genetic samples. Worked with observers, NMFS scientists, fishermen, and processing plants.

2012 – 2015 **Aquarist** (2015), **Intern** (2013 – 2015), **Volunteer** (2012 – 2013)

Research Experience and Education Facility (REEF), UCSB

PUBLICATIONS

RA Howard, L Ciannelli, and WW Wakefield. (2021). Visualization and overlap of fishery-independent and fishery-dependent data for assessment of the Oregon continental shelf flatfish fishery. Manuscript in preparation.

RA Howard, L Ciannelli, WW Wakefield, and MR Fewings. (2020). The effects of climate, oceanography, and habitat on the long-term distribution and abundance of northern California Current continental shelf groundfishes. Manuscript submitted for publication.

POSTERS

RA Howard, L Ciannelli, and WW Wakefield (2020, December 1-2). *Visualization and overlap of fishery-independent and fishery-dependent data for assessment of the Oregon shelf flatfish fishery*. [Poster presentation]. CalCOFI Conference, Virtual. calcofi.org/conference/posters

RA Howard, L Ciannelli, WW Wakefield, and MR Fewings. (2020, March 4-5). *Four decades of change in the Oregon nearshore flatfish fishery through the eyes of science and industry*. [Poster presentation]. Meeting of the Oregon American Fisheries Society, Bend, OR.

RA Howard, L Ciannelli, WW Wakefield, and MR Fewings. (2019, November 8-9). *Four decades of change in the Oregon nearshore flatfish fishery through the eyes of science and industry*. [Poster presentation]. State of the Coast Conference, Gleneden Beach, OR.

RA Howard, and HM Page. (2015, May 19). *Larval swimming duration of *Watersipora subtorquata**. [Poster presentation]. UCSB Undergraduate Research Colloquium, Santa Barbara, CA.

RA Howard and PM Collins. (2014, May 20). *Embryonic development of the cabezon (*Scorpaenichthys marmoratus*)*. [Poster presentation]. UCSB Undergraduate Research Colloquium, Santa Barbara, CA.

AWARDS & HONORS

2020 Thesis Completion Award, Oregon State University

2018 Provost's Distinguished Graduate Fellowship, Oregon State University

2017 Segal AmeriCorps Education Award, Corporation for National and Community Service

2015 B.S. Aquatic Biology Distinction in Major, University of California Santa Barbara
2014 Bradley Paul Nuremberg Memorial Scholarship, UCSB Diving Operations
2014 Co-PI: Coastal Fund Grant, UCSB

FIELD EXPERIENCE

July 2019 **Volunteer Survey Biologist**
West Coast Groundfish Bottom Trawl Survey (F/V Last Straw)
NMFS NWFSC Fishery Resource Analysis and Monitoring Division

July 2019 **Mooring and Instrument Deployment Volunteer**
Partnership for the Interdisciplinary Studies of Coastal Oceans (R/V Elakha)
Department of Integrative Biology, Oregon State University

May 2017 **Volunteer Survey Biologist**
Rockfish Recruitment and Ecosystem Assessment Survey (NOAAS Reuben Lasker)
NMFS SWFSC Fisheries Ecology Division

March 2017 **Rockfish Specimen Collection Volunteer**
Cordell Bank National Marine Sanctuary rockfish collection (charter vessel)
NMFS SWFSC Fisheries Ecology Division

MENTORING & OUTREACH

2019 – 2020 **Academic Mentoring Program (CEOAS AMP), OSU**
Mentor for four undergraduate students in environmental sciences.

2019 – 2020 **National Ocean Sciences Bowls, OSU**
Salmon Bowl event volunteer.

2014 – 2015 **Graduate Biology Mentorship Association (BIOME), UCSB**
Mentor for undergraduate students in biology.

2014 – 2015 **Hollister Ranch Tidepool Conservancy, Gaviota, CA**
Outdoor education for 3rd through 7th grade students.

UNIVERSITY SERVICE

CEOAS 2020 Promotion and Tenure Student Committee, Corvallis, OR

SKILLS

Experience with R Statistical Software Package, ESRI, Git & GitHub, LaTeX, and Markdown
Certified AAUS Research Diver, NAUI Rescue and Nitrox Diver, and SSI Open Water Diver