



Oregon State
University

**Coastal Oregon Marine
Experiment Station**

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11/10/24

Dr. Karina Nielsen
Chair, OPAC STAC
Director, Oregon Sea Grant

Dear Director Nielsen,

I respectfully nominate myself for membership on the OPAC Scientific and Technical Committee. I am an Associate Professor at the Coastal Oregon Marine Experiment Station of Oregon State University, where I lead a research laboratory that addresses multiple issues relevant to the management and conservation of Oregon's coastal ocean, and I have experience informing and advising public policy related to marine fisheries and conservation in Oregon and beyond.

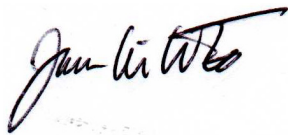
My scientific expertise covers many of the topic areas of interest to the STAC. The focus of my PhD research at UC Santa Barbara was benthic marine ecology, and during that time I spent many hours underwater doing fieldwork on coral reef and kelp forest fishes. That experience observing benthic species in the field has informed my current work, which primarily deals with population and ecosystem dynamics of marine systems, and their management. My lab uses a variety of quantitative statistical analyses and dynamic modeling approaches to deduce trends in long-term datasets, predict the likely outcomes of different management actions, and understand how we can best monitor populations for adaptive management. I have coauthored more than 100 peer-reviewed journal articles on topics including marine reserve design and management, transport and dispersal of fish and invertebrate larvae, ocean climate change and resilience, and ecotoxicology, as well as a textbook on population dynamics for conservation. My current research portfolio includes work on the adaptive management of marine reserves for climate resilience, the consequences of offshore wind development for fisheries and fishery management, the effects of sea otter reintroduction on kelp forest resilience, and the oceanographic drivers of variability of pteropod and crustacean population dynamics. The projects are funded by a mix of private foundations and federal and state agencies, including Oregon Ocean Science Trust. In this work I collaborate with agency scientists at NOAA and ODFW to ensure that our research addresses state and federal management priorities, and I am a lead Principal Investigator in the Partnership for Interdisciplinary Study for Coastal Oceans (PISCO), a multi-university consortium funded primarily by the David and Lucile Packard Foundation that investigates the dynamics, resilience, and conservation of coastal marine habitats in the California Current system.

My research expertise has led to multiple opportunities to advise public policy processes in marine conservation and fisheries, preparing me well for a role on the STAC. As a postdoc I served as a member of the Science Advisory Team for the California Marine Life Protection Act Initiative process that implemented marine protected areas along that state's coastline. Then, while faculty at UNC Wilmington, I served as an expert witness in *Florida v. Georgia* (2014), a trial before the US Supreme Court; in that process I gave depositions and trial testimony regarding my research into the causes of the collapse of the Apalachicola Bay, FL, oyster fishery. More recently I served as an at-large member of the Scientific and Statistical Committee for the Pacific Fisheries Management Commission (PFMC),

and I have also participated as an expert in Stock Assessment Review (STAR) panels for the PFMC and a variety of working groups and review panels for state agencies on the Pacific coast. Perhaps most notably, I led the legislatively mandated 'university review' of the ODFW Marine Reserve Program report in 2022 that we submitted to the STAC for review and ultimately formed the basis of new legislation passed in 2024 (HB 4132); during the legislative sessions leading up to that bill passing I provided written testimony and attended legislative committee hearings.

To summarize, my research expertise addresses multiple issues relevant to the management of Oregon's coastal ocean, and I have demonstrated my ability to advise marine policy in Oregon and nationally. It would be an honor to continue this work by serving on the STAC and contributing to the future of sustainable management of Oregon's marine resources.

Respectfully,

A handwritten signature in black ink, appearing to read "J. Wilson White". The signature is written in a cursive, flowing style with a prominent flourish at the end.

J. Wilson White
Associate Professor
Oregon State University
will.white@oregonstate.edu

J. WILSON WHITE

Associate Professor
Department of Fisheries, Wildlife, and Conservation Sciences
Coastal Oregon Marine Experiment Station
Oregon State University

Professional Preparation

Davidson College	Davidson, NC	Biology	B.S., 2000
UC Santa Barbara	Santa Barbara, CA	Ecol., Evol., & Marine Biol.	Ph.D., 2007
UC Davis	Davis, CA	Fisheries Biology	Postdoc, 2007-2010

Appointments

Associate Professor	Coastal Oregon Marine Expt. Station, OSU	2021-
Assistant Professor	Coastal Oregon Marine Expt. Station, OSU	2017-2021
Associate Professor	Dept. Biology and Marine Biology, UNC Wilmington	2016-2017
Assistant Professor	Dept. Biology and Marine Biology, UNC Wilmington	2010-2016

Selected Synergistic Activities and Policy Engagement

- 1) *Lead Principal Investigator*, University Review of Oregon Department of Fish and Wildlife (ODFW) Marine Reserves Program. Led a multi-campus research team who evaluated the ODFW report and produced a report to the Oregon legislature that informed new marine reserves legislation.
- 2) *Member*, California Ocean Science Trust Marine Protected Area & Climate Resilience Work Group (2019-2021). This group provided advice to resource managers in California on how protected areas could promote climate resilience.
- 3) *Member*, Scientific and Statistical Committee, Pacific Fisheries Management Council (2020-2021). The SSC advises on quantitative aspects of fisheries assessments and data collection.
- 4) *Review panelist*, California Department of Fish and Wildlife, Red Abalone Fishery Management Plan peer review panel (2018). This review panel evaluated alternative management plans for the California recreational red abalone fishery.
- 5) *Expert witness*, Florida v. Georgia (2014) 135 Supreme Court 471. In 2016 I provided testimony on my analysis of oyster population dynamics in Apalachicola Bay, FL. Using a state-space population model, I demonstrated that reductions in freshwater flow – but not overharvest – contributed to the 2012 collapse of that oyster fishery.
- 6) Editor-in-Chief, *Journal of Experimental Marine Biology and Ecology* (2019-present)

Selected Peer-reviewed Publications

(of >100 total, >5000 citations)

Textbook

Botsford LW, **White JW**, Hastings A. 2019. *Population Dynamics for Conservation*. Oxford University Press.

Marine reserves – design and planning

White JW, Scholz AJ, Rassweiler A, Steinback C, Botsford LW, Kruse S, Costello C, Mitarai S, Siegel D, Drake PT, Edwards CA. 2013. A comparison of approaches used for economic analysis in marine protected area network planning in California. *Ocean and Coastal Management* 73: 77-89

White JW, Botsford LW, Moffitt EA, Fischer DT. 2010. Decision analysis for designing marine protected areas for multiple species with uncertain fishery status. *Ecological Applications* 20: 1523-1541

White JW, Botsford LW, Hastings A, Largier JL. 2010. Population persistence in marine reserve networks: incorporating spatial heterogeneities in larval dispersal. *Marine Ecology Progress Series* 398: 49-67

Moffitt EA, **White JW**, Botsford LW. 2011. The utility and limitations of size and spacing guidelines for designing marine protected area networks. *Biological Conservation* 144: 306-318

Marine reserves – monitoring and adaptive management

White JW, Botsford LW, Baskett ML, Barnett LAK, Barr RJ, Hastings A. 2011. Linking models and monitoring data for assessing performance of no-take marine reserves. *Frontiers in Ecology and the Environment* 9: 390-399

Nickols KJ, **White JW**, Malone D, Carr MH, Starr RM, Baskett ML, Hastings A, Botsford LW. 2019. Setting expectations for adaptive management of marine protected areas. *Journal of Applied Ecology* 56: 2376-2385

White JW, Botsford LW, Hastings A, Baskett ML, Kaplan DM, Barnett LAK. 2013. Transient responses of fished populations to marine reserve establishment. *Conservation Letters* 6: 180-191

Hopf JK, **White JW**. 2023. Extreme events delay the detection of marine protected area effects: implications for monitoring and management. *Biological Conservation* 285: 110250

White JW, Yamane MT, Nickols KJ, Caselle JE. 2021. Analysis of fish population size distributions confirms cessation of harvest in marine protected areas. *Conservation Letters* 14: e12775

Perkins NR, Prall M, Chakraborty A, **White JW**, Baskett ML, Morgan SJ. 2020. How to quantify the statistical power of monitoring programs for adaptive management of marine protected areas. *Ecological Applications* 31: e2215

Moffitt EA, **White JW**, Botsford LW. 2013. Accurate assessment of marine protected area success depends on metric and spatiotemporal scale of monitoring. *Marine Ecology Progress Series* 489: 17-28

Hopf JK, Quennessen V, Ridgway J, Barceló C, Prior Caltabellotta F, Farnsworth Hayroyan S, Garcia D, McLeod M, Lester S, Nickols KJ, Yeager M, **White JW**. 2024. Ecological success of no-take marine protected areas: using population dynamics theory to inform a global meta-analysis. *Ecological Applications* 34: e3027

Climate change and resilience

White JW, Hopf JK, Arafeh-Dalmau N, Ban NC, Bates AE, Claudet J, Lopazanski C, Sunday JM, Caselle JE. 2025. Measurements, mechanisms, and management recommendations for how marine protected areas can provide climate resilience. *Marine Policy* 171: 106419

White JW, Kilduff DP, Hastings A, Botsford LW. 2024. Marine reserves can buffer against environmental fluctuations for overexploited but not sustainably harvested fisheries. *Ecological Applications* DOI 10.1002/eap.3043

White JW, Barceló C, Hastings A, Botsford LW. 2022. Pulse disturbances in age-structured population: life history predicts initial impact and recovery time. *Journal of Animal Ecology* 91: 2370-2383

Hopf JK, Caselle JE, **White JW**. 2022. No-take marine protected areas enhance the benefits of kelp forest restoration for fish but not fisheries. *Ecology Letters*. 25: 1665-1675

Kroeker KJ, Carr MH, Raimondi PT, Caselle JE, Washburn L, Palumbi SR, Barth JA, Chan F, Menge BA, Milligan K, Novak M, **White JW**. 2019. Planning for change: assessing the potential role of marine protected areas and fisheries management for managing resilience in a changing ocean. *Oceanography* 32:116-125

Free CM, Anderson SC, Hellmers EA, Muhling BA, Navarro MO, Richerson K, Rogers LA, Satterthwaite WH, Thompson AR, Burt JM, Gaines SD, Marshall KN, **White JW**, Bellquist LF. 2023. Impact of the 2014-2016 marine heatwave on U.S. and Canada West Coast fisheries: surprises and lessons from key case studies. *Fish and Fisheries* 24: 652-674

Marine policy

Lubchenco J, Menge BA, Barth JA, Carr MH, Caselle JE, Chan F, Fulton-Bennett HK, Gaines SD, Kroeker KJ, Milligan K, Palumbi SR, **White JW**. 2019. Connecting PISCO science to policy makers, managers, and citizens. *Oceanography* 32:106-115

Carr MH, **White JW**, Saarman EM, Lubchenco J, Milligan K, Caselle JE. 2019. Marine Protected Areas exemplify the evolution of science and policy. *Oceanography* 32:94-103

Dundas SJ, Levine AS, Lewison RL, Samhuri JF, White C, Galloway AWE, Hazen EL, Spalding A, Stier AC, Doerr A, Garza C, Hill T, Padilla-Gamino J, **White JW**. 2020. Integrating oceans into climate policy: any Green New Deal needs a splash of Blue. *Conservation Letters* 13:e12716

Selected Recent Research Funding

2024 Gaulke Center for Innovation, Oregon State University. Machine-assisted learning of remotely-sensed kelp-forest population dynamics. (PI with co-PIs M. Novak, J. Watson) \$50,000; 7/2024-6/2025

2023 Oregon Ocean Science Trust. Trophic modeling of Oregon's nearshore reefs. (PI with co-PIs M. Novak, L. Rasmuson) \$150,000; 1/23-2/25

2023 California Ocean Protection Council. Climate resilience and California's MPA network: management options and opportunities. (PI with co-PIs K. Kroeker, J. Caselle, M. Carr, P. Raimondi, J. Fiechter, C. Edwards) \$595,536; 5/2023-4/2025

2022 David and Lucile Packard Foundation. Discovering how to manage MPAs for climate resilience. (PI with co-PIs K. Kroeker, J. Caselle) \$405,000; 1/2023-12/2024

2021 David and Lucile Packard Foundation. PISCO: Climate resilience and evaluation of MPA networks. (PI with co-PIs K. Kroeker, F. Chan, J. Caselle, S. Palumbi, T. Hill) \$299,545; 12/2021-5/2023

2021 Oregon Community Foundation. Interdisciplinary assessment of Oregon's Marine Reserves Program. (PI with co-PI Kelly Biedenweg) \$129,999; 8/2021-3/2023

2021 South Atlantic Environmental Research Institute. Climate change resilience in Falkland Islands Fisheries and Marine Ecosystems. (co-PI with PI Paul Brickle and co-PI Michael Harte) £316,882; 7/2021-12/2023

2020 Oregon State Foundation/Eder Family Fund. Estimating natural mortality of sub-legal male Dungeness crab on the Oregon Coast. (PI with co-PIs S. Henkel and F. Chan) \$49,913; 3/2020-2/2021

2019 U.S. Environmental Protection Agency – Science to Achieve Results (STAR). Reducing the reliance on early-life stage testing with relevance to euryhaline fishes: Development and implementation of *in-vitro* assays predictive of early life stage toxicity and population-level effects. (co-PI, with PI S. Brander and co-PIs K. Armbrust and P. Chappell) \$849,988; 6/2019-5/2025

2019 National Science Foundation. Collaborative research: Mating systems as mechanisms for the resilience of species in which the environment determines whether they become male or female. (with PI M. Fuentes and co-PI L. Komoroske) OSU portion \$182,993; 7/2019-6/2025

2018 California Ocean Protection Council. Improving management under the Marine Life Management Act (MLMA) by accounting for effects of Marine Life Protection Act (MLPA) Marine Protected Areas (MPAs) on fisheries (with PI L. Botsford and co-PI A. Hastings) OSU portion: \$39,259; 12/2018-11/2022