

Casey O'Hara

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Education

PhD Environmental Science and Management (2022)

Bren School of Environmental Science & Management, University of California, Santa Barbara
Committee: Dr. Benjamin Halpern (chair), Dr. Halley Froehlich, Dr. Christopher Costello

Master of Environmental Science and Management (2014)

Bren School of Environmental Science & Management, University of California, Santa Barbara
UCSB University Award of Distinction; Bren School Academic Achievement Award

Single Subject Teaching Credential in Science, Physics (2004)

Graduate School of Education, San Francisco State University

Master of Science in Mechanical Engineering Design (1994)

Department of Mechanical Engineering, Design Division, Stanford University

Bachelor of Science in Mechanical Engineering (1993)

Department of Mechanical Engineering, Stanford University

Environmental science and management

- Postdoctoral Researcher, Collaborative Network for Valuing Earth Information (March 2023 – February 2025) National Center for Ecological Analysis and Synthesis - Santa Barbara, CA
- Researcher, Ocean Health Index (January 2015 – March 2023) National Center for Ecological Analysis and Synthesis - Santa Barbara, CA
- AAAS Mass Media Science Fellowship (June 2014 - September 2014) *The Oregonian* - Portland, OR
- Program Consultant (June 2013 - August 2013) The School for Examining Essential Questions of Sustainability (SEEQS) Charter School - Honolulu, HI
- Masters Thesis Group Project (April 2013 - June 2014) UCSB Bren School - Santa Barbara, CA “Offshore wind energy in the context of multiple ocean uses on the Bermuda platform.” Client: Department of Environmental Protection, Bermuda

Teaching and mentoring (post-secondary)

- Lecturer
 - Advanced Data Analysis (ESM244) (Winter 2023, Winter 2024)
 - Team Science, Collaborative Analysis, and Project Management (EDS211) (Winter 2023)
- Teaching Associate
 - Advanced Data Analysis (ESM244) (Winter 2022)
- Teaching Assistant (Recipient of 2021 Bren Teaching Assistant Award)
 - Statistics & Data Analysis for Environmental Science & Management (ESM206) (Fall 2019, 2021)
 - Advanced Data Analysis (ESM244) (Winter 2021)
 - Geographic Information Systems (ESM263) (Winter 2020)
 - Environmental Informatics (ESM262) (Spring 2019)
 - Quantitative Methods in Environmental Studies (ES25) (Spring 2013)
- Group Project Mentor/External Advisor
 - Prioritizing Chinook Salmon Habitat Restoration for Southern Resident Killer Whale Recovery (2022-2023)

- Developing a site suitability framework for shellfish aquaculture on Canada's Pacific Coast (2021-2022)
- Spatial Analysis to Inform Policy Recommendations for Shark and Ray Protection in Mozambique (2020-2021)
- Where the Wind Goes: Motivating Low Ecological Risk Wind Development (2018-2019)

See also STEM Education and Engineering

Relevant technical skills

- Proficient: R/R Studio including spatial analysis, data visualization, package development, ShinyApps
- Proficient: Git/GitHub version control and project management
- Familiar: MATLAB, C/C++, HTML, JavaScript, LaTeX
- Familiar: ArcGIS, QGIS

Working groups

- Collaborative Network for Valuing Earth Information (March 2023, ongoing) WWF, National Center for Ecological Analysis and Synthesis - Santa Barbara, CA
- Functional Interactions and Biodiversity Targets (April 2021, ongoing) National Center for Ecological Analysis and Synthesis - Santa Barbara, CA
- Species Vulnerability Working Group (National Philanthropic Trust) (February 2020) Matadradra Serua, Fiji
- Coastal Outcomes Working Group (SNAPP) (April 2019) National Center for Ecological Analysis and Synthesis - Santa Barbara, CA
- Ocean Futures Working Group (SNAPP) (July 2018) National Center for Ecological Analysis and Synthesis - Santa Barbara, CA

Selected publications

See my [Google Scholar profile](#) for full publication list with citation counts.

- **O'Hara, C. C.**, Frazier, M., Valle, M., Butt, N., Kaschner, K., Klein, C., & Halpern, B. S. (2024). Cumulative human impacts on global marine fauna highlight risk to biological and functional diversity. *PLOS ONE*, 19(9), e0309788.
- Mattalia, G., McAlvay, A., Teixidor-Toneu, I., Lukawiecki, J., Moola, F., Asfaw, Z., Cámara-Leret, R., Díaz, S., Franco, F. M., Halpern, B. S., **O'Hara, C.**, Renard, D., Uprety, Y., Wall, J., Zafra-Calvo, N., & Reyes-García, V. (2024). Cultural keystone species as a tool for biocultural stewardship. *A global review. People and Nature*, n/a(n/a).
- Froehlich, H. E., Montgomery, J. C., Williams, D. R., O'Hara, C., Kuempel, C. D., & Halpern, B. S. (2023). Biological life-history and farming scenarios of marine aquaculture to help reduce wild marine fishing pressure. *Fish and Fisheries*. <https://doi.org/10.1111/faf.12783>
- **O'Hara, C. C.**, Frazier, M., Valle, M., Butt, N., Kaschner, K., Klein, C., & Halpern, B. S. (2024). Cumulative human impacts on global marine fauna highlight risk to biological and functional diversity. *PLOS ONE*, 19(9), e0309788.
- Reyes-García, V., Cámara-Leret, R., Halpern, B. S., **O'Hara, C. C.**, Renard, D., Zafra-Calvo, N., Díaz, S. (2023). Biocultural vulnerability exposes threats of culturally important species. *Proceedings of the National Academy of Sciences*, 120(0)
- **O'Hara, C. C.**, & Halpern, B. S. (2022). Anticipating the Future of the World's Ocean. *Annual Review of Environment and Resources*, 47(1), annurev-environ-120120-053645.
- Butt, N., Halpern, B. S., **O'Hara, C. C.**, Allcock, A. L., Polidoro, B., Sherman, S., Byrne, M., Birkeland, C., Dwyer, R. G., Frazier, M., Woodworth, B. K., Arango, C. P., Kingsford, M. J., Udyawer, V., Hutchings, P., Scanes, E., McClaren, E. J., Maxwell, S. M., Diaz-Pulido, G., ... Klein, C. J. (2022). A trait-based framework for assessing the vulnerability of marine species to human impacts. *Ecosphere*, 13(2), e3919.

- **O'Hara, C. C.**, Frazier, M., & Halpern, B. S. (2021). [At-risk marine biodiversity faces extensive, expanding, and intensifying human impacts](#). *Science*, 372(6537), 84–87.
- **O'Hara, C. C.**, Scarborough, C., Hunter, K. L., Afflerbach, J. C., Bodtker, K., Frazier, M., Lowndes, J. S. S., Perry, R. I., & Halpern, B. S. (2020). [Changes in ocean health in British Columbia from 2001 to 2016](#). *PLOS ONE*, 15(1), e0227502.
- Friedman, W. R., Halpern, B. S., McLeod, E., Beck, M. W., Duarte, C. M., Kappel, C. V., Levine, A., Sluka, R. D., Adler, S., **O'Hara, C. C.**, Sterling, E. J., Tapia-Lewin, S., Losada, I. J., McClanahan, T. R., Pendleton, L., Spring, M., Toomey, J. P., Weiss, K. R., Possingham, H. P., & Montambault, J. R. (2020). [Research Priorities for Achieving Healthy Marine Ecosystems and Human Communities in a Changing Climate](#). *Frontiers in Marine Science*, 7.
- Halpern, B. S., Frazier, M., Afflerbach, J., Lowndes, J. S., Micheli, F., **O'Hara, C. C.**, Scarborough, C., & Selkoe, K. A. (2019). [Recent pace of change in human impact on the world's ocean](#). *Scientific Reports*, 9(1), 1–8.
- **O'Hara, C. C.**, Villaseñor-Derbez, J. C., Ralph, G. M., & Halpern, B. S. (2019). [Mapping status and conservation of global at-risk marine biodiversity](#). *Conservation Letters*, e12651.
- Lowndes, J. S. S., Best, B. D., Scarborough, C., Afflerbach, J. C., Frazier, M. R., **O'Hara, C. C.**, Jiang, N., & Halpern, B. S. (2017). [Our path to better science in less time using open data science tools](#). *Nature Ecology & Evolution*, 1(6), 0160.

STEM education and engineering

Secondary education experience

- Program Consultant (June 2013 - August 2013) The School for Examining Essential Questions of Sustainability (SEEQS) Charter School - Honolulu, HI
- Science Teacher: Physics, Integrated Science, Engineering & Green Tech (August 2004 - June 2012) Carlmont High School - Belmont, CA
- Education Liaison (November 2009 - December 2009) Amundsen-Scott South Pole Station, Antarctica

Secondary education leadership and honors

- “Where the Wonder Went” documentary short film, Santa Barbara International Film Festival (2014)
- Senior Fellow, Knowles Science Teaching Foundation (2009 - present)
- Teaching Fellow, Knowles Science Teaching Foundation (2004 - 2009)
- Exploratorium Teacher Institute (2004 - 2013)
- Innovative Teacher of the Year, Carlmont High School (2011)
- Amgen Award for Science Teaching Excellence (2011)
- Certification: National Board for Professional Teaching Standards (Science - Adolescent/Young Adult) (2009)

Engineering experience

- Mechanical Engineer (May 2000 - December 2003) St. Jude Medical, Inc. - Sunnyvale, CA
- Mechanical Engineer (May 1997 - May 2000) Asyst Technologies (Hine Design) - Sunnyvale, CA
- Mechanical Engineer (August 1995 - April 1997) Applied Materials, Inc. - Santa Clara, CA
- Maintenance Engineer (August 1994 - August 1995) ATMEL Inc. - San Jose, CA