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](https://scholar.google.com/citations?user=W8mU7s8AAAAJ&hl=en) 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.](https://doi.org/10.1371/journal.pone.0309788)
* 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).](https://doi.org/10.1002/pan3.10653)
* 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.](https://doi.org/10.1371/journal.pone.0309788)
* 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)](https://doi.org/10.1073/pnas.2217303120)
* **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.](https://doi.org/10.1146/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.](https://doi.org/10.1002/ecs2.3919)
* **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](https://doi.org/10.1126/science.abe6731).
* **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.](https://doi.org/10.1371/journal.pone.0227502)
* 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.](https://doi.org/10.3389/fmars.2020.00005)
* 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.](https://doi.org/10.1038/s41598-019-47201-9)
* **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.](https://doi.org/10.1111/conl.12651)
* 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.](https://doi.org/10.1038/s41559-017-0160)

# 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