Casey O’Hara

## 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

**Researcher, Ocean Health Index** (January 2015 – present) 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)
  + 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 Ph.D. Mentor**
  + 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

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

## Working groups

* **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

## Publications

See my [Google Scholar profile](https://scholar.google.com/citations?user=W8mU7s8AAAAJ&hl=en) for up to date publication list with citation counts.

* 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, n/a(n/a).](https://doi.org/10.1111/faf.12783)
* 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)
* Simmons, B. A., Butt, N., **O’Hara, C. C.**, Ray, R., Ma, Y., & Gallagher, K. P. (2022). [China’s global development finance poses heterogeneous risks to coastal and marine socio-ecological systems. One Earth, 5(12), 1377–1393.](https://doi.org/10.1016/j.oneear.2022.11.002)
* **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).
* Roberson, L. A., Beyer, H. L., **O’Hara, C.**, Watson, J. E. M., Dunn, D. C., Halpern, B. S., Klein, C. J., Frazier, M. R., Kuempel, C. D., Williams, B., Grantham, H. S., Montgomery, J. C., Kark, S., & Runting, R. K. (2021). [Multinational coordination required for conservation of over 90% of marine species. Global Change Biology, 27(23), 6206–6216](https://doi.org/10.1111/gcb.15844).
* Beck, M. W., **O’Hara, C. C.**, Lowndes, J. S. S., Mazor, R. D., Theroux, S., Gillett, D. J., Lane, B., & Gearheart, G. (2020). [The importance of open science for biological assessment of aquatic environments. PeerJ, 8, e9539.](https://doi.org/10.7717/peerj.9539)
* **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)
* Burgass, M. J., Milner-Gulland, E. J., Stewart Lowndes, J. S., **O’Hara, C. C.**, Afflerbach, J. C., & Halpern, B. S. (2018). [A pan-Arctic assessment of the status of marine social-ecological systems. Regional Environmental Change.](https://doi.org/10.1007/s10113-018-1395-6)
* **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)
* Halpern, B. S., Frazier, M., Afflerbach, J., **O’Hara, C. C.**, Katona, S., Stewart Lowndes, J. S., Jiang, N., Pacheco, E., Scarborough, C., & Polsenberg, J. (2017). [Drivers and implications of change in global ocean health over the past five years. PLOS ONE, 12(7), e0178267.](https://doi.org/10.1371/journal.pone.0178267)
* 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)
* **O’Hara, C. C.**, Afflerbach, J. C., Scarborough, C., Kaschner, K., & Halpern, B. S. (2017). [Aligning marine species range data to better serve science and conservation. PLOS ONE, 12(5), e0175739.](https://doi.org/10.1371/journal.pone.0175739)

## Other academic service

* Reviewed for journals: PeerJ, Aquatic Conservation, Marine and Coastal Fisheries, Frontiers in Marine Science

## 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

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