

Jennifer K. O'Leary

Marine Ecologist, Wildlife Conservation Society

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EDUCATION:

Ph.D. University of California, Santa Cruz Ecology and Evolutionary Biology, 2003-2009.

The effects of fishing, trophic interactions, and management on coral reefs

B.S. Tufts University, Medford, MA. Environmental Science. 1991-1996.

Honors: Graduated Cum Laude

Languages: Fluent in Spanish, verbal Swahili, basic French

EXPERIENCE:

Wildlife Conservation Society (Western Indian Ocean). *Marine Scientist.* Nov 2019-present

- Lead of project supporting establishment of effective management of small scale fisheries and locally managed marine protected areas in Kenya, Tanzania, and Madagascar.
- Conducting research on seagrass beds, social dynamics of ecosystem management, and regional MSP data needs.

SMART Seas Africa Network (Western Indian Ocean). *Co-Director.* 2009-present

- Developed and lead program helping MPA managers implement proactive, evidence-based management (now a national approach in Kenya, Tanzania, & Seychelles)
- Developed/lead MPA monthly monitoring program for corals, seagrass, mangroves, beaches.
- Developed and lead training courses for 1000's of marine managers and fishing communities

The Nature Conservancy, Africa Oceans Strategy Director, Mombasa, Kenya. 2018-present

- Developed strategy for TNC's Africa Oceans program
- Developed collaboration with three national governments (Kenya, Tanzania, Mauritius) to support Marine Spatial Planning
- Developed data gathering and analysis plan for marine spatial planning in 3 nations
- Manage program budgets and plans (\$8 million USD)

California Sea Grant; CA Polytechnic State Univ. *Marine Conservation Ecologist* 2014- 2018

- Led research team to assess causes/consequences of eelgrass loss in Morro Bay, California and sea star wasting disease in central California.
- Taught Fisheries Science to undergraduates and graduate student
- Academic advisor to 2 masters students and 18 undergraduate student theses.

Stanford University, Hopkins Marine Laboratory *Postdoctoral Researcher,* 2012-2014

- Conducted global review of factors leading to ecosystem resilience following climatic stress
- Investigated how ocean acidification affects benthic structure and abalone recruitment
- Developed methods to rapidly survey invertebrate recruitment in kelp forests

National Center for Ecological Analysis and Synthesis (National Science Foundation)

Postdoctoral Research Fellow, Santa Barbara, CA. 2011-2012

- Helped lead development a global index of ecosystem services provided by healthy oceans

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California Department of Fish and Wildlife, Marine Region

Marine Biologist. Ft. Bragg, CA. 2000-2003

- Developed the California Abalone Restoration and Management Plan (ARMP) for 7 species

Napa County Resource Conservation District Biologist. Napa, CA. 1998-2000

- Established, funded, and coordinated a watershed steelhead population assessment program

PUBLICATIONS

- O'Leary, JK**, M. Goodman, R. Walter, J. Stephens. In Review. Effect of eelgrass ecosystem collapse on fish populations. *Estuaries and Coasts*.
- Walter, RK, **JK O'Leary**, S. Vitousek, M. Taherkhani, C. Geraghty, A. Kitajima. In Press. Large-scale erosion driven by intertidal eelgrass loss in an estuarine environment. *Estuarine, Coastal and Shelf Science*.
- O'Leary, JK**, M. Goodman, A. Tuda, M. Machumu, L. West. In Press. Opportunities and challenges in achieving co-management in Marine Protected Areas in East Africa: a comparative case study. *Journal of the Indian Ocean Region*.
- Hart, L, L Rogers-Bennett, RK Walter, M Goodman, J Watanabe, P Shum, **JK O'Leary***. In Press. Spatial and temporal patterns in abalone recruitment in populations facing climate stress. *Journal of Shellfish Research*. ***Advising author** (for Masters student).
- Connolly R, C Collier, **JK O'Leary**, L McKenzie, R Ambo-Rappe, S Bandeira, W Kiswara. 2020. Threats to Seagrass and ecosystem resilience. In "Out of the blue: the value of seagrasses to the environment and people." United Nations Environment Program.
- Shum, P, B Barney, **JK O'Leary**, S. Palumbi 2019. Cobble community DNA as a tool to monitor patterns of biodiversity within kelp forest ecosystems. *Molecular Ecology Resources* 19 (6): 1470-1485.
- Walter, RK, EJ Rainville, **JK O'Leary**. 2018. Hydrodynamics in a shallow seasonally low-inflow estuary following eelgrass collapse. *Estuarine, Coastal, and Shelf Science* 213: 160–175.
- Lotze, H, H Guest, **JK O'Leary**, A Tuda, D Wallace. 2018. Public perceptions of marine threats and protection from around the world. *Ocean & Coastal Management*.
- O'Leary JK**, JP Barry, PW Gabrielson, L Rogers-Bennett, DC Potts, SR Palumbi, F Micheli. 2017. Calcifying algae maintain settlement cues to larval abalone following extreme ocean acidification. *Scientific Reports*. 7: 5774, DOI:10.1038/s41598-017-05502-x.
- O'Leary JK**, L Airoidi, C Boch, G De Leo, R Elahi, F Ferretti, NAJ Graham, S Litvin, N Low, S Lummis, KJ Nichols, J Wong, F Micheli. 2017. Resilience of marine ecosystems to climatic disturbances. *BioScience* 63(3): 208-220. Editor's Choice Best Paper
- Mwampamba TH, Abrams RW, Awoyemi S, Folaranmi DB, Borokini TI, Egoh B, Rguibi Idrissi H, Koussa T, Ngaje M, **O'Leary JK**. 2016. The implications of Globalization in Africa. *African Journal of Ecology* 54: 133-135.
- Selig, L, M Frazier, **JK O'Leary**, K Longo, K Kleisner, M Ranalletti, S Jupiter, B Halpern. Measuring indicators of ocean health that deliver ecosystem services in an island nation: the Ocean Health Index for Fiji. 2015. *Journal of Ecosystem Services* 16: 403-412.
- Micheli F, G de Leo, F Ferretti, K Honey, K Kroeker, S Litvin, R Martone, D McCauley, **J O'Leary**, D Rosim, S Sokolow, A Stock, C Wood. 2015. *Ocean Health*. In "Handbook of Ocean Resources and Management", (ed: T Agardy, H Smith, J Suarez de Vivero). Routledge Handbooks.
- Edmunds P, M Adjeroud, M Baskett, I Baums, A Budd, R Carpenter, N Fabina, T-Y Fan, E Franklin, K Gross, X Han, L Jacobson, J Klaus, T McClanahan, **J O'Leary**, M van Oppen, X Pochon, H Putnam, T Smith, M Stat, H Sweatman, R van Woeseik, and R Gates. 2014. Persistence and change in community composition of reef corals through present, past and future climates. *PLoS ONE* 9 (10), e107525.

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PUBLICATIONS (continued)

- O'Leary JK, D Potts, K Schoerock, T McClanahan. 2013. The direct and indirect effects of fish and sea urchins on coral recruitment and implications for management. *Marine Ecology Progress Series* 493: 165–177.
- Halpern B, C Longo, D Hardy, K McLeod, J Samhouri, S Katona, K Kleisner, S Lester, **JK O'Leary**, M Ranelletti, A Rosenberg, C Scarborough, E Selig, B Best, D Brumbaugh, F Chapin, L Crowder, K Daly, S Doney, M Fogarty, S Gaines, K Jacobsen, L Bunce Karrer, H Leslie, D Pauly, S Polasky, K Martin, G Stone, U Sumaila, H Tallis, D Zeller. 2012. An Ocean Health Index: quantifying and mapping the health of global marine ecosystems. *Nature*. 488: 615-621
- van Woesik R., E Franklin, **JK O'Leary**, T McClanahan, J Klaus, A Budd. 2012. Hosts of the Plio-Pleistocene past reflect modern-day coral vulnerability. *Proc. of Royal Soc. B* 279 (1737): 2448-2456
- O'Leary JK, J Braga, D Potts, and T McClanahan. 2012. Indirect effects of fishing: reductions in crustose coralline algae suppress coral recruitment. *Coral Reefs*. 31: 557-559.
- Kulbicki , M, J Beets, P Chabanet, K Cure, E Darling, S Floeter, R Galzin, A Green, M Harmelin-Vivien, M Hixon, Y Letourneur, T de Loma, T McClanahan, J McIlwain, G Moutham, R Myers, **J O'Leary**, S Planes, L Vigliola, L Wantiez. 2011. Distributions of Indo-Pacific lionfishes (Pterois spp.) in their native ranges: implications for the Atlantic invasion. *Marine Ecology Progress Series* 446: 189–205.
- Darling, E, S Green, **JK O'Leary**, I Cotê. 2011. Comparisons of density, size, and biomass of lionfish in native and invaded reefs. *Biological Invasions* 13: 2045–2051
- O'Leary JK, D Potts. 2011. Using hierarchical sampling to understand spatial scales in early coral recruitment. *Coral Reefs* 30: 1013-1023.
- Pasaria, J, P Selmants, **J O'Leary**, H Young, and E Zavalea. 2011. *Nutrient Enrichment*. In *Encyclopedia of Invasive Introduced Species* (Daniel Simberloff and Marcel Rejmánek, editors). UC Press.
- O'Leary JK. & T McClanahan. 2010. Trophic cascades result in large-scale coralline algae loss through differential grazer effects. *Ecology* 91(12): 3584-3597.
- Woodson, B, D.Eerkes-Medranob, A Flores-Morales, M Foley, S Henkele, M HESSING-Lewis, D. Jacinto, L. Needles, M Nishizaki, **J O'Leary**, C Ostrandera, M Pespenih, K Schwageri, J Tyburczy, K Weersing, A Kirincich, J Barth, M McManusa, L Washburn. 2007. Local diurnal upwelling driven by sea breezes in Monterey Bay. *Continental Shelf Research* 27: 2289–230
- Rogers-Bennett L, D Bergen, P Collier, M Erickson, PE Kalvass, C Kong, J O'Brien, K Oda, J O'Leary, D Ono, K O'Reilly, D Osorio, K Walters, R Leos, VA Taylor, D. Thomas, A Véjar, D Sweetnam. 2002. Review of some California fisheries for 2001: Market squid, sea urchin, dungeness crab, lobster, prawn, abalone, groundfish, swordfish and shark, coastal pelagic finfish, ocean salmon, nearshore live-fish, pacific herring, white seabass, and kelp. *CalCOFI Report* 42: 14-30.
- California Dept of Fish and Game. 2002. **CA Abalone Restoration and Management Plan.**

Public Articles (partial list):

- O'Leary JK and S Remy. 2019. Western Indian Ocean Progress toward MPA management effectiveness. WIOMSA Newsletter.
- O'Leary JK. 2016. Blue Solution: The 'Science for Active Management' program - Applying science to MPA management. *MPA News* Nov 22.
- O'Leary JK & A Tuda. 2015. A fisherman and conservationist: Kenya fisherman restores coral reefs for 30 years. *National Geographic Ocean Views* (accepted blog) Aug 19.
- O'Leary JK & A Tuda. 2015. Integrating Science and Management in Marine Protected Areas. In *African Conservation Telegraph, Society for Conservation Biology*. April.

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- O’Leary JK & A Tuda. 2015. Using Science to Empower Communities and Improve Marine Protected Areas in East Africa. *National Geographic Ocean Views* (accepted blog) Feb 24.
- O’Leary JK & A Tuda. 2014. Saving coral reefs in the Western Indian Ocean. In “*Square Brackets*” newsletter of the IUCN’s Convention of Biological Diversity (Issue 9).

INVITED and CONFERENCE PRESENTATIONS (partial list)

- 2019 **W. Indian Ocean Science to Governance Network (WIOGEN) Inception Meeting**, Zanzibar, Tanzania. Invited panel speaker on linking science to marine governance.
Western Indian Ocean Marine Science Association, Mauritius.
1. Readiness of Kenya’s coastal communities for marine spatial planning (lead author)
 2. Unpacking MPA management: Getting to evidence-based MPA management in the Western Indian Ocean (co-author and mentor of student talk)
- 2018 **Sustainable Blue Economy Conference**, Nairobi, Kenya
1. Co-management to improve blue economy and governance (Keynote speaker)
 2. Led Marine Spatial Planning Forum with over 150 participants from 15 nations
- 2017 **Western Indian Ocean Marine Science Association**, Dar es Salaam, Tanzania
1. Evaluating marine management agency adaptive capacity in the W. Indian Ocean
 2. Coral reef monitoring in MPAs (co-author with J. Pagu)
 3. Toward adaptive MPA management in the WIO (IUCN Green List Symposium).
- 2016 **3rd African Congress for Conservation Biology, El Jadida, Morocco**
1. Transforming marine protected areas in E. Africa (Keynote speaker)
 2. Relationship between use, knowledge & perceived benefits of MPAs (lead author)
- 4th International Marine Conservation Conference**, St. Johns, Newfoundland, Canada
1. Bright spots in the resilience of coastal marine ecosystems to disturbance.
 2. Transforming management of MPAs in East Africa using adaptive management
- 13th International Coral Reef Symposium**, Honolulu, Hawaii
- Adaptively managing marine protected areas for resilience (lead author)
- 2015 **University of Nevada**, Reno, Nevada (Invited Seminar speaker)
Ecological and climatic effects on abalone recruitment in California
San Francisco State University (Invited Seminar Speaker) Tiburon, CA &
Ocean Institute, Dana Point, CA (Keynote speaker) &
Using science to empower communities & improve MPAs in East Africa

JOURNAL EDITOR & REVIEWER

Journal Editor: Scientific Reports, Coastal Management, Frontiers in Marine Science
Journal Reviewer: Ecology Letters, Coral Reefs, Oikos, Evolution, Ecology & Society, Marine Ecology Progress Series, Marine Biology, PLoS ONE, Remote Sensing, Botanica Marina, California Dept of Fish and Wildlife Scientific Periodical, Limnology & Oceanography, Diversity.

AWARDS & HONORS (partial list)

- 2017 Science Board of Global Oceans Refuges System (GLORES)
- 2016 Selected as 2016 Pew Marine Fellow
- 2016 Appointed as an Honorary Warden of the Kenya Wildlife Service for support of the agency
- 2006 Switzer Foundation Conservation Leadership Award