

ELIZABETH M.P. MADIN

Australian Research Council DECRA Research Fellow
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NOTE

Please note when considering my CV that I have been working at an average of < 2 days per week (39% of full-time) for the past eight years due to raising young children, or an equivalent of approximately 2.9 full-time years since completing my Ph.D. in 2009.

RESEARCH PROFILE

My research focuses broadly on the intersection of human impacts and animal behaviour and how this can lead to cascading effects through food webs. The majority of my research is centered around three key questions: 1) How does predation risk structure marine ecosystems? 2) How are humans affecting marine predators – and thus predation risk and marine ecosystem structure? 3) How can new and emerging technologies be applied to marine ecological and conservation questions? Within these overarching questions, I aim to shed light on both fundamental ecological questions about how marine systems function (Question #1) as well as applied conservation questions (Question #2) and solutions (Question #3). Much of my work has explored these questions by taking advantage of the many uncontrolled, large-scale ‘natural experiments’ that humans have inadvertently created across the globe. Increasingly, my work uses new and emerging technologies, such as extremely high spatial resolution satellite and aerial imagery, to achieve my research goals.

ACADEMIC POSITIONS

- 2012-18 ARC DECRA Research Fellow
 Funded by: Australian Research Council (ARC)
 Hosted by: Macquarie University, Sydney, Australia
- 2012-15 World Wildlife Fund Kathryn S. Fuller Research Fellow
 Funded by: World Wildlife Fund (WWF)
 Hosted by: Macquarie University, Sydney, Australia
- 2010-12 NSF Postdoctoral Fellow
 Funded by: US National Science Foundation (NSF)
 Hosted by: University of Technology, Sydney, Australia

EDUCATION

- 2009 Ph.D., University of California-Santa Barbara (Marine ecology)
 Advisors: Steven Gaines; Robert Warner.
- 2007 M.S., University of California-Santa Barbara (Marine ecology)

Advisor: Steven Gaines.

1999 B.A., Emory University (Psychology; Ecology; French (minor)).

FELLOWSHIPS

2012-18 Australian Research Council (ARC) DECRA Postdoctoral Fellowship
2012-15 World Wildlife Fund (WWF) Kathryn S. Fuller Postdoctoral Fellowship
2010-12 U.S. National Science Foundation (NSF) International Postdoctoral Fellowship
2006-09 U.S. Department of Homeland Security (DHS) Graduate Research Fellowship
2004-06 U.S. National Science Foundation (NSF) Graduate Research Fellowship
2003-04 University of California Regents Fellowship (also awarded, but deferred, 2002-3)
1999-01 Fulbright Fellowship (Australia)

GRANTS

Total funding to date is ~\$2 million; all grants led by E. Madin as sole PI unless otherwise stated

2016 Macquarie University Internal Research Grant (led by J. Madin, with two co-PIs; A\$20,000)
2015 Macquarie University Research Centre Grant for *Macquarie Centre for Marine Research* (led by S. George, with multiple coPIs; A\$179,737)
2015 Genes to Geosciences Research Centre International Collaboration Grant (A\$3,000)
2015 Macquarie University Dept. of Biol. Sciences Research Collaboration Grant (A\$1000)
2015 Macquarie University Dept. of Biol. Sciences Travel Grant
2014 Macquarie University Early-Career Researcher of the Year Prize (A\$2000)
2014 UQ Global Change Institute Seed Grant (led by T. Atwood, with three coPIs; A\$8600)
2014 NSF Travel Grant to attend Gordon Research Conference on Predator-Prey Interactions (US\$500)
2014 Google Earth Education Initiative Grant (in kind; US\$2000)
2013 Google Earth Education Initiative Grant (in kind; US\$2000)
2012 ARC DECRA Postdoctoral Fellowship (A\$375,000)
2012 ARC Discovery Grant (led by A. Grutter, with four co-PIs; A\$340,000)

- 2012 World Wildlife Fund Kathryn Fuller Postdoctoral Fellowship (US\$119,000)
- 2012 Google Earth Education Initiative Grant (in kind; US\$2000)
- 2012 Macquarie University Startup Grant (A\$25,000)
- 2011 Google Earth Education Initiative Grant (in kind; US\$2000)
- 2010 NSF International Postdoctoral Research Grant (US\$259,000)
- 2008 Animal Behavior Society Student Grant (US\$2000)
- 2008 UCSB Dept. of Ecology, Evolution and Marine Biology Travel Grant (US\$500)
- 2007 Fulbright Foundation (Australian-American) Alumni Initiative Grant (A\$12,200)
- 2007 NSF/UCSB Graduate Division Research Grant (US\$4500)
- 2007 UCSB Doctoral Student Travel Grant (US\$1400)
- 2006 NSF Research Coordination Network Grant (led by E. Sterling; with seven co-PIs; US\$492,000)
- 2006 National Geographic Society Research and Exploration Grant (with R. Warner, S. Gaines; US\$18,000)
- 2006 Worster Undergraduate Mentoring Award (with J. Osborne; US\$5000)
- 2006 Leal Mertes Memorial Scholarship (US\$1250)
- 2005 Sigma Xi Grant-in-Aid of Research (US\$960)
- 2005 Dr. Earl H. & Ethel M. Myers Marine Biology Trust Research Grant (US\$1500)
- 2005 PISCO travel and tuition grant
- 2003 University of California Toxicology Program travel and tuition grant
- 2003 PISCO travel and tuition grant
- 2000 Cooperative Research Centre for the Great Barrier Reef Research Grant (A\$5000)
- 2000 Fulbright Foundation Travel Grant (A\$1000)
- 2000 Cooperative Research Centre for the Great Barrier Reef Travel Grant (A\$1000)

PUBLICATIONS

Manuscripts pending re-submission/review

In revision Madin, E.M.P., A.M.T. Harmer, B.J. Sullivan, A.R. Harborne, O.J. Luiz, T.B. Atwood, and J.S. Madin. Marine reserves restore fear and shape coral reef seascapes on scales visible from space. For submission to *Science Advances*.

In revision Madin, E.M.P., A.M.T. Harmer, J.S. Madin, N. Barrett, G.J. Edgar, M.J. Emslie, A.J. Cheal, S.D. Gaines, D.J. Booth, M.J. Caley, H.P.A. Sweatman. Marine food webs exhibit long-term stability under moderate human impacts. For submission to *Nature Communications*.

In revision Atwood, T.B., E.M.P. Madin, A.R. Harborne, E. Hammill, O.J. Luiz, Q. Ollivier, C. Roelfsema, P.I. Macreadie, C.E. Lovelock. Predators shape sedimentary carbon storage in a coral reef ecosystem. For re-submission to *PNAS*.

Peer-reviewed

In review Grutter, A.S., M. De Brauwer, R. Bshary, K.L. Cheney, T.H. Cribb, E.M.P. Madin, E.C. McClure, M.G. Meekan, D. Sun, R.R. Warner, J. Werninghausen, and P.C. Sikkel. Parasite infestation increases on coral reefs without cleaner fish. *Ecology*.

2016 Madin, E.M.P., L.M. Dill, A.D. Ridlon, M.R. Heithaus, and R.R. Warner. Human activities change marine ecosystems by altering predation risk. *Global Change Biology* 22 (1): 44–60.
<http://onlinelibrary.wiley.com/doi/10.1111/gcb.13083/full>

2016 Luiz, O.J., E.M.P. Madin, J.S. Madin, A.H. Baird, and A.S. Grutter. A tropical cleaner wrasse finds new clients at the frontier. *Frontiers in Ecology and the Environment* 14 (2): 110-111.
<http://onlinelibrary.wiley.com/doi/10.1002/fee.1232/full>

2016 Luiz, O.J., R.M. Woods, E.M.P. Madin, and J.S. Madin. Predicting IUCN extinction risk categories for the world's data-deficient groupers. *Conservation Letters*. DOI: 10.1111/conl.12230.
<http://onlinelibrary.wiley.com/doi/10.1111/conl.12230/full>

2016 Beck, H., D. Feary, A. Fowler, E.M.P. Madin, and D. Booth. Temperate predators and seasonal water temperatures impact feeding of a range-expanding tropical fish. *Marine Biology* 163 (70). DOI 10.1007/s00227-016-2844-8.
<http://link.springer.com/article/10.1007/s00227-016-2844-8>

2015 Madin, E.M.P. and P.I. Macreadie. Incorporating carbon footprints into seafood sustainability certification and eco-labels. *Marine Policy* 57: 178–181.
<http://www.sciencedirect.com/science/article/pii/S0308597X15000585#>

2015 Madin, J.S. and E.M.P. Madin. The full extent of the global coral reef crisis. *Conservation Biology* 29 (6): 1724–1726.
<http://onlinelibrary.wiley.com/doi/10.1111/cobi.12564/abstract>

2013 Davidson, J.L., I.E. Van Putten, P. Leith, M. Nursey-Bray, E.M. Madin and N.J. Holbrook. Toward operationalizing resilience concepts in Australian marine sectors coping with climate change. *Ecology and Society* 18 (3): 4.

<http://www.ecologyandsociety.org/vol18/iss3/art4/>

- 2013 Madin, J.S., A.I. Dell, E.M.P. Madin and M.C. Nash. Spatial variation in mechanical properties of coral reef substrate and implications for coral colony integrity. *Coral Reefs* 32: 173-179.
<http://link.springer.com/article/10.1007%2Fs00338-012-0958-0>
- 2012 Madin, E.M.P., N.C. Ban, Z.A. Doubleday, T.H. Holmes, G.T. Pecl and F. Smith. Socio-economic and management implications of range-shifting species in marine systems. *Global Environmental Change* 22: 137-146.
<http://www.sciencedirect.com/science/article/pii/S0959378011001610>
- 2012 Madin, E.M.P., S.D. Gaines, J.S. Madin, A.K. Link, P.J. Lubchenco, R.L. Selden and R.R. Warner. Do behavioral foraging responses of prey to predators function similarly in restored and pristine foodwebs? *PLoS One* 7(3): e32390. DOI: 10.1371/journal.pone.0032390.
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0032390>
- 2011 Madin, E.M.P., J.S. Madin and D.J. Booth. Landscape of fear visible from space. *Nature's Scientific Reports* 1; DOI: 10.1038/srep00014.
<http://www.nature.com/srep/2011/110614/srep00014/full/srep00014.html>
- 2011 Madin, E.M.P. and J.S. Madin. Predators, facilitators, or both? Re-evaluating an apparent predator-prey interaction. *Marine Ecology Progress Series* 431: 299-302.
<http://www.int-res.com/abstracts/meps/v431/p299-302/>
- 2010 Madin, E.M.P., S.D. Gaines, J.S. Madin and R.R. Warner. Fishing indirectly structures macroalgal assemblages by altering herbivore behavior. *American Naturalist* 176(6): 785-801.
<http://www.jstor.org/stable/10.1086/657039>
- 2010 Madin, E.M.P., S.D. Gaines and R.R. Warner. Field evidence for pervasive indirect effects of fishing on prey foraging behavior. *Ecology* 91: 3563-3571.
<http://www.esajournals.org/doi/abs/10.1890/09-2174.1>
- 2010 Sagarin, R.D., C.S. Alcorta, S. Atran, D.T. Blumstein, G.P. Dietl, M.E. Hochberg, D.D.P. Johnson, S. Levin, E.M.P. Madin, J.S. Madin, E.M. Prescott, R. Sosis, T. Taylor, J. Tooby and G.J. Vermeij. Decentralise, adapt and cooperate. *Nature* 465: 292-293.
<http://www.nature.com/nature/journal/v465/n7296/full/465292a.html>
- 2010 McCauley, D.J., F. Micheli, H.S. Young, D.P. Tittensor, D.R. Brumbaugh, E.M.P. Madin, K.E. Holmes, J.E. Smith, H.K. Lotze, P.A. DeSalles, S.N. Arnold, and B. Worm. Acute effects of removing large fish from a near-pristine coral reef. *Marine Biology* 157: 2739-2750.
<http://link.springer.com/article/10.1007%2Fs00227-010-1533-2>
- 2010 Salomon, A.K., S.K. Gaichas, N.T. Shears, J.E. Smith, E.M.P. Madin, and S.D.

Gaines. Key Features and Context-Dependence of Fishery-Induced Trophic Cascades. *Conservation Biology* 24(2): 382-394.
<http://onlinelibrary.wiley.com/doi/10.1111/j.1523-1739.2009.01436.x/abstract>

- 2009 Halpern, B.S., C.M. Ebert, C.V. Kappel, E.M.P. Madin, F. Micheli, M. Perry, K.A. Selkoe, and S. Walbridge. Global priority areas for incorporating land-sea connections in marine conservation. *Conservation Letters* 2: 189-196.
<http://onlinelibrary.wiley.com/doi/10.1111/j.1755-263X.2009.00060.x/full>
- 2008 Halpern, B.S., S. Walbridge, K.A. Selkoe, C.V. Kappel, F. Micheli, C. D'Agrosa, J. Bruno, K.S. Casey, C. Ebert, H.E. Fox, R. Fujita, D. Heinemann, H.S. Lenihan, E.M.P. Madin, M. Perry, E.R. Selig, M. Spalding, R. Steneck and R. Watson. A global map of human impact on marine ecosystems. *Science* 319: 948-952.
<http://www.sciencemag.org/content/319/5865/948.full>
- 2008 Selkoe, K.A., C.V. Kappel, Halpern, B.S., F. Micheli, C. D'Agrosa, J. Bruno, K.S. Casey, C. Ebert, H.E. Fox, R. Fujita, D. Heinemann, H.S. Lenihan, E.M.P. Madin, M. Perry, E.R. Selig, M. Spalding, R. Steneck, S. Walbridge and R. Watson. Response to comment on "A global map of human impact on marine ecosystems". *Science* 321: 1446.
<http://www.sciencemag.org/content/321/5895/1446c.full>
- 2008 Halpern, B.S., C.V. Kappel, F. Micheli, K.A. Selkoe, C. D'Agrosa, J. Bruno, K.S. Casey, C. Ebert, H.E. Fox, R. Fujita, D. Heinemann, H.S. Lenihan, E.M.P. Madin, M. Perry, E.R. Selig, M. Spalding, R. Steneck, S. Walbridge and R. Watson. Southern Ocean not so pristine - Response. *Science* 321: 1444-5.
<http://www.sciencemag.org/content/321/5895/1443.3.full>
- 2008 Granek, E.F.*, E.M.P. Madin*, M.A. Brown*, W. Figueira, D.S. Cameron, Z. Hogan, G. Kristianson, P. de Villiers, J.E. Williams, J. Post, S. Zahn, and R. Arlinghaus. Engaging recreational fishers in management and conservation: global case studies. *Conservation Biology* 22(5): 1125-1134.
<http://onlinelibrary.wiley.com/doi/10.1111/j.1523-1739.2008.00977.x/abstract>
* *Authors contributed equally*

- 2005 Stoms, D.M., F.W. Davis, S.J. Andelman, M.H. Carr, S.D. Gaines, B.S. Halpern, R. Hoenicke, S.G. Leibowitz, A. Leydecker, E.M.P. Madin, H. Tallis, and R.R. Warner. Integrated coastal reserve planning: making the land-sea connection. *Frontiers in Ecology and the Environment* 3(8): 429-436.
<http://www.esajournals.org/doi/full/10.1890/1540-9295%282005%29003%5B0429%3AICRPMT%5D2.0.CO%3B2>
- 2004 Madin, E.M.P. and D.M. Fenton. Environmental interpretation in the Great Barrier Reef Marine Park: An assessment of program effectiveness. *Journal of Sustainable Tourism* 12(2): 121-137.
<http://www.tandfonline.com/doi/abs/10.1080/09669580408667228#.VStdOfmUD8E>

Book chapters

- 2008 Lafferty, K., K.F. Smith and E.M.P. Madin. The infectiousness of terrorist

ideology: Insights from ecology and epidemiology. In: Sagarin, R. and T. Taylor, eds. *Natural Security: A Darwinian Approach to a Dangerous World*. University of California Press.

- 2008 Johnson, D. and E.M.P. Madin. Paradigm shifts in security strategy: Why does it take disasters to trigger change? In: Sagarin, R. and T. Taylor, eds. *Natural Security: A Darwinian Approach to a Dangerous World*. University of California Press.

Letters, essays, reports

- 2015 Madin, E.M.P. Land reclamation: Halt reef destruction in South China Sea. *Nature* 524: 291.
<http://www.nature.com/nature/journal/v524/n7565/full/524291a.html>
- 2011 Madin, E.M.P. Genetically engineered salmon pose environmental risks that must be considered. *Bioscience* 61(1): 6.
<http://bioscience.oxfordjournals.org/content/61/1/6.full>
- 2010 Madin, E.M.P. Effects of fishing on prey foraging. *Bulletin of the Ecological Society of America* 91(3): 339-341.
<http://www.esajournals.org/doi/full/10.1890/0012-9623-91.3.339>

Selected media coverage

- 2016 *Australian Geographic*, “‘Bright spots’ found among damaged coral reefs” (June 17, 2016)
- 2016 *International Business Times*, “Coral reef conservation solution? Damaged coral reefs surprise experts with 15 ‘bright spots’ jam-packed with fish” (June 19, 2016)
- 2015 *WWF’s ClimatePrep.org*, “From the Field: Blue Carbon on the Great Barrier Reef” (4 Mar. 2015)
- 2015 *New Scientist*, “Great Barrier Reef reserves protected fish from cyclone” (27 Mar. 2015)
- 2015 *Phys.org*, “Humans are changing ocean ecosystems in fundamental and surprising ways” (Oct. 9, 2015)
- 2014 *BBC Wildlife Magazine*, “Get tough on illegal fishing” (Oct. 2014)
- 2012 *The Australian*, “Google Earth Outreach offers the big pictures” (Nov. 6, 2012)
- 2012 *Australian Geographic*, “Google program helping research” (Nov. 7, 2012)
- 2011 *BBC World Service Radio*, Interview (June 17, 2011)
- 2011 *Discover Magazine*, “Satellite pictures reveal ‘landscape of fear’ in Great Barrier Reef” (June 14, 2011)

- 2011 *The Scientist Magazine*, “Satellite images capture fish fear” (June 15, 2011)
- 2011 *Time Magazine (Asia)*, “Testing the waters” (Feb. 7, 2011)
- 2010 *The New York Times*, “Predators Gone, Small Fish Get Bolder” (Oct. 21, 2010)
- 2010 *Nature*, “Brave fish forage more” (Nov. 4, 2010)
- 2010 *KCSB Radio*, Interview: “Fishing for predators on coral reefs” (Dec. 14, 2010)

Popular science writing

- 2016 *Wildlife Australia Magazine* “Seeing fear from space” (March 2016)

Policy briefs

- 2016 Co-author, Australian Coral Reef Society’s “**Science-Based Policy Plan for Australia’s Coral Reefs**” (April 2016)
http://www.australiancoralreefsociety.org/c/document_library/get_file?uuid=914d3b23-1c01-4a1e-b669-6dd0e297a92c&groupId=10136

PRESENTATIONS

Keynote presentations:

- 2017 **Madin, E.M.P.** International Women’s Day Event and Launch of Macquarie University’s Gender Equity Strategy, Macquarie University, Sydney, Australia.
- 2015 **Madin, E.M.P.** How humans shape reef ecosystems by altering predator populations. 89th Australian Coral Reef Society Conference, Daydream Island, Australia.

Other invited presentations:

- 2016 **Madin, E.M.P.** and Madin, J.S. Quantifying the full extent of the global coral reef crisis (poster). IUCN World Conservation Congress, Honolulu, Hawai’i, USA.
- 2016 **Madin, E.M.P.**, Doo, S., Klanten, S., and Booth, D.J. Presentation of Australian Coral Reef Society’s “Science-Based Policy Plan for Australia’s Coral Reefs” to Shadow Environment Minister Mark Butler. University of Technology-Sydney, Sydney, Australia.
- 2016 **Madin, E.M.P.**, Dill, L.M., Ridlon, A.D., Heithaus, M.R., and Warner, R.R. Human activities change marine ecosystems by altering predation risk (poster). 2nd Gordon Research Conference on Predator-Prey Interactions: "New Frontiers in Understanding Predator-Prey Interactions in a Human-Altered World", Ventura, California, USA.
- 2014 **Madin, E.M.P.** Monitoring coral reef health from space. WWF-Australia Board of Directors Meeting, Lizard Island, Australia.
- 2014 **Madin, E.M.P.** Monitoring coral reef health from space (poster). Inaugural Gordon

Research Conference on Predator-Prey Interactions: "From Genes to Ecosystems to Human Mental Health", Ventura, California, USA.

- 2013 **Madin, E.M.P.** Monitoring coral reef health from space. University of New South Wales, *Evolution and Ecology Research Centre Seminar Series*, Sydney, Australia.
- 2013 **Madin, E.M.P.** Monitoring coral reef health from space. Macquarie University, *Biological Sciences Seminar Series*, Sydney, Australia.
- 2013 **Madin, E.M.P.** Monitoring coral reef health from space. Google, Mountain View, California, USA.
- 2013 **Madin, E.M.P.** Monitoring coral reef health from space. World Wildlife Fund, Washington, D.C., USA.
- 2012 **Madin, E.M.P.** Monitoring coral reef health from space. Google, *Google Earth Outreach Workshop*, Sydney, Australia.
- 2012 **Madin, E.M.P.** Monitoring coral reef health from space. Macquarie University, *Google Earth Outreach Australia/New Zealand Launch Event*, Sydney, Australia.
- 2011 Booth, D.J., Feary, D. and **Madin, E.M.P.** Fish behaving badly: How human interactions are changing the way fishes function. University of Technology-Sydney, *Science In Focus Public Lecture Series*, Sydney, Australia.
- 2010 **Madin, E.M.P.** Cascading behavioural effects of fishing on coral reefs. University of Technology-Sydney, *Trends in Environmental Research and Science (TIERS) Seminar Series*, Sydney, Australia.
- 2008 **Madin, E.M.P.**, S.D. Gaines, and R.R. Warner. Behavioral effects of fishing on coral reefs. AAAS-Pacific Division Annual Meeting Symposium: *Current Research Perspectives on Palmyra Atoll, A Remote Central Pacific Outpost for Biodiversity*, Waimea, Hawai'i, USA.
- 2007 **Madin, E.M.P.**, S.D. Gaines, and R.R. Warner. Behavioral effects of fishing on coral reefs. Society for Conservation Biology Annual Meeting Symposium: *Ecosystem Effects of Fishing*, Port Elizabeth, South Africa.
- 2005 **Madin, E.M.P.** Integrating real-time data analysis into environmental sensor networks. Bechtel Nevada Special Technologies Laboratory, Santa Barbara, CA.

Other presentations:

- 2013 **Madin, E.M.P.**, L.M. Dill, A.D. Ridlon, and R.R. Warner. Human alteration of predation risk in marine ecosystems: the importance of indirect effects. 87th Australian Coral Reef Society Conference, Sydney, Australia.
- 2012 **Madin, E.M.P.** Observing fish behaviour from space. 12th International Coral Reef Symposium, Cairns, Australia.

- 2010 **Madin, E.M.P.**, S.D. Gaines, J.S. Madin and R.R. Warner. Cascading behavioural effects of fishing on coral reefs. 85th Australian Coral Reef Society Conference, Coffs Harbour, Australia.
- 2008 **Madin, E.M.P.**, S.D. Gaines, and R.R. Warner. Behavioral effects of fishing on coral reefs. 11th International Coral Reef Symposium, Fort Lauderdale, Florida.
- 2007 **Madin, E.M.P.**, S.D. Gaines and R.R. Warner. Behavioral effects of fishing on coral reefs. UCSB/EEMB Graduate Student Symposium, Santa Barbara, CA.
- 2006 **Madin, E.M.P.**, S.D. Gaines and R.R. Warner. Effects of predators on community-structuring behaviors of reef fish prey. Western Society of Naturalists Annual Meeting, Redmond, WA.
- 2005 **Madin, E.M.P.** and J.S. Madin. Mechanical-competitive trade-offs promote coexistence on a coral reef. Western Society of Naturalists Annual Meeting, Monterey, CA.
- 2000 **Potter, E.M.** and Z.D. Dinesen. Evaluating tourism training and interpretive strategies in the Great Barrier Reef Marine Park: A comparative approach. Poster and abstract. 9th Int'l Coral Reef Symposium, Bali, Indonesia.

SYNERGISTIC ACTIVITIES

- Ongoing Reviewer: *Ecology, Coral Reefs, MEPS, Journal of Marine Biology*
- 2016 Co-organizer, “Emerging technologies for reef science and conservation” symposium (International Coral Reef Symposium)
- 2014 Funding reviewer: Australian Museum (Lizard Island Research Station)
- 2014 Participant, Software Carpentry Bootcamp (University of Technology, Sydney)
- 2013 Handling Editor, *Conservation Biology*
- 2012 Speaker and participant, Google Earth Outreach Down Under Workshop (Google)
- 2010 Convener, Ecological, socio-economic and management implications of range-shifting species in marine systems workshop (hosted by Sydney Institute of Marine Science; funded by the Australian Marine Adaptation Network)
- 2005-6 Co-organizer, “The role of recreational fishers in conservation and management: Lessons from freshwater systems for marine practitioners” symposium (Society for Conservation Biology 2006 Annual Meeting)
- 2004-5 Co-organizer, Land-based Threats to Coastal Marine Ecosystems Workshop (National Center for Ecological Analysis and Synthesis (NCEAS))
- 2004-5 Participant, Ecosystem-Based Management Working Group (NCEAS)

2004-6 Participant, Ecological and Evolutionary Models for Homeland Security Strategy Working Group (NCEAS)

2004 Participant, Coastal Reserves Working Group (NCEAS)

AWARDS AND HONORS

2014 Macquarie University Early-Career Researcher of the Year (Science and Engineering)

2014 Selected for World Wildlife Fund's *Next Generation* emerging conservation leaders event

2013 The Australian Innovation Challenge Shortlisted Nomination

2011 Trailblazer Award Finalist

2008 AAAS Program for Excellence in Science Participant

2008 AAAS-Pacific Division Annual Meeting Student Presentation Award Hon. Mention

2007 Society for Conservation Biology Student Award Finalist

2004 Outstanding Young Alumni Award (Louisville Collegiate School, USA)

TEACHING AND SUPERVISION

Teaching

2017 Guest lecturer and tutorial leader, BIOL368 undergraduate course "Evolutionary Ecology", Macquarie University, Australia

2016 Supervisor and marker, BIOL326 undergraduate course "Biology Special Interest Project", Macquarie University, Australia

2015 Guest lecturer, BBE200 undergraduate course "Animal Behaviour in Practice", Macquarie University, Australia

2015 Supervisor and marker, BIOL399 undergraduate course "Special Interest Topics in Biology", Macquarie University, Australia

2015 Guest lecturer, BIOL114 undergraduate course "Evolution and Biodiversity", Macquarie University, Australia

2015 Supervisor and marker, BIOL711 graduate course "Topics in Evolution", Macquarie University, Australia

2015 Guest speaker, Macquarie University Research Office workshop on "Writing your DECRA project description", Macquarie University, Sydney, Australia.

2007 Teaching Assistant, EEMB94 postgraduate course "Issues in Marine

Conservation”, University of California, Santa Barbara, USA

2006 Teaching Assistant, EEMB106 undergraduate course “Biology of Fishes”, University of California, Santa Barbara, USA

2000 Guest lecturer, EV5210 postgraduate course “Management of Marine Protected Areas”, James Cook University, Townsville, Australia

Supervision and mentoring

2016 - Kristin Precoda, **Postdoctoral Research Assistant**, Macquarie University, Australia

2016 - Shaley Valentine, **Masters Student** (co-advised with Trisha Atwood and Doug McCauley), Utah State University, USA

2015- Molly Blackburn, **Undergraduate Volunteer Research Assistant** and “Advancing marine ecological GIS: Monitoring herbivory-caused grazing halos to determine the health of coral reef ecosystems” **Undergraduate project** (BIOL326, Biology Special Interest Project), Macquarie University, Australia

2015- Rachel King, **Undergraduate Volunteer Research Assistant**, Macquarie University, Australia

2015 Carlita Foster-Hogg, “Microplastics in ocean ecosystems”, **Undergraduate project** (BIOL399, Special Interest Topics in Biology), Macquarie University, Australia

2015 Peter David, “Potential evolutionary consequences of genetically modified fish interacting with wild populations”, **Postgraduate project** (BIOL711, Topics in Evolution), Macquarie University, Australia

2013- Dr. Osmar Luiz, **Postdoctoral Research Assistant**, Macquarie University, Australia

2011-14 Dr. Aaron Harmer, **Postdoctoral Research Assistant**, Macquarie University, Australia

2011 Marguerite Gosse, **Undergraduate Volunteer Research Assistant**, Macquarie University, Australia

2006-7 Jacob Osbourne, **Honors Thesis and Undergraduate Volunteer Field Assistant**, University of California, Santa Barbara, USA

2005 Lindsay Carr, **Undergraduate Volunteer Field Assistant**, University of California, Santa Barbara, USA

PROFESSIONAL ACTIVITIES

Employment

2002-3 **Research Assistant**, Australian Institute of Marine Science. Townsville, Australia.

Assisted with field and laboratory research on coral reef community dynamics.

- 2002-3 **Laboratory Analyst**, James Cook University. Townsville, Australia.
Conducted data collection for a coral physiology research project.

Internships

- 2007 Bechtel Nevada Special Technologies Laboratory. Santa Barbara, CA, USA.
Worked on development of real-time data analysis modules for incorporation into environmental sensor networks.
- 2001 Kowanyama Aboriginal Resource Management Office. Kowanyama, Australia.
Coordinated development of a local-scale fishery assessment and monitoring program in a remote indigenous community.
- 1999 Great Barrier Reef Aquarium. Townsville, Australia.
Assisted on long-term coral mass spawning behavior project.

Academic service

- 2016- Deputy Director, Macquarie University Marine Research Centre
- 2015- Councillor, Australian Coral Reef Society
- 2015- Member, Research Committee, Macquarie University Dept. of Biological Sciences
- 2015- Member, Early Career Researcher Committee, Macquarie University Dept. of Biological Sciences
- 2015 Co-coordinator, Seminar Series, Macquarie University Dept. of Biological Sciences
- 2014-6 Member, Prizes Committee, Macquarie University Dept. of Biological Sciences
- 2008-9 Co-chair, Student Affairs Committee, Palmyra Atoll Research Consortium (PARC)
- 2006-7 Member, Public Affairs/Communications Committee, Int'l Biogeography Society
- 2005-8 Co-chair, Operations Committee, Palmyra Atoll Research Consortium (PARC)
- 2004-6 Member, Student Steering Committee, Western Society of Naturalists

Outreach

- Ongoing Interviews with popular media outlets (*BBC [radio; print], Time Magazine, New York Times, The Australian, New Scientist, numerous others*)
- Ongoing Popular science writing/communication (*Wildlife Australia Magazine, Twitter, others*)
- 2015 Women in Science Video Conference Masterclass for rural and underserved students. Macquarie University, Australia (video: <https://youtu.be/j6mqjBWYApk>)

- 2015- Guest teacher in primary schools, CSIRO Scientists in Schools Program.
Commonwealth Scientific and Industrial Research Organisation, Australia
- 2012- Academic Partner, Google Earth Outreach. Google. California, USA
(video: http://youtu.be/L_Yz1y-cbz0?t=1m24s)
- 2005-6 Teacher, Tidepool School Elementary Field Education. California, USA
- 2003-5 Women in Science and Engineering (WISE). UC-Santa Barbara, California, USA
- 1999 Teacher, Summer Nature Camp. Chattahoochee Nature Center. Georgia, USA
- 1997-8 Director, Nature Discovery Camp. Bernheim Research Forest. Kentucky, USA