

# DOUGLAS JON MCCAULEY

ASSOCIATE PROFESSOR

DIRECTOR, BENIOFF OCEAN INITIATIVE

UNIVERSITY OF CALIFORNIA SANTA BARBARA

DEPT. ECOLOGY, EVOLUTION, AND MARINE BIOLOGY- MARINE SCIENCE INSTITUTE

[HTTPS://LABS.EEMB.UCSB.EDU/MCCAULEY/DOUG/INDEX.HTML](https://labs.eemb.ucsb.edu/mccauley/doug/index.html)

## EDUCATION

University of California at Berkeley	B.A. (High Honors)	2001	Integrative Biology
University of California at Berkeley	B.A. (High Honors)	2001	Political Science
Stanford University	PhD	2011	Biology

## PROFESSIONAL APPOINTMENTS

- Sept 2016 - present **Director Benioff Ocean Initiative**, UC Santa Barbara, Marine Science Institute, Santa Barbara, CA
- June 2018 – present **Associate Professor**, UC Santa Barbara, Dept. EEMB, Santa Barbara, CA
- March 2014 - June 2018 **Assistant Professor**, UC Santa Barbara, Dept. EEMB, Santa Barbara, CA
- Dec 2011- Feb 2014 **NSF IRFP Postdoctoral Fellow**, UC Berkeley, Berkeley, CA
- June 2012 - Feb 2014 **Visiting Research Collaborator**, Princeton University, Princeton, NJ
- May - Dec 2011 **Postdoctoral Researcher: Hopkins Marine Station, Stanford University**, Monterey, CA
- Jan 2009 - Feb 2011 **US Fish and Wildlife Service, Wildlife Refuge Manager**, Honolulu HI

## AWARDS & HONORS

- 2018 UC Santa Barbara Plous Award
- 2018 Early Career Fellow of the Ecological Society of America
- 2018 Named “Human of the Year” by Vice Media
- 2016 Contributions at Davos named one of the meetings 10 achievements
- 2015 Alfred P. Sloan Research Fellow
- 2011 NSF International Research Fellow
- 2009 NSF Dissertation Improvement Grant
- 2008 Joseph LeConte and Amy Seller Goldsmith Public Service Award
- 2008 Jane Miller Scholars Award
- 2007 AC Giese Award for Original Work in Experimental Biology

## GRANTS

- National Science Foundation, Directorate of Biological Sciences - Dynamics of Coupled Natural-Human Systems, “Interactive Dynamics of Reef Fisheries and Human Health”, (multi-institutional collaboration with Harvard and UC Santa Cruz) Aug 2018 – Sept 2022.
- Coca-Cola Foundation, “Reducing plastic pollution to ocean ecosystems via a rivers intervention”, May 2019 – June 2022.
- Pew Foundation, “Strategic identification of biological and socioeconomic resources in marine areas beyond national jurisdiction”, Sept 2018 – June 2019.
- UCSB Faculty Research Grant, “Is fishing causing fish to cease schooling?”, July 2017 – June 2018.
- Eppley Foundation, “Climate change mediated effects on watersheds: conservation and management of the vulnerable common hippopotamus”, June 2017 – June 2018.
- National Geographic Society, "Deploying next-generation remote sensing technologies to understand collective behavior in animal groups at multiple scales", October 2017 – September 2018.
- Benioff Family Foundation, “Directorship of Benioff Ocean Initiative”, Jan 2016 – Jan 2023.
- Safari Club International, “Promoting sustainable hippopotamus management” July 2016 – June 2017.
- UCSB Faculty Research Grant, “Exploring connections between watershed health and hippopotamus ecology”, July 2016 – June 2017
- Hellman Fellows Fund, “Identifying linkages between wildlife movement ecology and human disease risk”, June 2016 – June 2018.
- UCSB Faculty Research Grant, “Investigating the spatial dynamics of giant sea bass, an endangered species in the Santa Barbara Channel”, June 2015 – June 2016.
- Phoenix Zoo, "Promoting hippopotamus conservation and management through research on the ecology of hippopotamus habitat use ", February 2016 - February 2017.
- Alfred P. Sloan Foundation, “Marine community assembly and function in a rapidly changing world”, Sept 2015 – Aug 2017.
- Coastal Fund, “Using Citizen scientists to Assess the Population and Behavior of the Severely Overfished Giant Sea Bass (*Stereolepis gigas*) in Southern California”, Mar 2015 – Oct 2015.

- National Socio-Environmental Synthesis Center, “Uncovering the Role of Global Fishery Collapse in Future Food Insecurity and Malnutrition”, (with C. Golden) costs associated w/ convening 3 years of working groups from 20+ research partners, Jan 2015 – Sept 2017.
- National Science Foundation, Ecosystem Science, “Use of high-resolution satellite technologies for studying migration ecology and behavior from space”, Oct 2014 – Sept 2015.
- National Geographic Society, Committee for Research and Exploration, “Cross-ecosystem linkages by the common hippopotamus revealed using satellite tracking”, July 2014 – July 2015.
- National Aeronautics and Space Administration (NASA)/ National Oceanic and Atmospheric Administration (NOAA), “Demonstrating an effective marine BON in the Santa Barbara channel” (PI- R. Miller), Oct 2014 – Nov 2019.
- Euro-Mediterranean Center on Climate Change, “Climate change assessment in small Pacific Islands States”, (PIs G. De Leo and F. Micheli), Nov 2012 – Dec 2013.
- Gordon and Betty Moore Foundation, “Understanding coral reef resilience in the face of human impacts”, (multi-institutional collaboration, multiple PIs) Aug 2012 – July 2015.
- National Science Foundation, Ecosystem Science, “Quantifying the ecosystem-wide impacts of a strong interactor in African watersheds” (with J. Brashares, M. Power, T. Dawson (UC Berkeley) and K. Caylor (Princeton)), May 2012 – April 2015.
- National Science Foundation, International Research Fellowship, Nov 2011 – Oct 2013.
- Woods Institute for the Environment, Environmental Ventures Program, “The effects of wildlife loss and land conversion on rodent-borne disease risk in East Africa”, (PI: R. Dirzo), Aug 2010 – Jan 2013.
- Woods Institute for the Environment, Environmental Ventures Program, “Understanding the effects of fishing on coral reef ecosystems: An interdisciplinary approach”, (PI: F. Micheli), Sept 2008 – Aug 2011.
- Office of Community Engagement, Community Engagement Grant Program, “Community science education program” for the rural communities of Lekiji and Il Motiok in Laikipia, Kenya”, Dec 2009 – Mar 2011.
- National Geographic Society, Committee for Research and Exploration (PI: H. Young), “Invasion in paradise: cascading effects of invasion of coconut palms”, Nov 2007 – Nov 2009.
- National Science Foundation, Division of Environmental Biology DEB-0909670, “Dissertation

Research: The effects of removing large herbivores on the ecology of infectious diseases”, July 2009 – July 2011.

- National Science Foundation, Division of Graduate Education GRFP-2006040852, “Apex predators in marine food webs: understanding the feeding ecology of reef sharks to determine their effects on coral reef ecosystems”, Sept 2006 – Sept 2009.
- National Science Foundation, Division of Integrative Organismal Systems IOS-0639185 (to/ E. Sterling), “Palmyra Atoll Research Coordination Network (PARCnet): Integrating Research For Coral Reef Ecosystem Science and Management”, April 2007 – March 2011.
- Andrew W. Mellon Foundation, “Ecology of reptiles and amphibian communities in serpentine and non-serpentine grasslands of Jasper Ridge”, June 2007 – June 2008.
- Berkeley Biology Fellows Program, “Movement ecology of the bull shark (*Carcharhinus leucas*) in Costa Rica”, May 2001– Dec 2001.
- UC Berkeley PUF Fellowship, “Impact of aquarium fish collection of three species of reef fish in the Marine Sector of the Guanacaste Conservation Area”, June 2001– June 2002.

## TEACHING

- Instructor: Vertebrate Natural History, Evolution and Ecology UC Santa Barbara, 2015- present
- Instructor: Biodiversity and Conservation, UC Santa Barbara, 2015 - present
- Co-Instructor: Core Ecological Principles II, UC Santa Barbara, 2015 – 2018
- Guest Lecturer: Conservation Ethics, UC Berkeley, 2014
- Guest Lecturer: Tropical Ecology, Princeton University, 2013
- Guest Lecturer: Conservation and Ecology, University of Nairobi, 2012
- Guest Lecturer: Introduction to Epidemiology, Stanford University, 2011
- Guest Lecturer: Ecology, Stanford University, 2009-2011
- Co-Instructor: Biology Field Studies Program, Stanford University, 2006-2011
- Co-Instructor: Tropical Ecology in Costa Rica, University of California, 2001; 2008-2009

## SCIENTIFIC PUBLICATIONS

*Articles published in peer-reviewed journals (articles in prep and review not listed)*

- Pinsky, ML, Eikeset, AM, **McCauley, DJ**, Payne, JL, and JM Sunday. 2019. Greater vulnerability to warming of marine versus terrestrial ectotherms. *Nature* 569:108-111.
- Burnett, MW, White, TD, **McCauley, DJ**, De Leo, GA, and F Micheli. 2019. Quantifying coconut palm extent on Pacific islands using spectral and textural analysis of very high resolution imagery. *International Journal of Remote Sensing*.
- Goldberg, EG, Raab, TK, Desalles, P, Briggs, AA, Dunbar, RB, Millero, FJ, Woosley, RJ,

Young, HS, Micheli, F, and **DJ McCauley**. 2019. Chemistry of the consumption and excretion of the bumphead parrotfish (*Bolbometopon muricatum*), a coral reef mega-consumer. *Coral Reefs* 1-11.

- **McCauley, DJ**, Gellner, G, Martinez, ND, Williams, RJ, Sandin, SA, Micheli, F, Mumby, PJ, and KS McCann. 2018. On the prevalence and dynamics of inverted trophic pyramids and otherwise top-heavy communities. *Ecology Letters* 21:439-454.
- **McCauley, DJ**, Jablonicky, C, Allison, EH, Golden, CD, Joyce, FH, Mayorga, J, and D Kroodsmas. 2018. Wealthy countries dominate industrial fishing. *Science Advances* 4: eaat2504.
- Bradley, D, Mayorga, J, **McCauley, DJ**, Cabral, RB, Douglas, P, and SD Gaines. In press. Leveraging satellite technology to create true shark sanctuaries. 2018 *Conservation Letters* e12610.
- Dunn, DC, Jablonicky, C, Crespo, GO, **McCauley, DJ**, Kroodsmas, DA, Boerder, K, Gjerde, KM, and PN Halpin. 2018. Empowering high seas governance with satellite vessel tracking data. *Fish and Fisheries*. Early View.
- O'Leary, BC, Ban, NC, Fernandez, M, Friedlander, AM, García-Borboroglu, Pablo, Golbuu, Y, Guidetti, P, Harris, JM, Hawkins, JP, Langlois, T, **McCauley, DJ**, Pikitch, EK, Richmond, RH, and CM Roberts 2018. Addressing Criticisms of Large-Scale Marine Protected Areas. *BioScience*. Advance Articles.
- Hardesty-Moore, M, Deinet, S, Freeman, R, Titcomb, GC, Dillon, EM, Stears, K, Klope, M, Bui, A, Orr, D, Young, HS, Miller-ter Kuile, Ana, Hughey, LF, and **DJ McCauley**. 2018. Migration in the Anthropocene: how collective navigation, environmental system and taxonomy shape the vulnerability of migratory species. *Philosophical Transactions of the Royal Society B* 373: 20170017.
- **McCauley, DJ**, Graham, SI, Dawson, TE, Power, ME, Ogada, M, Nyingi, WD, Githaiga, JM, Nyunja, J, Hughey, LF, and JS Brashares. 2018. Diverse effects of the common hippopotamus on plant communities and soil chemistry. *Oecologia*. Online First.
- Stears, K, and **DJ McCauley**. 2018. Hippopotamus dung inputs accelerate fish predation by terrestrial consumers. *African Journal of Ecology*. 1-5.
- Stears, K, **McCauley, DJ**, Finlay, JC, Mpemba, J, Warrington, IT, Mutayoba, BM, Power, ME, Dawson, TE, and JS Brashares 2018. Effects of the hippopotamus on the chemistry and ecology of a changing watershed. *Proceedings of the National Academy of Sciences*. 115.22 (2018):E5028-E5037.
- **DJ McCauley**. 2017. Digital nature: Are field trips a thing of the past? *Science* 358: 6361.

- Guerra, AS, Madigan, DJ, Love, MS, and **DJ McCauley**. 2017. The worth of giants: The consumptive and non-consumptive use value of the giant sea bass (*Stereolepis gigas*). *Aquatic Conservation: Marine and Freshwater Ecosystems*. 28: 296–304.
- Ripple, WJ, Wolf, C, Newsome, TM, Hoffmann, M, Wirsing, AJ, and **DJ McCauley**. 2017. Extinction risk is most acute for the world's largest and smallest vertebrates. *Proceedings of the National Academy of Sciences*. 114: 10678-10683.
- Young, H, Nigro, K, **McCauley, DJ**, Ballance, LT, Oleson, EM, and S. Baumann-Pickering. 2017. Limited trophic partitioning among sympatric delphinids off a tropical oceanic atoll. *PLoS ONE* 12(8): e0181526.
- Roberts, CA, O'Leary, BC, **McCauley, DJ**, Cury, PM, Duarte, CM, Lubchenco, J, Pauly, D, Saenz-Arroyo, A, Sumaila, UR, Wilson, RW, Worm, B, and JC Castilla. 2017. Marine reserves can mitigate and promote adaptation to climate change. *Proceedings of the National Academy of Sciences* 114: 6167–6175.
- Young, HS, **McCauley, DJ**, Dirzo, R, Nunn, CL, Campana, MG, Agwanda, B, Otarola-Castillo, ER, Pringle, RM, Veblen, KE, Salkeld, DJ, Stewardson, K, Fleischer, R, Lamin, EF, Palmer, TM, and KM Helgen. 2017. Interacting effects of land use and climate on rodent-borne pathogens in central Kenya. *Philosophical Transactions of the Royal Society B* 372: 20160116.
- Bradley, D, Conklin, E, Papastamatiou, YP, **McCauley, DJ**, Pollock, K, Pollock, A, Kendall, BE, Gaines, SD, and JE Caselle. 2017. Resetting predator baselines in coral reef ecosystems. *Scientific Reports*. 7: 43131.
- Bradley, D, Conklin, E, Papastamatiou, YP, **McCauley, DJ**, Pollock, K, Kendall, BE, Gaines, SD, and JE Caselle. 2017. Growth and life history variability of the grey reef shark (*Carcharhinus amblyrhynchos*) across its range. *PLoS ONE*. 12(2): e0172370.
- White, TD, Carlisle, AB, Kroodsma, DA, Block, BA, Casagrandi, R, De Leo, GA, Gatto, M, Micheli, F, and **DJ McCauley**. 2017. Assessing the effectiveness of a large marine protected area for reef shark conservation. *Biological Conservation* 207: 64-71.
- **McCauley, DJ**, Joyce, FH, and J Lubchenco. 2016. Conservation: smart advocacy needs data. *Nature*, 540 (7631), 38.
- Young, HS, Miller-ter Kuile, A, **McCauley, DJ**, and R Dirzo. 2016. Cascading community and ecosystem consequences of introduced palms in tropical islands. *Canadian Journal of Zoology*. 95(3):139-148.
- Young, HS, **McCauley, DJ**, Galetti, M and R Dirzo. 2016. Patterns, causes and consequences of Anthropocene Defaunation. *Annual Review of Ecology, Evolution and Systematics*.47(1).

- Estes, JA, Heithaus, M, **McCauley, DJ**, Rasher, DB and B Worm. 2016. Megafaunal impacts on structure and function of ocean ecosystems. *Annual Review of Environment and Resources*. 41(1).
- Payne, JL, Bush, AM, Heim, NA, Knope, ML, and **DJ McCauley**. 2016. Ecological selectivity of the emerging mass extinction in the oceans. *Science*: aaf2416.
- **McCauley, DJ**, Hardesty-Moore, M, Halpern, BS and HS Young. 2016. A mammoth undertaking: harnessing insight from functional ecology to shape de-extinction priority setting. *Functional Ecology*. DOI: 10.1111/1365-2435.12728
- Golden, CD, Allison, EH, Cheung, WWL, Dey, MM, Halpern, BS, **McCauley, DJ**, Smith, M, Vaitla, B, Zeller, D and SS Myers. 2016. Nutrition: Fall in fish catch threatens human health. *Nature* 534:317-320.
- **McCauley, DJ**, DeSalles, PA\*, Young, HS, Gardner, JPA, and F Micheli. 2016. Use of high-resolution acoustic cameras to study reef shark behavioral ecology. *Journal of Experimental Marine Biology and Ecology* 182:128-133.
- **McCauley, DJ**, Woods, P, Sullivan, B, Bergman, B, Jablonicky, C, Roan, A, Hirshfield, M, Boerder, K, Worm, B. 2016. Ending hide and seek at sea: New technologies and policies for ambitious ocean observation. *Science* **351**:1149-1150.
- Croll, DA, Dewar, H, Dulvy, NK, Fernando, D, Francis, MP, Galván-Magaña, F, Hall, M, Heinrichs, S, Marshall, A, **McCauley, DJ**, Newton, KM, Notarbartolo-Di-Sciara, G, O'Malley, M, O'Sullivan, J, Poortvliet, M, Roman, M, Stevens, G, Tershy, BR, and TW White. 2015. Vulnerabilities and fisheries impacts: the uncertain future of manta and devil rays. *Aquatic Conservation: Marine Freshwater Ecosystems* DOI - 10.1002/aqc.2591.
- Young, HS, Dirzo, R, Helgen, KM, **McCauley, DJ**, Nunn, CL, Snyder, P, Veblen, KE, Zhao, S and VO Ezenwa. 2015. Large wildlife removal drives immune defence increases in rodents. *Functional Ecology*. DOI: 10.1111/1365-2435.12542.
- **McCauley, DJ**, Dawson, TE, Power, ME, Finlay, JC, Ogada, M, Gower, DB, Caylor, K, Nyingi, WD, Githaiga, JM, Nyunja, J, Joyce\*, FH, Lewison, RL and JS Brashares. 2015. Carbon stable isotopes suggest that hippopotamus-vectored nutrients subsidize aquatic consumers in an East African river. *Ecosphere* 6(4): 1-11.
- Young, HS, **McCauley, DJ**, Dirzo, R, Goheen, JR, Agwanda, B, Brook, C, Otárola-Castillo, E, Ferguson, AW, Kinyua, SN, McDonough, MM, Palmer, TM, Pringle, RM, Young, TP and KM Helgen. 2015. Context-dependent effects of large-wildlife declines on small-mammal communities in central Kenya. *Ecological Applications* 25: 348–360.
- **McCauley, DJ**, Salkeld, DJ, Young, HS, Makundi, R, Dirzo, R, Eckerlin, RP, Lambin, EF, Gaffkin, L, Barry, M, and KM Helgen. 2015. Effects of land use on plague (*Yersinia pestis*)

activity in rodents in Tanzania. *American Journal of Tropical Medicine and Hygiene* 92(4):776-83.

- Young, HS, Dirzo, R, **McCauley, DJ**, Agwanda, B, Cattaneo, L, Dittmar, K, Eckerlin, RP, Fleischer, RC, Helgen, LE, Hintz, A, Montenieri, J, Zhao, S, and KM Helgen. 2015. Drivers of intensity and prevalence of flea parasitism on small mammals in East African savanna ecosystems. *Journal of Parasitology* DOI: <http://dx.doi.org/10.1645/14-684.1>.
- **McCauley, DJ**, Pinsky, ML, Palumbi, SR, Estes, JA, Joyce, FH\*, and RR Warner. 2015. Marine defaunation: animal loss in the global oceans. *Science* **347**: 1255641.
- **McCauley, DJ**. 2014. Mega-parks need greater oversight. *Nature* **515**: 29.
- Withey, L, Seto, K, **McCauley, DJ**, Fiorella, KJ, Marsh, RA, Abrahms, B, Nuñez, TA, Golden, CD, and JS Brashares. 2014. Fauna in decline-Response. *Science* **346**:819-820.
- Brashares, JS, Abrahms, B, Fiorella, KJ, Golden, CD, Hojnowski, CE, Marsh, RA, **McCauley, DJ**, Nuñez, TA, Seto, K, and L Withey. 2014. Wildlife decline and social conflict. *Science* **345**: 376-378.
- **McCauley, DJ**, DeSalles, PA\*, Young, HS, Papastamatiou, Y, H, Caselle, JE, Deakos, MH, Garton, DW, Collen, JD, Micheli, F, Joyce, F. 2014. Reliance of mobile species on sensitive habitats: a case study of manta rays (*Manta alfredi*) and lagoons. *Marine Biology* **161**: 1987-1998.
- **McCauley, DJ**, Power, E, Young, HS, McInturff, A\*, Dunbar, RB, Bird, D, Durham, W, and F Micheli. 2014. Pushing back against paper-park pushers-Reply to Craigie et al. *Biological Conservation* **172**: 223–224.
- Papastamatiou, YP, Wood, CL, Bradley, DE, **McCauley, DJ**, Pollock, AL, and JE Caselle. First record of the sicklefin lemon shark, *Negaprion acutidens*, at Palmyra Atoll, central Pacific: a recent colonization event? *Marine Biodiversity Records* 7: e114.
- Young, HS, Dirzo, R, Helgen, KM, **McCauley, DJ**, S Billeter, S, Kosoy, M, Osikowicz, L, Salkeld, DJ, Young, TP, and K Dittmar. 2014. Declines in large wildlife increase landscape-level prevalence of a rodent-borne disease in Africa. *Proceedings of the National Academy of Sciences, USA* **111**: 7036-7041.
- **McCauley, DJ**, Young, HS, Guevara, R, Williams, GJ, Power, EA, Dunbar, RB, Bird, DW, Durham, WH, and F Micheli. 2014. Positive and negative effects of a threatened parrotfish on reef ecosystems. *Conservation Biology* DOI: 10.1111/cobi.12314.
- Young, HS, **McCauley, DJ**, Pollock, A, and R Dirzo. 2014. Differential plant damage due to litterfall in palm-dominated forest stands in a Central Pacific atoll. *Journal of Tropical Ecology* **30**: 231-236.



- Viladomat, J, Mazumder, R, McInturff, A\*, **McCauley, DJ**, and Hastie, T. 2014. Assessing the significance of the correlation coefficient under spatial autocorrelation. *Biometrics* 12139.
- **McCauley, DJ**, Power, E, Young, HS, McInturff\*, A, Dunbar, RB, Bird, D, Durham, W, and F Micheli. 2013. Conservation at the edge of the world. *Biological Conservation* **165**: 139-145.
- Young, HS, **McCauley, DJ**, Dunbar, RB, Hutson, M\*, Miller Ter-Kuile\*, A, and R Dirzo. 2013. The roles of productivity and ecosystem size in determining food chain length in terrestrial ecosystems. *Ecology* **94**: 692-701.
- Young, HS, **McCauley, DJ**, Helgen, KM, Goheen, JR, Castillo, EO, Palmer, TM, Pringle, RM, Young, TP, and R Dirzo. 2013. Effects of mammalian herbivore declines on plant communities: Observations and experiments in an African savanna. *Journal of Ecology* **101**: 1030-1041.
- Young, HS, **McCauley, DJ**, Guevara, R, and R. Dirzo. 2013. Consumer preferences for seeds and seedlings of rare species impacts tree diversity at multiple scales. *Oecologia* **172**: 857-867.
- **McCauley, DJ**. 2012. Nature – half lost or half saved? *Science* **337**:1455.
- **McCauley, DJ**, Young, HS, Dunbar, RB, Estes, JA, Semmens, BX, and F Micheli. 2012. Assessing the effects of large mobile predators on ecosystem connectivity. *Ecological Applications* **22**: 1711-1717.
- **McCauley, DJ**, DeSalles, PA\*, Young, HS, Dunbar, RB, Dirzo, R, Mills, MM, and F Micheli. 2012. From wing to wing: the persistence of long ecological interaction chains in less-disturbed ecosystems. *Nature: Scientific Reports* **2**: 409.
- **McCauley, DJ**, McLean, KA\*, Bauer, J, Young, HS, and F Micheli. 2012. Evaluating the performance of methods for estimating the abundance of rapidly declining coastal shark populations. *Ecological Applications* **22**: 385-392.
- **McCauley, DJ**, Hoffman, E\*, Young, HS, and F Micheli. 2012. Night shift: expansion of temporal niche use following reductions in predator density. *PLoS One* **7**: e38871. DOI: 10.1371/journal.pone.0038871.
- Papastamatiou, YP, DeSalles, PA\*, and **McCauley, DJ**. 2012. Area-restricted searching by manta rays and their response to spatial scale in lagoon habitats. *Marine Ecology Progress Series* **456**: 233-244.

- Briggs, AA\*, Young, HS, and **McCauley, DJ**, Hathaway, SA, Dirzo, R, and RN Fisher. 2012. Effects of spatial subsidies and habitat structure on the foraging ecology and size of geckos. *PLoS One* **7**:e41364.
- Young, HS, **McCauley, DJ**, and R Dirzo. 2011. Differential responses to guano fertilization among tropical tree species with varying functional traits. *American Journal of Botany* **98**: 1-10.
- Young, HS, **McCauley, DJ**, Dunbar, R, and R Dirzo. 2010. Plants cause ecosystem nutrient depletion via the interruption of bird derived spatial subsidies. *Proceedings of the National Academy of Science* **107**: 2072-2077.
- **McCauley, DJ**, Micheli, F, Young, HS, Tittensor, DP, Brumbaugh, DR, Madin, EMP, Holmes, KE, Smith, JE, Lotze, HK, DeSalles, PA\*, Arnold, SN, and B Worm. 2010. Acute effects of removing large fish from a near-pristine coral reef. *Marine Biology* **157**: 2739-2750.
- Young, HS, Shaffer, SA, **McCauley, DJ**, Foley, DG, Dirzo, R, and BA Block. 2010. Resource partitioning by species but not sex in sympatric boobies in the Central Pacific Ocean. *Marine Ecology Progress Series* **403**: 291-301.
- Young, HS, **McCauley, DJ**, Dirzo, R, Dunbar, RB, and SA Shaffer. 2010. Niche partitioning among and within sympatric tropical seabirds revealed by stable isotope analysis. *Marine Ecology Progress Series* **416**: 485-494.
- **McCauley, DJ**, Papastamatiou, Y, and HS Young. 2010. An observation of mating in free-ranging blacktip reef sharks *Carcharhinus melanopterus*. *Pacific Science* **64**: 349-352.
- Young, HS, Raab, TK, **McCauley, DJ**, Briggs, AA\*, and R Dirzo. 2010. The coconut palm, *Cocos nucifera*, impacts forest composition and soil characteristics at Palmyra Atoll, central Pacific Ocean. *Journal of Vegetation Science* **21**: 1058-1068.
- **McCauley, DJ**, Joyce, FJ, and JH Lowenstein. 2008. Effects of the aquarium fish industry in Costa Rica on populations of the Cortez rainbow wrasse *Thalassoma lucasanum* (Perciformes: Labridae). *Ciencias Marinas* **34**: 445-451.
- **McCauley, DJ**, Keesing, F, Young, TP, and K Dittmar. 2008. Effects of the removal of large herbivores on fleas of small mammals. *Journal of Vector Ecology* **33**: 263-268.
- **McCauley, DJ**. 2007. Fishing for good news. *Science* **316**: 200-201.
- Pringle, RM, Young, TP, Rubenstein, DI and **DJ McCauley**. 2007. Herbivore-initiated interaction cascades and their modulation by productivity in an African savanna. *Proceedings of the National Academy of Science* **104**: 193-197.

- **McCauley, DJ.** 2006. Nature: McCauley Replies. *Nature* **443**: 750.
- **McCauley, DJ.** 2006. Selling out on nature. *Nature* **443**: 27-28.
- **McCauley, DJ,** Keesing, F, Young, TP, Allan, BF and RM Pringle. 2006. Indirect effects of large herbivorous mammals on snakes in an African savanna. *Ecology* **87**: 2657-2663.

### ***Book Chapters***

- **McCauley, DJ.** 2017. The underwater Anthropocene. *In* Kress, JW and JK Stine (Eds.) *Living in the Anthropocene*. Washington DC: Smithsonian Books.
- Micheli, F, De Leo, G, Ferretti, F, Hines, AM, Honey, K, Kroeker, K, Martone, RG, **McCauley, DJ,** O’Leary, JK, Rosim, DF, Sokolow, S, Stock, A, and CL Wood. 2015. Ocean Health. *In* Smith, HD, Suarez de Vivero, JL and TS Agardy (Eds.). *Handbook of Ocean Resources and Management*. New York: Taylor and Francis.
- **McCauley, DJ.** 2015. Fool’s gold in the Catskill Mountains. *In* Wuerthner, G, Crist, E, and T Butler (Eds.) *Protecting the Wild*. Washington DC: Island Press.
- Pringle, RM, Palmer, TM, **McCauley, DJ,** and F Keesing. 2011. Indirect effects of large herbivores: what they are and why they matter. *In* Georgiadis, N., Moss, J., King, A., and D. Malleret King (Eds.) *Conserving Wildlife in African Landscapes: Kenya’s Ewaso Ecosystem*. Washington DC: Smithsonian Institution Scholarly Press.
- **McCauley, DJ.** 2008. Viewpoint: Ecosystem Services. *In* Withgott, J. and S. Brennan (Eds), *Environment: the science behind the stories*. New Jersey: Prentice Hall.

### ***Selected other publications***

- **McCauley, DJ,** Stroud, A, Joyce, F, and E Dillon. 2016. Global aquaculture: ploughing under ocean ecosystems? *The Marine Biologist: Magazine of the Marine Biological Association of the UK*.
- **McCauley, DJ.** Oceans: mapping global transformations. 2016. World Economic Forum technical report.
- **McCauley, DJ,** Jablonicky, C, Kroodsma, D, Boerder, K, and D Dunn. 2016. Satellite tracking of high seas fishing. *Technical Paper for: United Nations Preparatory Committee on Biodiversity in Areas Beyond National Jurisdiction*.
- **McCauley, DJ.** 2016. How satellites and big data can help save the oceans? *Yale Environment 360: Magazine of the Yale School of Forestry and Environmental Studies*.

*\* Undergraduate and former undergraduate student mentees*

## **INVITED PRESENTATIONS (LAST 5 YEARS)**

- **McCauley, DJ.** World Economic Forum. Center for the 4<sup>th</sup> Industrial Revolution “Data mining to enhance transparency in the emerging industry of ocean mining” San Francisco May 2019
- **McCauley, DJ.** Plous Award Lecture “The Past and Future of Wildlife Loss in Our Ocean” UC Santa Barbara Mar 2019
- **McCauley, DJ.** Cosmopolitan Club “Our Oceans, Our Future” Santa Barbara Mar 2019
- **McCauley, DJ.** World Economic Forum. Annual Meeting “New Frontiers in Ocean Research” Davos Jan 2019
- **McCauley, DJ.** Global Climate Action Summit – World Economic Forum Center. “Leveraging the power of technology to promote marine ecosystem health” San Francisco Sept 2018
- **McCauley, DJ.** National Marine Educators Conference. “Charting a course for our future ocean” Long Beach July 2018
- **McCauley, DJ.** International Seabed Authority. “Using marine big data to promote transparency in seabed mining” Kingston, Jamaica July 2018
- **McCauley, DJ.** Capital Hill Oceans Week. “Emerging Ocean Leaders Panel” Washington DC June 2018
- **McCauley, DJ.** World Economic Forum – Friends of Ocean Action. “The top 3 priorities for marine conservation” Stockholm, Sweden June 2018
- **McCauley, DJ.** California Polytechnic State University. “The biology of marine extinction” San Luis Obispo May 2018
- **McCauley, DJ.** Convention on Biological Diversity. “Steering the planet towards the 2050 biodiversity vision” Montreal April 2018
- **McCauley, DJ.** Oceanographic Museum of Monaco. “Ocean action” Monaco April 2018
- **McCauley, DJ.** TEDx Talk. “How tech can save our oceans” Montecito, CA Feb 2018
- **McCauley, DJ.** Dreamforce (World’s largest software conference): “The ocean is everyone’s business” San Francisco, CA Nov 2017

- **McCauley, DJ.** Duke University Law School. “Industrialization of the ocean” Raleigh-Durham, NC Nov 2017
- **McCauley, DJ.** Carlyle Summit, UC Santa Barbara. “The future of ocean health” Santa Barbara, CA Sep 2017
- **McCauley, DJ.** US Senate, Executive Office of the President, Congressional Research Service, US Dept of State, US Dept of Treasury. “Assessing Ocean Wealth” Washington, DC June 2017
- **McCauley, DJ.** Channel Islands National Park. “Future of extinction in the ocean” Ventura, CA Apr 2017.
- **McCauley, DJ.** Utah State University. “Global patterns of marine biodiversity loss”, Logan, UT Apr 2017.
- **McCauley, DJ.** Stanford University. “Embracing an industrial revolution in the ocean”, Pacific Grove, CA Apr 2017.
- **McCauley, DJ.** United Nations. “Climate change and marine protected areas in the high seas” New York, NY Mar 2017.
- **McCauley, DJ** (*panelist*). UC Santa Barbara. “The art of scientific writing” Santa Barbara, CA Mar 2017.
- **McCauley, DJ.** TEDx Talk. “Avoiding a mass ocean extinction” Santa Barbara, CA Feb 2017
- **McCauley, DJ.** World Economic Forum Annual Meeting. “Sustaining Ocean Health” Davos, Switzerland Jan 2017.  
*Contributions during Davos were listed as top 10 achievements at the event*
- **McCauley, DJ.** UC Santa Barbara Foundation. “A hospital for the oceans” Santa Barbara, CA Oct 2016.
- **McCauley, DJ.** University of British Columbia. “A Marine Industrial Revolution” Vancouver, Canada Feb 2017.
- **McCauley, DJ.** Duke University. “Extinction in the global oceans” Beaufort, NC Nov 2016.
- **McCauley, DJ.** Aquarium of the Pacific “Marine Biology in the 21<sup>st</sup> Century”. Long Beach, CA Nov 2016.
- **McCauley, DJ.** Monterey Bay Aquarium. “Plastics and marine ecosystems” Monterey, CA Dec 2016.

- **McCauley, DJ.** Dreamforce (World's largest software conference): Forbes Philanthropy Summit: "The Future of Our Oceans" San Francisco, CA Oct 2016.
- **McCauley, DJ.** Santa Barbara Natural History Museum: "The Future Ocean Wildlife" Santa Barbara, CA Oct 2016.
- **McCauley, DJ.** World Economic Forum: "Reviving the ocean ecosystem". Tianjin, China, June 2016.
- **McCauley, DJ.** Google: "Anthropocene Oceans". Google Headquarters, Mountain View, CA, July 2016.
- **McCauley, DJ.** Harvard University: "Embracing the emerging industrial revolution in our oceans". Cambridge, MA Apr 2016.
- **McCauley, DJ.** Santa Fe Institute: "Using remote sensing technologies to study collective behavior". Santa Fe, NM June 2016.
- **McCauley, DJ.** International Coral Reef Symposium: "Predator ecology and large marine protected areas". Honolulu, HI June 2016.
- **McCauley, DJ.** Art Center College of Design "Wildlife loss in the global ocean. Pasadena, CA March 2016.
- Jablonicky, C and **DJ McCauley.** International Marine Conservation Congress: "Global Fishing Watch: Ending hide and seek in the open ocean". Newfoundland, Canada July 2016.
- **McCauley, DJ.** Aquarium of the Pacific "Past and future of animal loss in the oceans". Long Beach, CA Nov 2015.
- Payne, JL, Hein, NA, Knope, ML, Bush, AM and **DJ McCauley.** The Geological Society of America: "Comparative intensity and selectivity of the Sixth Extinction in the oceans". Baltimore, MD Nov 2015.
- **McCauley, DJ.** Dreamforce (World's largest software conference): "New wave of innovation hitting our ocean waters". San Francisco, CA Oct 2015.
- Berdhal, A, Torney, CJ, DeBell, L, Hopcraft, GA, Hughey, L, **McCauley, DJ,** Ferguson, E, and AP Dobson. Ecological Society of America: "Investigating collective animal movement with unmanned aerial systems". Baltimore, MD Aug 2015.
- **McCauley, DJ.** Packard Foundation: "Patterns of wildlife loss in the oceans". Los Altos, CA June 2015.

- **McCauley, DJ.** University of Rhode Island “Wildlife loss in the global Oceans”. Kingston, RI May 2015.
- **McCauley, DJ.** Scripps Institute of Oceanography, UC San Diego “Ecological dynamics in a smaller world”. La Jolla, CA May 2015.
- **McCauley, DJ.** UC Santa Cruz: “Ecological dynamics in a smaller world”. Santa Cruz, CA May 2015.
- **McCauley, DJ.** Monterey Bay Aquarium: “Marine Defaunation”. Monterey, CA Feb 2015.
- **McCauley, DJ.** UC Riverside: “Ecological effects of the changing size of life”. Riverside, CA Nov 2014.
- **McCauley, DJ.** Ecological Society of America Annual Meeting: “Reconceptualizing community structure and dynamics in light of consumer mobility”. Sacramento, CA, Aug 2014.
- **McCauley, DJ.** Cal State University Long Beach: “Effects of body size shifts on ecological dynamics”. Long Beach, CA Feb 2014.
- **McCauley, DJ.** Stanford University, Hopkins Marine Station: “Exploration science in the 21<sup>st</sup> century”. Pacific Grove, CA Feb 2014.
- **McCauley, DJ.** Georgia Institute of Technology: “Ecological impacts and management implications of size-selective wildlife harvest”. Atlanta, GA Apr 2013.
- **McCauley, DJ.** University of Otago New Zealand: “Effects of changing body size distributions on marine community dynamics”. Otago, New Zealand Apr 2013.

## **PROFESSIONAL SERVICE**

### ***Peer reviewer for journals/funding entities:***

Science, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society B, Nature Scientific Reports, Ecological Applications, Trends in Ecology and Evolution, Ecological Modelling, PLOS One, Oikos, Oecologia, Journal of Mammalogy, Marine Ecology Progress Series, Conservation Biology, Coral Reefs, Current Biology, Journal of Experimental Marine Biology and Ecology, BioScience, Biological Conservation, Marine Biology, Aquatic Ecology, Hyrdobiologia, Functional Ecology, Biology Letters, Biological Conservation, Zoology, CITES, South Africa National Research Foundation, Research Grants Council of Hong Kong, National Geographic Society, Science Advances, Marine Policy, Frontiers in Ecology and Evolution, Moore Foundation Inventor Fellow Program, Canadian Research Chair Faculty Review

### ***University Committees:***

- Institutional Animal Care and Use Committee (IACUC). 2014 to present
- EEMB Graduate Advisory Committee. 2018 to present
- EEMB Website Committee. 2015-2018
- Stork Undergraduate Award Committee. 2017 to present
- Faculty Search Committee (EEMB and IGPMS hires)
- EEMB Development Committee. 2017 to present

### ***Board Membership:***

- Science Advisory Board – Marine Conservation Institute; Global Ocean Refuge System. 2017 to present
- Science Advisor – Moore Foundation Inventor Fellow Program. 2017 to present
- Science Advisory Board – Pew Charitable Trusts, Oceans. 2016 to present
- Chairperson, Board of Directors – Benioff Ocean Initiative. 2016 to present

## **STUDENT ADVISING**

### ***Graduate and Postdoctoral Advising (\*past)***

Erin Dillon (EEMB, PhD, UC Santa Barbara); Ana Guerra (EEMB, PhD, UC Santa Barbara); Molly Hardesty-Moore (EEMB, PhD, UC Santa Barbara); Lacey Hughey (EEMB, PhD, UC Santa Barbara); James Mpemba\* (Department of Veterinary Physiology, Biochemistry, Pharmacology, and Toxicology, MSc, Sokoine University, Tanzania); Keenan Stears (EEMB, Postdoc, UC Santa Barbara); Jacob Eurich (EEMB, Postdoc, UC Santa Barbara).

### ***Graduate student dissertation committees (\*past)***

Ashley Stroud (MSc, UC Santa Barbara) Ryan Freedman, (Bren, PhD, UC Santa Barbara), Mark Ladd, (EEMB, PhD, UC Santa Barbara), Randall Long (EEMB, PhD, UC Santa Barbara), Dana Morton (EEMB, PhD, UC Santa Barbara), Ana Miller-ter Kuile (EEMB, PhD, UC Santa Barbara), Georgia Titcomb (EEMB, PhD, UC Santa Barbara), Tim White (Biology, PhD, Stanford), Christie York, (IGPMS, PhD, UC Santa Barbara), Keith Yaeger\* (EEMB, MSc, UC Santa Barbara), Katie Davis\*, (Marine Science Institute, MSc, UC Santa Barbara); Peter Carlson\*, (Marine Science Institute, MSc, UC Santa Barbara), Victoria University of Wellington\*, New Zealand, University of Western Australia\*, RMIT University Australia



## *Undergraduate Advising*

Served as primary mentor of over 30 undergraduate senior research projects (Stanford University; UC Berkeley; UC Santa Barbara) resulting in 15 peer-reviewed publications.

## **MEDIA OUTREACH**

### *Selected Media Coverage (see source links on website)*

New York Times (three times, including front page), Time Magazine (twice), Science Magazine (twice), National Public Radio (seven times), BBC (five times), ABC News, CNBC, The Economist, The New Yorker, Marketplace, Scientific American (twice), American Association for the Advancement of Sciences (four times), Washington Post (twice), Voice of America (three times), Vice News (three times), the Guardian, Fortune, LA Times (including front page), USA Today (twice), Harvard University News, RadioLab, Marketplace, Animal Planet.

- Live webcam project on McCauley field research site in Kenya with classroom enrichment activities has received >1million hits and was reported on by *Science*.
- Micro-documentaries produced on science of plastic pollution in the oceans, research on shark movement ecology, wildlife loss in the global oceans, river research in East Africa have received >1million hits and have been shared by NSF media, government agencies, and won multiple awards at international film festivals (e.g. Oceans 180, Blue Ocean Film Fest, Film4Climate).
- Research outputs have been shared in documentary films produced by BBC, Vice Media, The Economist, and National Geographic Channel's Emmy winning series Years of Living Dangerously.