**Scott L. Hamilton**

**curriculum vitae**

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Moss Landing, CA 95039 <https://mlml.sjsu.edu/scott-hamilton/>

**Education**

2007PhD, University of California, Santa Barbara, CA

Course of study: Marine Ecology. Advisor: Dr. Robert Warner

Committee members: Dr. Steven Gaines and Dr. Gretchen Hofmann

PhD Dissertation: *Selective mortality in juvenile coral reef fish: the role of larval performance and dispersal histories*

2000 B.A., Princeton University, Princeton, NJ

Major: Ecology and Evolutionary Biology, *Summa cum laude*, Highest honors

Advisor: Dr. Tom Hahn

Undergraduate thesis: *Population biology and ecology of* Nassarius mendicus *(Gastropoda: Prosobranchia): the effects of symbiotic hydroids on predation, microhabitat preferences, and behavior*

**Professional History**

2019-*present* Professor, Ichthyology, Moss Landing Marine Laboratories and San Jose State University

2016-2019Associate Professor, Ichthyology, Moss Landing Marine Laboratories and San Jose State University

2011-2016 Assistant Professor, Ichthyology, Moss Landing Marine Laboratories and San Jose State University

2010-2011 Associate Project Scientist, Marine Science Institute, University of California Santa Barbara

2008-2010 Assistant Project Scientist, Marine Science Institute, University of California Santa Barbara

2006-2010 Lecturer, Dept. of Ecology, Evolution, and Marine Biology, University of California Santa Barbara

2007-2008Post-doctoral Researcher, University of California Santa Barbara

Advisors: Dr. Jennifer Caselle and Dr. Robert Warner

2006-2007 Graduate Student Researcher, Partnership for Interdisciplinary Studies of Coastal Oceans Supervisor: Dr. Jennifer Caselle

2005-2006 Research Consultant and Project Manager, Aquarium of the Pacific (AoP) Volunteer Scientific Diving Program, Long Beach, CA

Supervisor: Edward Cassano, Vice President of programs and exhibits

2005 Curator of UCSB Fish Museum Collection (over 1500 jars of preserved specimens)

Supervisor: Jennifer Thorsch, Director, Cheadle Center for Biodiversity and Ecological Restoration

**Publications († = graduate student; \* = undergraduate student; 54 total)**

*In press* **†**Donham EM, **Hamilton SL**, Aiello I, Price NN, Smith JE. Single-species consequences of warming and acidification on the temperate articulated coralline alga, *Calliarthron cheilosporoides* (Florideophyceae, Rhodophyta). *Journal of Phycology*. <https://doi.org/10.1111/jpy.13272>

2022 Sandin SA, Alcantar E, Clark R, de León R, Dilrosun F, Edwards CB, Estep AJ, Eynaud Y, **†**French BJ, **†**Fox MD, Grenda D, **Hamilton SL**, **†**Kramp H, Marhaver KL, **†**Miller SD, Roach TNF, Seferna G, Silveira CB, Smith JE, Zgliczynski BJ, Vermeih MJA. Benthic assemblages are more predictable than fish assemblages at an island scale. *Coral Reefs*<https://doi.org/10.1007/s00338-022-02272-5>

2022 Ziegler SL, **†**Brooks RO, **Hamilton SL**, Ruttenberg BI, **†**Chiu J, **†**Fields RT, Waltz GT, Shen C, Wendt DE, Starr RM*.* External fishing effort regulates positive effects of no-take marine protected areas. *Biological Conservation* 269:109546 <https://doi.org/10.1016/j.biocon.2022.109546>

2022 **†**Donham EM, Strope LT, **Hamilton SL**, Kroeker KJ. Coupled changes in pH, temperature and dissolved oxygen impact the physiology and ecology of herbivorous kelp forest grazers. *Global Change Biology*. 28:3023–3039. <https://doi.org/10.1111/gcb.16125>

2021 Wood CL, Leslie KL, **\***Greene A, **†**Lam LS, **†**Basnett B, **Hamilton SL**, and Samhouri JF. The weaker sex: Male lingcod (*Ophiodon elongatus*) with blue color polymorphism are more burdened by parasites than are other sex–color combinations. *PLoS ONE* 16(12): e0261202. <https://doi.org/10.1371/journal.pone.0261202>

2021 **Hamilton SL.** Editorial Comment on the Highlight Article “Revision of the depth record of bony fishes with notes on hadal snailfishes (Liparidae, Scorpaeniformes) and cusk eels (Ophidiidae, Ophidiiformes)” by Mackenzie E. Gerringer et al. *Marine Biology* <https://doi.org/10.1007/s00227-021-03966-0>

2021 GallowayAWE, BeaudreauA., **†**ThomasM, **†**BasnettB, **†**Lam LS, **Hamilton SL**, Andrews K, Schram JB, Watson J, SamhouriJF. Why so blue? Assessing drivers of blue-colored flesh in lingcod (*Ophiodon elongatus*). *Marine Biology* 168:139. <https://doi.org/10.1007/s00227-021-03936-6>

2021**†**Lam LS, **†**Basnett BL, Haltuch MA, Cope J, Andrews K, Nichols KM, Longo GC, Samhouri JF, **Hamilton SL**. Geographic variability in lingcod (*Ophiodon elongatus*) life-history and demography along the U.S. West Coast: Oceanographic drivers and management implications. *Marine Ecology Progress Series* 670:203-222.<https://doi.org/10.3354/meps13750>

2021 **†**Donham EM, **Hamilton SL**, Price NN, **†**Kram S, Kelly E, **†**Johnson MD, \*Neu AT, Smith JE. Experimental assessment of the impacts of ocean acidification and urchin grazing on benthic kelp forest assemblages. *Journal of Experimental Marine Biology and Ecology* 540:151548. <https://doi.org/10.1016/j.jembe.2021.151548>

2020 **†**Yates DC, Lonhart SI, **Hamilton SL**.Effects of marine protected areas on predator-prey interactions in central California kelp forests. *Marine Ecology Progress Series*. 655:139-155. <https://doi.org/10.3354/meps13526>

2020 Beas R, Micheli R, Woodson C, Carr M, Malone D, Torre J, Boch C, Caselle J, Edwards M, Freiwald J, **Hamilton SL**, Hernandez-Velasco A, Konar B, Kroeker K, Lorda J, Montaño-Moctezuma G, Torres-Moye G*.* Geographic variation in functional responses of kelp forest communities to recent climatic changes and consequences for ecosystem functioning. *Global Change Biology* 26: 6457-6473.<https://doi.org/10.1111/gcb.15273>

2020Longo G, **†**Lam L, **†**Basnett B, Samhouri J, **Hamilton S**, Andrews K, Williams G, McClure M, Nichols K. Strong population differentiation in lingcod (*Ophiodon elongatus*) is driven by a small portion of the genome. *Evolutionary Applications* 13:2536–2554. <https://doi.org/10.1111/eva.13037>

2020 **†**Mattiasen EG, Kashef NS, Stafford DM, Logan CA, Sogard SM, Bjorkstedt EP, **Hamilton SL**. Effects of hypoxia on the behavior and physiology of juvenile rockfishes. *Global Change Biology* 26:3498–3511. <https://doi.org/10.1111/gcb.15076>

2020**†**Easter EE, Adreani MS, **Hamilton SL**, Steele MA, **†**Pang S, White JW*.* Influence ofprotogynous sex change on recovery of fish populations within marine protected areas. *Ecological Applications*. e02070. <https://doi.org/10.1002/eap.2070>

2019 **Hamilton SL**, Kashef NS, Stafford DM, **†**Mattiasen EG, \*Kapphahn LA, Bjorkstedt EP, Sogard SM. Ocean acidification and hypoxia have opposite effects on rockfish otolith growth. *Journal of Experimental Marine Biology and Ecology* 521:151245. <https://doi.org/10.1016/j.jembe.2019.151245>

2019 **†**Cline AJ, **Hamilton SL**, Logan CA. Effects of multiple climate change stressors on gene expression in blue rockfish (*Sebastes mystinus*). *Comparative Biochemistry and Physiology, Part A: Molecular and Integrative Physiology* 239:110580

2019 Zgliczynski BJ, Williams GJ; **Hamilton SL**, **†**Cordner EG, **†**Fox, MD, Eynaud Y, Michener RH, Kaufman LS; Sandin SA.Foraging consistency of coral reef fishes across environmental gradients in the central Pacific. *Oecologia* 191: 433-445

2019**†**Miller SD, Zgliczynski BJ, **†**Fox MD, Kaufman LS, Michener RH, Sandin SA, **Hamilton SL***.* Niche width expansion of coral reef fishes along a primary productivity gradient in the remote central Pacific. *Marine Ecology Progress Series* 625: 127-143

2018**†**Wood G, **Hamilton SL**, Vadopalas B, Stevick B, Leyva-Valencia I. Geographic variation in the life history and morphology of the Pacific geoduck, *Panopea generosa*. *Journal of Shellfish Research*. 37: 919-931

2018 **†**Gabara SS, **Hamilton SL,** Edwards MS, Steller DL. Rhodolith structural loss decreases abundance, diversity, and stability of benthic communities at Santa Catalina Island, CA. *Marine Ecology Progress Series* 595: 71–88

2018 **Hamilton SL**. From a sea of phenotypic traits, fast reaction and boldness emerge as the most influential to survival in marine fish. Invited Spotlight Article for *Functional Ecology* 32: 856-857. <https://doi.org/10.1111/1365-2435.13070>

2018Caselle JE, **Hamilton SL**, Davis K, Thompson C, Turchik A, Jenkinson R, Simpson D, Sala E. First quantification of subtidal community structure at Tristan da Cunha Islands in the remote South Atlantic: from kelp forests to the deep sea. *PLoS ONE* 13(3): e0195167. <https://doi.org/10.1371/journal.pone.0195167>

2017 **†**Donham E, Foster MS, Rice MR, Cailliet GM, Yoklavich MM, **Hamilton SL**. Natural history observations of Hawaiian garden eels, *Gorgasia hawaiiensis* (Congridae: Heterocongrinae), from the Island of Hawai’i. *Pacific Science* 71:135-147.

2017**†**Teck SJ, **†**Lorda J, Shears NT, **†**Bell TW, Cornejo-Donoso J, Caselle JE, **Hamilton SL**, Gaines SD. Disentangling the effects of fishing and environmental forcing on demographic variation in an exploited species. *Biological Conservation* 209:488-498

2017 **†**Selden RL, Gaines SD, **Hamilton SL**, Warner RR. Protection of large predators in a marine reserve alters size-dependent prey mortality. *Proceedings of the Royal Society B: Biological Sciences 284: 20161936*

2017 Braje TJ, Rick, TC, Szpak P, Newsome SE, McCain JM, **†**Smith EAE, Glassow M, **Hamilton SL**. Historical ecology and the conservation of large, hermaphroditic fishes in Pacific Coast kelp forest ecosystems. *Science Advances* 3: e1601759

2017**Hamilton SL**, Logan C, **†**Fennie W, Sogard S, Barry J, \*Makukhov A, \*Tobosa L, \*Boyer K, Lovera C, Bernardi G. Species-specific responses of juvenile rockfish to ocean acidification: from behavior to genomics. *PLoS ONE 12(1): e0169670.* <https://doi.org/10.1371/journal.pone.0169670>

2016Graham MH, **†**Fox MD, **Hamilton SL**. Macrophyte productivity and the provisioning of energy and habitat to nearshore systems. Book Chapter in: Marine Macrophytes as Foundation Species. Editor: Olafsson, E. CRC Press, Boca Raton, FL. Pgs 131-160

2015 **†**Kram SL, Price NN, **†**Donham EM, **†**Johnson MD, Kelly ELA, **Hamilton SL**, Smith JE*.* Variable responses of temperate calcified and fleshy macroalgae to elevated *p*CO2 and warming. *ICES Journal of Marine Science; doi: 10.1093/icesjms/fsv168*

2015 Caselle JE, Rassweiler AR, **Hamilton SL**, Warner RR*.* Recovery trajectories of kelp forest animals are rapid yet spatially variable across a network of temperate marine protected areas. *Scientific Reports* 15:14102 DOI:10.103/srep14102

2015 **Hamilton SL**, Caselle JE. Exploitation and recovery of a sea urchin predator has implications for the resilience of southern California kelp forests. *Proceedings of the Royal Academy of Science B: Biological Sciences* 282: 20141817

2014**Hamilton SL**, Smith JE, Price NN, Sandin SA. Quantifying patterns of fish herbivory on Palmyra Atoll (USA), an uninhabited predator-dominated central Pacific coral reef. *Marine Ecology Progress Series* 501: 141-155

2014 **Hamilton SL,** Newsome SD, Caselle JE. Dietary niche expansion of a kelp forest predator recovering from intense commercial exploitation. *Ecology* 95: 164-172

2013**†**Max LM, **Hamilton SL**, Gaines SD, Warner RR. Benthic processes and overlying fish assemblages drive the composition of benthic detritus on a central Pacific coral reef. *Marine Ecology Progress Series*. 482: 181-195

2012 **†**Loke KA, Floyd, AJ, Lowe CG, **Hamilton SL**, Caselle JE, Young KA*.* Reassessment of the fecundity of California sheephead. *Marine and Coastal Fisheries* 4: 599-604

2012 Manríquez PH, Galaz SP, Opitz T, **Hamilton SL**, Paradis G, Warner RR, Castilla JC, Labra FA, Lagos NA. Geographic variation in trace-elemental signatures in the statoliths of near-hatch larvae and recruits of Loco(*Concholepas* *concholepas*). *Marine Ecology Progress Series* 448: 105-118

2012Walsh SM, **Hamilton SL**, Ruttenberg BI, \*Donovan MK, Sandin SA. Fishing top predators indirectly affects condition and reproduction in a reef fish community. *Journal of Fish Biology*. 80: 519-537. DOI: 10.1111/j.1095-8649.2011.03209.x

2011 Price NN, **Hamilton SL**, \*Tootell JS, Smith JE. Species-specific consequences of ocean acidification for the calcareous tropical green algae *Halimeda*. *Marine Ecology Progress Series* 440: 67-78

2011**Hamilton SL**, **†**Wilson J, **†**Ben-horin T, Caselle JE. Utilizing spatial demographic and life history variation to optimize sustainable yield of a temperate sex-changing fish. *PLoS ONE* 6(9): e24580. doi:10.1371/journal.pone.0024580

2011Ruttenberg BI, **Hamilton SL**, Walsh SM, \*Donovan M, Friedlander AM, DeMartini EE, Sandin SA. Predator induced demographic shifts in coral reef fish communities. *PLoS ONE* 6(6): e21062. doi:10.1371/journal.pone.0021062

2011**Hamilton SL**, Caselle JE, Lantz CA, \*Egglof TL, \*Kondo E, Newsome SD, **†**Loke-Smith KA, Pondella DP, Young K, Lowe C. Extensive geographic and ontogenetic variation characterizes the trophic ecology of a temperate reef fish on southern California rocky reefs. *Marine Ecology Progress Series* 429: 227-244

2011Caselle JE, **Hamilton SL**, Schroeder DM, Love MS, Standish JD, Rosales-Casian JA, Sosa-Nishizaki O. Geographic variation in density, demography, and life history traits of a harvested temperate sex-changing reef fish. *Canadian Journal of Fisheries and Aquatic Science* 68: 288-303

2010 **Hamilton SL**, Caselle JE, Malone D, Carr MH. Incorporating biogeography into evaluations of the Channel Islands marine reserve network. *Proceedings of the National Academy of Sciences USA* 107: 18272-18277 [doi/10.1073/pnas.0908091107]

2010 White JW, Samhouri JF, Stier AC, Wormald CL, **Hamilton SL**, Sandin SA. Synthesizing mechanisms of density dependence in reef fishes: behavior, habitat configuration, and observation scale. *Ecology* 91: 1949-1961

2009 **Hamilton SL**, Warner RR. Otolith profiles of barium verify the timing of settlement in a coral reef fish. *Marine Ecology Progress Series* 385: 237-244

2009Warner RR, **Hamilton SL**, Sheehy MS, Zeidberg LD, Brady BC, Caselle JE. Geographic variation in natal and early larval trace-elemental signatures in the statoliths of market squid, *Doryteuthis* (formerly *Loligo*) *opalescens. Marine Ecology Progress Series* 379: 109-121

2008 **Hamilton SL**, Regetz J, Warner RR. Post-settlement survival linked to larval-life in a marine fish. *Proceedings of the National Academy of Sciences USA* 105: 1561-1566

2008 **Hamilton SL**. Larval history influences post-metamorphic condition in a coral reef fish. *Oecologia* 158: 449-461

2008 Ruttenberg BI, **Hamilton SL**, Warner RR. Spatial and temporal variation in the natal otolith chemistry of a Hawaiian reef fish: prospects for measuring population connectivity.*Canadian Journal of Fisheries and Aquatic Science* 65: 1181-1192

2007 **Hamilton SL**, Caselle JE, Standish JD, Schroeder DM, Love MS, Rosales-Casian JA, Sosa-Nishizaki O. Size-selective harvesting alters life histories of a temperate sex-changing fish. *Ecological Applications* 17: 2268-2280

2006 **Hamilton SL**, White JW, Swearer SE, Caselle JE, Warner RR. Consistent long-term spatial gradients in replenishment for an island population of a coral reef fish. *Marine Ecology Progress Series* 306: 247-256

2005 Ruttenberg BI, **Hamilton SL**,Hickford MJH, Paradis GL, Sheehy MS, Standish JD, Ben-Tzvi O, Warner RR. Elevated levels of trace elements in cores of otoliths and their potential for use as natural tags. *Marine Ecology Progress Series* 297: 273-281

2005 Sandin SA, Regetz J, **Hamilton SL**. Testing larval fish dispersal hypotheses using maximum likelihood analysis of otolith microchemistry data. *Marine and Freshwater Research* 56: 725-734

2003 Caselle JE, **Hamilton SL**, Warner RR. The interaction of retention, recruitment, and density-dependent mortality in the spatial placement of marine reserves. *Gulf and Caribbean Research* 14: 107-117

**Submitted Manuscripts**

**Hamilton SL**, **†**Elliott MS, deVries MS, Adelarrs J, **†**Rintoul MD, Graham MH. *In Revision.* Integrated multi-trophic aquaculture mitigates the effects of ocean acidification: seaweeds raise system pH and improve growth of juvenile abalone. Target: *Aquaculture*

**†**Shrestha J, **Hamilton SL**, Coale K. *In Review.* Empirical measurements of ammonium excretion in kelp forest fishes: effects of body size, taxonomy and trophic guild. Target: *Marine Biology*

Ziegler SL, \*Johnson JM, Brooks RO, **†**Johnson EM, **†**Mohay JL, Ruttenberg BI, Starr RM, Waltz GT, Wendt DE, **Hamilton SL**. *Submitted.* Marine protected areas, marine heatwaves, and the resiliency of nearshore fish communities. Target: *Proceedings of the Royal Society B: Biological Sciences*

**Manuscripts in Preparation**

Wood CL, Leslie KL, \*Greene A, **†**Lam LS, **†**Basnett B, **Hamilton SL**, Samhouri JF. *In prep*. Parasite burden declines with depth for lingcod (*Ophiodon elongatus*) on the west coast of North America. Target: *Functional Ecology*

**†**Lam LS, **†**Basnett BL, Samhouri JF, **Hamilton SL**. *In prep*. Habitat-based differences in lingcod demography and life history: How can stock assessments meet the needs of a changing fishery? Target: *Fisheries Research*

**†**Miller SD, Zgliczynski BJ, **†**Fox MD, Kaufman LS, Michener RH, Sandin SA, **Hamilton SL***. In prep.* Resource utilization of coral reef fish communities spanning a productivity gradient in the remote central Pacific. Target: *Functional Ecology*

Marraffini ML, **Hamilton SL**, Hubbard DM, Ladd M, **†**Koval G, **†**Madden J, Mangino I, Marin-Jarrin, J, Miller RJ, **†**Parker L, Dugan JE. *In prep.* Responses of Surf Zone Fish to Marine Protected Areas in California. Target: *Conservation Biology*

Duncan MI, Micheli F, Andres Marquez J, Lowe CJ, **Hamilton SL**, Sperling EA. *In Prep.* Temperature-dependent hypoxia tolerance of purple urchin, *Strongylocentrotus purpuratus*, across geographic space and developmental time.

Caselle JE, **Hamilton SL**, Kushner D, Malone D, Readdie M, Carr MH. *In prep*. Fish biomass gradients indicate spillover and habitat effects in four Channel Islands marine reserves. Target: *Ecological Applications*

**Hamilton SL**, White JW, Warner RR. *In revision*. Spatial variation in density dependence mediates the outcome of selective mortality in a coral reef fish. *Ecology*

**Technical Reports**

2022 **Hamilton SL**, Ziegler S, Brooks R, Starr RS, Wendt D, Rutteberg B, Caselle J, Semmens B, Bellquist L, Morgan S, Mulligan T, Tyburczy J, Watlz G, Mason E, Honeyman C, Small S, Staton J. California Collaborative Fisheries Research Program (CCFRP) – Monitoring and Evaluation of California Marine Protected Areas. Submitted to the Ocean Protection Council and California Sea Grant. 211 pp.

2022 Dugan JE, Marraffini M, Ladd M, Hubbard D, **Hamilton S**, Marin-Jarrin J, Colwell M, Neuman K, Lindquist K, Robinette D, Page HM, Madden J, Koval G, Nielsen KJ. Final Report: Evaluating performance of California’s MPA network through the lens of sandy beach and surf zone ecosystems. Submitted to the Ocean Protection Council and California Sea Grant. 111 pp.

2017 Caselle JE, **Hamilton SL**, Davis K, Bester M, Wege M, Thompson C, Turchik A, Jenkinson R, Simpson D, Mayorga J, Rose P, Fay M, Myers D, Glass J, Glass T, Green R, Repetto J, Swain G, Herian K, Lavarello I, Hall J, Schofield A, Dews S, McAloney D, Sala E. Ecosystem assessment of the Tristan da Cunha Islands. National Geographic Pristine Seas, Royal Society of the Protection of Birds, and Tristan da Cunha Government. Expedition Report. July 2017. 96 pp.

2016 Taylor T, Fitzer C, Cannon S, Mart G, Starr R, **Hamilton S.** San Francisco – Oakland Bay Bridge East span marine foundation removal project: Caged Fish Immediate Mortality and Injury and Trawling Report. Report to the State of California Department of Transportation. January 2016. 62 pp.

**Dataset Submissions**

Donham, Emily; Strope, Lauren; **Hamilton, Scott**; Kroeker, Kristy (2022), Coupled changes in pH, temperature and dissolved oxygen impact the physiology and ecology of herbivorous kelp forest grazers, Dryad, Dataset, <https://doi.org/10.5061/dryad.8sf7m0cq7>

Richard Starr, Dean Wendt, **Scott Hamilton**, Benjamin Ruttenberg, Tim Mulligan, Joe Tyburczy, Steven Morgan, Jenn Caselle, Brice Semmens, Lyall Bellquist, Shelby Ziegler, and Rachel Brooks. 2021. Nearshore Fishes Abundance and Distribution Data, California Collaborative Fisheries Research Program (CCFRP), 2007 - 2020. urn:node:CA\_OPC. [doi:10.25494/P6P88K](https://opc.dataone.org/view/doi:10.25494/P6P88K).

**Hamilton, SL**. (2020) Data from experiments testing the effects of hypoxia on behavior and physiology of two species of rockfish from 2015-2016. Biological and Chemical Oceanography Data Management Office (BCO-DMO). Dataset version 2020-04-14. doi:10.26008/1912/bco-dmo.809321.1

**Grants / Contracts / Fellowships**

2022-2024 NOAA Saltonstall-Kennedy – Examining the capacity of seaweed and shellfish co-culture to improve the physiology, biomechanics, and outplanting of farmed juvenile abalone and oysters ($300,000 to SJSU – Hamilton is co-PI with lead PI Maya DeVries [SJSU], co-PI Mike Graham [MLML] and co-PI Luke Gardner [MLML])

2022-2024 California Sea Grant (R/AQ-160) – Improving IMTA system design for the co-culture of seaweeds and abalone to mitigate the effects of climate change ($300,000 to MLML/SJSU – Hamilton is co-PI w/ Lead PI Mike Graham [MLML], co-PI Luke Gardner [MLML] and co-PI Maya deVries [SJSU])

2022-2023 SJSU RSCA Seed Grant Program ($5,000)

2021-2022 California Sea Grant New Faculty Award (R/SFA-08) – Strengthening sustainability in an acidified ocean: does the co-culture of seaweeds and shellfish improve shell integrity in farmed red abalone? ($90,000 to SJSU – Hamilton is co-PI w/ Lead PI Maya deVries [SJSU] and Co-PI Mike Graham [MLML])

2020-2022 NOAA Saltonstall-Kennedy (NA20NMF4270170) – Creating New Products and Markets: Development of Techniques for the Cultivation of Monkeyface Pricklebacks ($300,000 to MLML/SJSU – Hamilton is lead PI w/ co-PIs Luke Gardner and Mike Graham)

2020-2022 Ocean Protection Council (C0752003) – California Collaborative Fisheries Research Program: Monitoring and Evaluation of California Marine Protected Areas ($1,000,000 to MLML/SJSU – Hamilton is lead PI w/ Co-PI Rick Starr [MLML] and Co-PIs Dean Wendt & Ben Ruttenberg [CalPoly SLO], Brice Semmens [SIO], Lyall Bellquist [TNC], Jen Caselle [UCSB], Steven Morgan [UCD], Tim Mulligan & Joe Tyburczy [HSU])

2020-2022 California Sea Grant / Ocean Protection Council (R/HCEOPC-13) – Assessment of practical methods for re-establishment of northern California bull kelp populations at an ecologically relevant scale ($332,177 to MLML/SJSU – Hamilton is co-PI w/ lead PI Mike Graham, MLML)

2020-2022 California Sea Grant (R/AQ-147) – Development of techniques for the cultivation of monkeyface pricklebacks as a sustainable alternative to unagi ($99,795 to MLML/SJSU – Hamilton is lead PI w/co-PIs Luke Gardner and Mike Graham, MLML)

2020-2022 California Sea Grant (R/AQ-158F) – Eat your greens: Evaluating microalgae supplemented feeds for sablefish nutrition and growth ($79,900 to MLML/SJSU – Hamilton is lead PI with co-PI Luke Gardner); Graduate Research Fellowship for Katie Neylan

2020-2021 California Department of Fish and Wildlife (P1970018) - California Collaborative Fisheries Research Program North and South Coast Monitoring ($310,000 to MLML/SJSU – Hamilton is lead PI with co-PI Rick Starr [MLML] and Co-PIs Jen Caselle [UCSB], Steven Morgan [UCD], Tim Mulligan [HSU])

2019-2021 Ocean Protection Council/California Sea Grant (R/MPA-45) – California Collaborative Fisheries Research Program: Monitoring and Evaluation of California Marine Protected Areas ($1,000,000 to MLML/SJSU – Hamilton is lead PI w/ Co-PI Rick Starr [MLML] and Co-PIs Dean Wendt & Ben Ruttenberg [CalPoly SLO], Brice Semmens [SIO], Lyall Bellquist [TNC], Jen Caselle [UCSB], Steven Morgan [UCD], Tim Mulligan & Joe Tyburczy [HSU])

2019-2021 Ocean Protection Council/California Sea Grant (R/MPA-44) – Evaluating performance of California’s MPA network through the lens of sandy beach and surf zone ecosystems ($132,000 to MLML/SJSU [$1,000,000 total] – Hamilton is Co-PI w/ lead PI Jenny Dugan, UC Santa Barbara; and additional collaborating institutions)

2019-2020 Pacific State Marine Fisheries Commission: Marine Aquaculture Pilot Projects - Development of a rock scallop hatchery for California’s aquaculture industry ($120,000 to MLML/SJSU – Hamilton is Co-PI w/ lead PI Luke Gardner and Co-PI Mike Graham, MLML; industry collaborator – Monterey Abalone Company)

2018-2021 Ocean Protection Council Prop 84 (R/OPCSFAQ-11) – Sea Feeds: Identification and culture of Californian marine macroalgae capable of reducing greenhouse gas production from ruminant livestock ($249,804 to MLML/SJSU – Hamilton is Co-PI w/ Lead PI Luke Garnder and Co-PI Mike Graham, MLML and Stacey Gunter, USDA)

2017-2020 Sea Grant Aquaculture Program (R/AQ-138) – Solving impediments to the co-culture of seaweeds and shellfish ($132,083 to MLML/SJSU – Hamilton is lead PI; Co-PI Mike Graham, MLML; Industry collaborators – Hog Island Oyster Company, Monterey Abalone Company)

2017 SJSU – Research, Scholarship, and Creative Activities grant ($5,000)

2016-2020 NOAA Saltonstall-Kennedy (#NA16-NMF4270261) – Using spatial variation in demography and life history to improve stock assessments of West Coast groundfish ($299,782 to MLML/SJSU – Hamilton is lead PI; Associated Investigators: Jameal Samhouri, Jason Cope, NMFS NWFSC; Susan Sogard, NMFS SWFSC)

2016-2020 NOAA Saltonstall-Kennedy (#NA16-NMF4270255) – Forecasting the effects of ocean acidification and hypoxia on reproduction of West Coast groundfishes ($298,206 to MLML/SJSU – Hamilton is lead PI; Associated Investigators: Susan Sogard, NMFS SWFSC; Cheryl Logan, CSUMN; Giacomo Bernardi, UCSC)

2016-2020 NOAA NMFS Habitat Assessment Improvement Plan (HAIP) (#NA15-NMF4550353) - Using habitat-specific, spatial demographic information to improve stock assessments of groundfishes ($114,971 to MLML/SJSU [$353,710 total] – Hamilton is co-PI w/ Lead PI Jameal Samhouri and co-PIs Jason Cope, Krista Nichols, and Kelly Andrews, NMFS NWFSC)

2016-2019 California Sea Grant (R/HCME-20B) – Effects of climate change induced ocean acidification and hypoxia on reproduction of rockfishes ($104,441 to MLML/SJSU [$299,622 total] – Hamilton is Co-PI w/ PI Giacomo Bernardi, UCSC; and Co-PIs Susan Sogard, NMFS SWFSC and Cheryl Logan, CSUMB)

2016-2017 NOAA Sea Grant Aquaculture Workshops - Enhancing coastal community revitalization by building capacity for collaboration between the aquaculture and commercial fishing sectors in California ($19,996 to MLML/SJSU – Hamilton is Associated Investigator with lead PI Rick Starr, MLML, and Associated Investigator, Anna Pitchon, SJSU)

2016 SJSU – Research, Scholarship, and Creative Activities grant ($5,000)

2015-2019 National Science Foundation BIO-OCE (#1436545) – Collaborative Research: RUI: Impacts of size-selective mortality on sex-changing fishes ($207,252 to MLML/SJSU [$727,798 total] – Hamilton is Co-PI w/ lead PI Mark Steele, CSU Northridge and Co-PIs Will White, UNC Wilmington and Mia Adreani, CSU Northridge)

2015-2016 Environmental Science Associates – 2015 East Bay Bridge Demolition Fish Surveys ($81,539 to MLML/SJSU – Hamilton is lead PI w/ Co-PI Rick Starr, MLML)

2015-2017 NOAA NMFS Habitat Assessment Improvement Plan (HAIP) (#NA15-NMF4550353) - Using habitat-specific, spatial demographic information to improve stock assessments of groundfishes ($45,613 to MLML/SJSU [$102,295 total] – Hamilton is co-PI w/ Lead PI Jameal Samhouri and co-PI Jason Cope, NMFS NWFSC)

2015-2016 COAST Strategic Investment Program 2015-2016 – CSU Center for Aquaculture proposal ($44,822 to MLML/SJSU – Hamilton is co-PI w/ Lead PI Michael Graham and co-PIs Matt Edwards, San Diego State and Michael Lee, CSU East Bay)

2015 SJSU – Research, Scholarship, and Creative Activities grant ($5,000)

2014-2018 National Science Foundation Emerging Frontiers: OA (#1416919) – Collaborative Research: Ocean Acidification: RUI: Multiple Stressor Effects of Ocean Acidification and Hypoxia on Behavior, Physiology, and Gene Expression of Temperate Reef Fishes ($330,341 to MLML/SJSU [$900,940 total] – Hamilton is lead PI w/ Co-PIs Susan Sogard, NMFS SWFSC, Cheryl Logan, CSUMB, and Brian Tissot and Eric Bjorkstedt, Humboldt State)

2013 COAST Grant Development Award – A mechanistic understanding of the demographic consequences of harvest selection for temperate sex-changing fishes ($14,959 to MLM/SJSU – Hamilton is co-PI with Dr. Mark Steele, CSU Northridge)

2013 SJSU – Research, Scholarship, and Creative Activities grant ($7,333)

2013 California Sea Grant (R/CC-07) –Effects of ocean acidification on olfactory senses, swimming physiology, and gene expression in juvenile rockfish ($40,000 to MLML/SJSU – Hamilton is lead PI w/ co-PI with Susan Sogard, NMFS SWFSC and Giacomo Bernardi, UCSC)

2011-2013 California Sea Grant (R/CC-05) - Response of calcified and fleshy macroalgae to warming and ocean acidification: from single species to community interactions ($127,513 to MLML/SJSU [$300,000 total] – Hamilton is co-PI with lead PI Jennifer Smith, SIO and co-PI Mike Graham, MLML)

2011 SJSU – Research, Scholarship, and Creative Activities grant ($7,333)

2011 California Sea Grant Program Development Award (R/ENV-214PD) – California sheephead research and fisheries management workshop ($1,729)

2010-2011 California Sea Grant Program Development Award (R/ENV-214EPD) - Effects of marine reserves on behaviorally-mediated changes in spawning success of California sheephead ($19,949 – Hamilton is co-PI with lead PI Robert Warner)

2007-2010California Sea Grant (R/OPC-FISH05) - Assessing changes in life history traits and reproductive function of California sheephead across its range: historical comparisons and the effects of fishing ($140,255 – postdoc with J. Caselle, UCSB, C. Lowe, K. Young, CSU Long Beach)

2008-2009Isaacs Undergraduate Research Fellowship from California Sea Grant. Awarded to research assistant Tiana Egloff for studies of geographic variation in the trophic ecology of California sheephead ($4,000 – 2 fellowships awarded)

2006 Graduate Division Dissertation Fellowship ($5,000)

2006 UCSB Affiliates Fellowship ($3,000)

2006 Western Groundfish Conference student travel award ($300)

2005-2006 California Department of Fish and Game Research Grant - Current status of California sheephead populations ($3,500)

2004-2005 National Park Service, Pacific Islands Coral Reef Program Graduate Research Grant - Larval retention, larval exchange, and population connectivity in the Hawaiian Islands ($25,000)

2003 Sigma Xi Research Grant ($500)

2000-2003 National Science Foundation Graduate Research Fellowship ($105,000)

### Awards

2014 Early Career Investigator Award – San Jose State University Research Foundation

2009 Voted Top Course in the Ecology, Evolution, and Marine Biology (EEMB) Department by undergraduate majors for: EEMB 106, Biology of Fishes

2007 Fiona Goodchild Award for Excellence as a Graduate Student Mentor of Undergraduate Research

### Teaching Experience

2012-2021 Marine Ecology, MS 103, MLML. Co-instructor with Dr. Michael Graham

2012-2021 Marine Ichthyology, MS 113, and Advanced Marine Ichthyology, MS 213, MLML

2013-2020 Subtidal Ecology, MS 272, MLML. Co-instructor with Dr. Diana Steller (2013, 2017), Dr.

Matt Edwards (2015), Dr. Amanda Kahn and Dr. Diana Steller (2020); taught every 2 years

2012, 2015 Advanced Topics in Marine Ecology: Global Kelp Systems, MS 233, MLML and

2019 Universidad Los Lagos, Chile. Co-instructor with Michael Graham, Alejandro Buschman

2014-2018 Marine Environmental Studies of the Gulf of California, MS 273. Co-instructor with Dr. Diana Steller; taught every 2 years

2014, 2016 Sampling and Experimental Design, MS 204, MLML. Co-instructor w/ Dr. Gitte McDonald (2016)

2012, 2015 Advanced Topics in Marine Ecology: Fisheries and Resource Management, MS 233, MLML. Co-instructor with Dr. Rick Starr

2012 Quantitative Marine Science II: Data Analysis Techniques, MS 263, MLML. Co-instructor with Erika McPhee-Shaw

2011 Quantitative Marine Science I, MS 104, MLML. Co-instructor with Erika McPhee-Shaw

2009-2010 Lecturer. Biology of Fishes, EEMB 106, University of California Santa Barbara (UCSB)

2007-2008 Lecturer. Biology of Fishes, EEMB 106. UCSB. Co-instructor with Dr. Jennifer Caselle.

2006 Lecturer. Biology of Fishes, EEMB 106. UCSB. Co-instructor with Dr. Robert Warner.

2003-2005 Guest Lecturer. Biology of Fishes, EEMB 106. UCSB. Delivered lectures on coral reef fishes and the mechanics of swimming.

2002-2006 Teaching Assistant. Biology of Fishes, EEMB 106. UCSB

Instructor: Dr. Robert Warner

2004-2006 Teaching Assistant. Introductory Biology Lab, EEMB 3L: The diversity of life – plants, protists, and animals. UCSB. Instructor: Dr. Douglas Bush

2001, 2003, Teaching Assistant. Ethology and Behavioral Ecology, EEMB 138. UCSB

2006 Instructors: Dr. Steve Rothstein and Dr. Robert Warner

2005 Teaching Assistant. Introductory Biology Lab, MCDB 1B/EEMB 2L: Animal and Plant Physiology/Ecology and Evolution. UCSB.

Instructor: Dr. Gabrielle Johnson

**Mentoring**

*Post-doctoral researchers*

2020-present **Shelby Ziegler, PhD** – Evaluating the efficacy of California’s marine reserve network using data from the California Collaborative Fisheries Research Program (CCFRP)

*Master’s of Science at MLML* (year started at MLML) – **61 students** (29 completed the MS degree)

Fall 2011 **Emily Donham** – Climate change in temperate algal communities (completed Spring 2016)

**Will Fennie** – Ocean acidification effects on fish olfaction (completed Fall 2015)

**Gabi Navas** – Life history variation in geoduck clams (completed Fall 2015)

**Paul Clerkin** – Chondrichtyans of the Madagascar Ridge – co-advised with Dr. Dave Ebert (completed Fall 2017)

**Kelly Andrews** – Mercury accumulation in elasmobranchs in Elkohrn Slough – co-advised with Dr. Dave Ebert (completed Fall 2014)

Fall 2012 **Heather Kramp** – Fish community secondary production

**Devona Yates** – Predator-prey interactions in/out MPAs (completed Fall 2017)

**Ryan Fields** – Life history variation in rosy rockfish (completed Spring 2016)

**Jennifer Chiu** – Trophic Ecology of yellowtail rockfish – co-advised with Dr. Rick Starr (completed Summer 2018)

**Anne Tagini** – Fish-habitat associations along the central CA coast – co-advised with Dr. Rick Starr (completed Summer 2018)

**Kristen Walovich** – Description of chimera species off South Africa – co-advised with Dr. Dave Ebert (completed Spring 2017)

**Catarina Pien** – Elasmobranchs in Elkhorn Slough – co-advised with Dr. Dave Ebert (completed Summer 2018)

**Jessica Jang** – Multiple paternity in big skates – co-advised with Dr. Dave Ebert (completed Spring 2019)

Fall 2013 **Scott Miller** – Trophic ecology of fish from the Line Islands (completed Summer 2017)

**Evan Mattiasen** – Hypoxia effects on physiology of juvenile rockfish (completed Summer 2018)

**Marisa Ponte** – Morphological variation in fishes across the Line Islands

**Emily Schmeltzer** – Coral-gastropod microbiome sharing (completed Fall 2016)

**Melissa Nehmens** – Age and growth of deep sea catsharks – co-advised with Dr. Dave Ebert (completed Spring 2019)

**Victoria Vasquez** – Tophic ecology of elasmobranchs in San Francisco Bay – co-advised with Dr. Dave Ebert (completed Spring 2021)

Fall 2014 **Stephen Pang** – Male limitation to reproduction in sex-changing fishes (completed Spring 2019)

**Laurel Lam** – Life history and demographic variation in lingcod (completed Spring 2019)

**Matt Jew** – Trophic ecology of catsharks from the central California coast (completed Spring 2021)

**Justin Cordova** – Systematic description of catsharks in the genus *Apristurus* – co-advised with Dr. Dave Ebert (completed Spring 2021)

**Amber Reichert** – Reproduction and habitat associations of deep-sea catsharks in California – co-advised with Dr. Dave Ebert (completed Fall 2020)

Fall 2015 **June Shrestha** – Nutrient cycling in kelp forest fish communities (completed Fall 2020)

**Bonnie Basnett (Brown)** – Geographic and ontogenetic variation in the trophic ecology of lingcod – co-advised with Dr. Rick Starr (completed Spring 2021)

**James Williamson** – using BRUVs to compare fish assemblages in southern California –co-advised with Dr. Rick Starr

Fall 2016 **Melissa Palmisciano** – effects of multiple stressors on rockfish behavior and physiology

**Kristin Saksa** – effects of climate change on reproduction in rockfish (completed Fall 2021)

**Rachel Brooks** – canary rockfish life history and demographic variation (completed Summer 2021)

**Holly Doerr** – OA/hypoxia and rockfish gene expression – co-advised w/ Dr. Cheryl Logan (completed Summer 2021)

Fall 2017 **Helaina Lindsey** – Effects of hypoxia on juvenile flatfish in Elkhorn Slough

**Vivian Ton** – Effects of OA and hypoxia on embryo development of Pacific herring

**Jacoby Baker** – Gene expression in larval rockfish in response to OA and hypoxia – co-

advised with Dr. Cheryl Logan (completed Fall 2020)

**Lauren Parker** – Mesophotic reef fish assemblages in the Carmel canyon – co-advised with Dr. James Lindholm

**Jackie Mohay** – Collaborative fisheries research projects and CA MPAs – co-advised with Dr. Rick Starr

**Katie Cieri** – Effects of MPAs on fish assemblages in southern Spain – co-advised with Dr. Rick Starr

**Marty Schmidt** – Morphometrics of deep sea sharks from the Indian Ocean – co-advised with Dr. Dave Ebert

Fall 2018 **Alora Yarbrough** – Ocean acidification and hypoxia effects on cortisol responses and carryover effects on fish reproduction

**Hannah Bruzzio** – Effects of ocean acidification and hypoxia on stress and growth hormone response of juvenile rockfish

**Katherine Neylan** – Alternative aquaculture feeds – co-advised with Dr. Luke Gardner

**Sophie Bernstein** – Effects of foraging ecology on domoic acid susceptibility in pinnipeds – co-advised with Iliana Ruiz-Cooley (completed Summer 2021)

Fall 2019 **Gammon Koval** – Seasonal variation in fish assemblages in surf zone habitats (completed Spring 2022)

**Grace Teranishi** – Effects of hypoxia on flatfish physiology in Elkhorn Slough

**Kinsey Matthews** – Movement and home range behavior of rockfish in Carmel Bay – co-advised with Dr. Rick Starr

**Jake Todd** – Life history and demography of California scorpionfish – co-advised with Dr. Rick Starr

**Kayla Roy** – Developing alternative feeds for white abalone – co-advised with Dr. Luke Gardner

**Matthew Hoehn** – Farming monkeyface pricklebacks – co-advised with Dr. Luke Gardner

**Rachel Aitchison** – Redescription of the family Rhinobatidae (guitarfishes) – co-advised with Dr. Dave Ebert (completed Summer 2022)

**Juliana Cornett** – Effects of hypoxia on flatfish physiology and gene expression – co-advised with Cheryl Logan (completed Spring 2022)

Fall 2020 **Michaela Melanson** – Canary rockfish trophic ecology

**Alexandra Stella** – Effects of OA/hypoxia on predator-prey interactions

**Arie Dash** – juvenile rockfish gene expression – co-advised with Dr. Cheryl Logan

**Justin Gill** – Fish-habitat associations and stereovideo surveys – co-advised with Dr. James Lindholm

**Kameron Strickland** – Fish-habitat associations and 3-D video surveys – co-advised with Dr. James Lindholm

Fall 2021 **Luke Townsend** – Effects of temperature on the physiology of monkeyface pricklebacks

**Quinn Carey** – TBD

**Molly Alvino** – Effects of barotrauma on post-release survival of rockfish – co-advised with Dr. Rick Starr

**Konnor Payne** – TBD – co-advised with Dr. Rick Starr

**Noah Kolander** – IMTA effects ocean acidification and shellfish biomechanics – co-advised with Dr. Maya deVried and Dr. Luke Gardner

**Nick Kolasa-Lenarz** – Transcriptional responses of juvenile rockfish to OA and hypoxia – co-advised with Dr. Cheryl Logan

*Student Thesis Committee Member* (graduation year listed) – **46 students**

2010 **Alice Soccodatto** – (U. Bologna, Italy, MS) – Early life history of copper rockfish

2011 **Kerri Loke** (CSULB, MS) – Reproduction in California sheephead

2012 **Brynn Hooton** (MLML, MS) – Fishes associated with *Undaria* in Monterey Harbor

2013 **Jennifer Bigman** (MLML, MS) – Trophic ecology of spiny dogfish

**Michelle Marraffini** (MLML, MS) – Biodiversity & invasion resistance in Monterey Harbor

2014 **Alexis Howard** (MLML, MS) – Competition between *Macrocystis* and *Nereocystis*

**Ryan Carle** (MLML, MS) – Diets of Rhinocerous Auklets

**Katie Schmidt** (MLML, MS) – Shifts in maturation of blue rockfish due to fishing

**Andrea Launer** (MLML, MS) – Habitat use by leopard sharks in Elkhorn Slough

**Cheryl Barnes** (MLML, MS) – California halibut reproductive biology

**Scott Gabara** (MLML, MS) – Predator-prey relationships in rhodolith beds

2015 **Sarah Jeffries** (MLML, MS) – Life history variation in giant kelp populations

**Sean Windell** (CSUMB, MS) – MPA effects on Catalina

**Becca Selden** (UCSB, PhD) – Size-selective predation by California sheephead

**Clint Collins** (MLML, MS) – Sponge communities in Antarctica

2016 **Sarah Teck** (UCSB, PhD) – Spatial and temporal variation in red sea urchin reproduction

**Pamela Neeb Wade** (MLML, MS) –Native oysters and invasive tube worm competition

**Heather Fulton-Bennett** (MLML, MS) – Morphological variation in *Egregia*

**Stephen Loiacono** (MLML, MS) – Effects of temperature on invasion success

**Jackie Lindsey** (MLML, MS) – Sea otter movements in Elkhorn Slough

**Alicia Bitondo** (MLML, MS) – Life history and morphometrics of deep-sea squid

**Catherine Drake** (MLML, MS) – Decorating crab behavior

2017 **James Knuckey** (MLML, MS) – Phylogenetics of deep-sea skates

**Dorota Szuta** (MLML, MS) – Benthic community structure in Antarctica

**Jennifer Kelilher** (MLML, MS) – Microbial communities on sessile invertebrates

**Christian Denny** (MLML, MS) – Efficacy of a stereovideo lander for fish surveys

2018 **Suzanne Christensen** (MLML, MS) – Competition between *Undaria* and native kelps

**Cody Dawson** (MLML, MS) – *Stephanocystis* demography and response to disturbance

**Leah Mellinger** (CSU Stanislaus, MS) – Physiological responses to stress in surf smelt

**Jake Cline** (CSUMB, MS) – Gene expression of juvenile rockfish with climate change

2019 **Erika Nava** (CSUN, MS) – Effects of MPAs on fish foraging behavior

**Rachel Zuercher** (UCSC, PhD) – Recruitment and predation of juvenile rockfish

**Maria Vila Dupla** (MLML, MS) – *Ulva* and eelgrass ecotone in Elkhorn Slough

**Katie Harrington** (MLML, MS) – Effects of human food subsidies on caracara behavior

2020 **Daniel Gossard** (MLML, MS) – *Pyropia* epiphyte life history & demography on bull kelp

2021 **Taylor Eddy** (MLML/CSUMB, MS) – Lobster trophic ecology in intertidal food webs

**Callyn Shelley** (CSU Long Beach, MS) – Environmental stress on grunion energetics

2022 **Lauren Cooley** (MLML, MS) – Handling stress effects on elephant seal physiology

**Samantha Stein** (SJSU, MS) – Sea urchin feeding morphology in kelp beds and barrens

*In progress* **Jennifer Johnson** (MLML, MS) – Stable isotope analysis of elephant seals & their pups

**Matthew Elliott** (MLML, MS) – Macroalgal nutrient uptake and physiology

**Daphne Shen** (MLML, MS) – Acoustic disturbance on elephant seal diving physiology

**Melissa Gutterman** (CSUN, MS) – Effects of MPAs on trophic ecology of fishes in S. CA

**Anna Heasley** (MLML, MS) – Energetics of Olympia oysters and costs of brooding

**Emily Montgomery** (MLML, MS) – acid production in *Desmarestia ligulata* (acid weed)

**Travis Leggett** (MLML, MS) – Urchin behavior on continuous and non-continuous reefs

**Anna Rothstein** (SJSU, MS) – Cryptic coral habitats in Hawaii

**Acy Wood** (MLML, MS) – Factors affecting reproductive success in *Fucus*

**Mina Sattari** (MLML, MS) – Algal diversity and kelp survivorship in a sea urchin barren

**Jaycee Lanza** (MLML, MS) – Effects of variable light on sexual competition in kelps

CSU Chancellors’ Doctoral Incentive Program – **Christian Denney**, PhD program at UC Davis

*Independent projects supervised (students from UCSB unless otherwise noted)*

2010-2011 James Benson – Spatial and temporal variation in growth rates and early life history traits of olive rockfish in different upwelling regimes

2010 Sylvana Galaz (Universidad Austral de Chile) – Validation of age and growth of *Concholepas concholepas* using statoliths

2010 Lindsey Hesla – Geographic variation in early life history traits of coral reef fishes across the Northern Line Islands

2009-2010 Alice Soccodatto (Italian exchange student at UCSB) – Spatial and temporal variation in early life history traits of copper rockfish linked to environmental conditions.

2009 Martina Bruschi (Italian exchange student at UCSB) – Spatial and temporal variation in lipid content of gopher and copper rockfish recruits in the Channel Islands.

2008-2009 Coulson Lantz – Geographic variation in the trophic ecology of California sheephead using stable isotope analysis

2007-2009 Tiana Egloff – Geographic variation in California sheephead diets through gut content analysis

Emi Kondo – Variation in age structure, growth, and lipid content of California sheephead throughout southern California

2006-2008 Mary Donovan – Demographic variability of coral reef fishes within Kiritimati Atoll

2005 Catherine Lee – Perfecting aging techniques using dorsal spines of California sheephead; UCSB Research Mentorship Program for advanced high school students

2002 Trevor Upham (Princeton University) – The effects of ontogeny on the rate and intensity of parasitism in the bluehead wrasse, *Thalassoma* *bifasciatum*

*Student research assistants mentored during PhD and post-doctoral positions*

2006-2010 Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) kelp forest monitoring:

Jesse Tootell, Lindsey Hesla, Coulson Lantz, Sean Windell, Peter Carlson, Jamie Pratt, Mary Donovan, Courtney Scarborough, Alex Ray, Nate Spindel, Connor Tillman, Alia al- Humadhi, Christoph Pierre, Becca Selden, Sarah Teck, Katie Davis, Spencer McClintock, James Benson

2004-2010 Otolith microchemistry:

Michelle Kissinger, Kara Ohlinger, Dashiel Dunkell, Sierra Stevens-McGever, Ola Besser, Nitzan Sofer, Bethany Allen, Li Ling Hamady, Noah Roper, Amanda Brown, Josh Linck

2001-2010 Fish dissections, otolith age and growth research:

James Benson, Amanda Wasserman, Michael Hazen, Jeremy Frimond, Ryan Denton, Christine Chun, Josh Linck, Erica Linard, Sean Bignami, Benjamin Harris, Emi Kondo, Coulson Lantz, Sean Windell, Cary Batha, Jesse Tootell, Sam Hammond, Spencer McClintock, Tania Silvas, Becky Juarez, Christine Pham, Cody Grigsby, Lyall Bellquist, Julie Hopper, Erin Scoggins, Maria Pickering, Bob Ellis, Kristen Beesley, Matt Princetta

**Invited Talks**

2019 NOAA, National Marine Fisheries Service, Northwest Fisheries Science Center, Seattle, WA; Departmental Seminar

2019 Society for Women in Marine Science, How to Publish Your Research, Monterey Bay Chapter, served on panel discussion

2016 Humboldt State University, Departmental Seminar

2016 Society for Environmental Journalists Panel Speaker - California’s Marine Reserves: After 10 Years Are There Unexpected Surprises?

2016 CSU Stanislaus; Departmental Seminar

2014 University of California, Santa Cruz; Departmental Seminar

2014 California State University Monterey Bay; Departmental Seminar

2014 Florida State University; Biology Colloquium Seminar

2014 Florida State University; Ecology and Evolution Weekly Seminar

2014 Monterey Bay Aquarium, 3rd shift docents monthly meeting

2012 NOAA, National Marine Fisheries Service, Southwest Fisheries Science Center, Santa Cruz, CA; Departmental seminar

2012 Monterey Bay Aquarium Research Institute, CA; Departmental seminar

2012 San Jose State University, CA; Departmental seminar

2011 California State University Monterey Bay, CA; Departmental seminar

2010 Bodega Marine Laboratory of UC Davis, Bodega, CA; Departmental seminar

2009 Scripps Institution of Oceanography, La Jolla, CA; Invited seminar for the Interdisciplinary Master’s Program

2008 Fish and Game Commission Meeting, Sacramento, CA; Hearing on the Channel Islands marine reserves

**Papers Presented at Meetings**

2022 Aquaculture conference, San Diego, California (*2 contributed talks*)

2022 8th International Greenhouse Gas & Animal Agriculture meeting, Orlando Florida (*2 contributed talks*)

2022 Ocean Sciences Meeting, Honolulu Hawaii (*1 contributed poster*)

2021 SACNAS conference, virtual meeting (*1 contributed poster*)

2021 Western Society of Naturalists, virtual meeting (*3 contributed posters, 2 contributed talks*)

2020 Western Society of Naturalists, virtual meeting (*1 contributed poster*)

2020 American Fisheries Society Meeting (*1 contributed presentation*)

2020 NWFSC Science Symposium 2020 (*1 contributed presentation*)

2020 Ocean Sciences Meeting (*1 contributed poster*)

2019 Society for Integrative and Comparative Biology (*1 contributed poster*)

2019 Western Society of Naturalists Meeting, Ensenada, Mexico (*1 contributed talk, 1 contributed poster)*

2018 Western Society of Naturalists Meeting, Tacoma, WA (*4 contributed presentations*, *6 contributed posters*)

2018 Western Groundfish conference, Monterey CA (*1 contributed presentation, 7 contributed posters*)

2017 Western Society of Naturalists Meeting, Pasadena, CA (*6 contributed presentations*, *12 contributed posters*)

2017 American Fisheries Society Meeting, Tampa, FL (*1 contributed presentation, served as symposium co-organizers for session on life history variation in fishes*)

2016 Western Society of Naturalists Meeting, Monterey CA (*4 contributed presentations, 8 contributed posters*)

2016 Society for Environmental Journalists (*Panel on marine reserves in California after 10 years)*

2015 Western Society of Naturalists Meeting, Sacramento CA (*5 contributed presentations, 6 posters)*

2015 American Fisheries Society Meeting, Portland OR (*1 contributed presentations*)

2015 Monterey Bay National Marine Sanctuary Currents Symposium (*1 contributed poster*)

2014 Western Society of Naturalists, Tacoma, WA (*4 contributed presentations*, *4 posters*)

2014 Monterey Bay National Marine Sanctuary Currents Symposium (*2 contributed psoters*)

2013 Western Society of Naturalists, Oxnard, CA (*3 contributed presentations*, *1 poster*)

2012 Western Society of Naturalists, Seaside, CA (*4 contributed presentations*)

2011 Western Society of Naturalists, Vancouver, Washington (*3 contributed presentations*)

International Marine Conservation Congress, Washington, D.C.

2009 International Marine Conservation Congress, Washington, D.C.

2008 Western Society of Naturalists, Vancouver, Canada;

11th International Coral Reef Symposium, Ft. Lauderdale, FL (*3 contributed presentations*);

American Society of Ichthyologists and Herpetologists, Montreal, Canada;

California Islands Symposia, special session on the first 5 years of monitoring the Channel Islands marine reserves, Ventura, CA (*2 contributed presentations*)

2007 PISCO symposium, Corvallis, OR;

Western Society of Naturalists, Ventura, CA (*2 contributed presentations*);

American Fisheries Society meeting, San Francisco, CA (*2 contributed presentations*)

2006 Western Groundfish Conference, Newport, OR

2005 Western Society of Naturalists, Monterey, CA (*2 contributed presentations*)

2004 Western Society of Naturalists, Santa Rosa, CA (*2 contributed presentations*);

10th International Coral Reef Symposium, Okinawa, Japan

# Other Signficant Research Experiences

2019 100 Island Challenge – 2 week expedition to French Polynesia, islands of Raiatea and Huahine

Collaborators: Stuart Sandin (Scripps Institution of Oceanography, lead PI)

2017 100 Island Challenge – 3 week expedition to the remote southern islands of Palau, including Fanna, Sonsorol, Pulo Ana, Tobi, and Helen Reef

Collaborators: Stuart Sandin (Scripps Institution of Oceanography, lead PI)

2017 National Geographic Pristine Seas – 6 week expedition to Tristan da Cunha Islands in the remote South Atlantic. Assisted with first quantitative surveys of kelp forests at Tristan, Inaccessible, Nightingale, and Gough Islands.

Collaborators: Jennifer Caselle (UCSB, Chief Scientist), Paul Rose (Expedition Leader), Jonathan Hall (Royal Society for the Protection of Birds)

2015 Waitt Foundation Blue Halo Initiative – 2 week expedition to Curacao, Netherlands Antilles. Assisted with coral reef assessments to provide baseline information on the state of Curacao’s reefs for resource management and conservation efforts

Collaborators: Stauart Sandin (Scripps Institution of Oceanography), Mark Vermeij and Kristin Marhaver (CARMABI), Forest Rohwer (San Diego State University)

2013 Southern Line Islands Expedition – 5 week expedition assessing how oceanographic conditions affect productivity throughout the food web on uninhabited coral reefs

Collaborators: Stuart Sandin, Jen Smith (Scripps Institution of Oceanography); Forest Rohwer (San Diego State University)

2010 Northern Line Islands Expedition – 5 week expedition assessing how the presence and absence of humans on remote tropical coral atolls affects the productivity of fish populations at different trophic levels

Collaborators: Stuart Sandin (Scripps Institution of Oceanography)

2006-2010 PISCO – Subtidal community monitoring in the Santa Barbara Channel, including the Channel Islands Marine Reserve Network (4-5 months per year)

Collaborators: Dr. Jennifer Caselle (UCSB)

2007-2010 Assessing changes in life history traits and reproductive function of California sheephead across its range: historical comparisons and the effects of fishing

Collaborators: Dr. Jennifer Caselle (UCSB), Dr. Chris Lowe, Dr. Kelly Young, Kerri Loke (CSULB)

2010 Natal tags, effective larval dispersal and population connectivity in *Concholepas concholepas* through the study of trace elemental composition of their statolith

Collaborators: Dr. Patrico Manriquez (Universidad Austral de Chile); Dr. Nelson Lagos (Unversidad Santo Tomas), Dr. Juan Carlos Castilla (Universidad Catolica de Chile); Dr. Robert Warner (UCSB)

2009 Examining the potential for restoration of coral communities in Palmyra's lagoon

Collaborators: Dr. Jennifer Smith, Dr. Nichole Price (SIO)

Effects of ocean acidification on the photophysiology and growth of corals and calcifying algae on Palmyra Atoll

Collaborators: Dr. Nichole Price, Dr. Jennifer Smith (SIO)

Phase-shifts, grazing, and coral recovery on a degraded Caribbean coral reef, Curacao

Collaborators: Dr. Stuart Sandin, Dr. Jennifer Smith (SIO), Dr. Mark Vermeij (CARMABI, U. Amsterdam), Dr. Jameal Samhouri (NOAA Northwest Fisheries), Dr. Forrest Rohwer (SDSU)

2008 The role of herbivores in structuring benthic reef communities across habitat types on Palmyra Atoll

Collaborators: Dr. Jennifer Smith, Dr. Stuart Sandin, Dr. Nichole Price (SIO)

Consequences of Palmyra lagoon restoration: quantifying effects of lagoon sediments on benthic health

Collaborators: Dr. Stuart Sandin, Dr. Jennifer Smith, Steve Smriga, Melissa Garren (SIO)

2006-2008 Anthropogenic impacts on trophic structure, growth rates, productivity, and parasitism in coral reef ecosystems, Palmyra Atoll and Kirimati Island

Collaborators: Dr. Stuart Sandin, Dr. Enric Sala (SIO), Dr. Amand Kuris, Dr. Kevin Lafferty, Dr. Robert Warner (UCSB)

2000-2007 Graduate Student Researcher, PhD thesis. Selective mortality in juvenile coral reef fishes: the role of larval performance and dispersal histories

Advisor: Dr. Robert Warner, UCSB

2005-2006 Graduate Student Researcher. An analysis of abundance and sex change data for CA sheephead (*Semicossyphus pulcher*) with a historical comparison. Funded by California Department of Fish and Game

Advisor: Dr. Jennifer E. Caselle, UCSB

Graduate Student Researcher. Age and growth of CA sheephead (*Semicossyphus pulcher*) with a historical comparison. Funded by California Department of Fish and Game

Advisor: Dr. Jennifer E. Caselle, UCSB

2003-2005 Graduate Student Researcher. Larval retention, larval exchange, and population connectivity in the Hawaiian Islands. Funded by the National Park Service Pacific Islands Coral Reef Monitoring Program

Administrator: Dr. Larry Basch, NPS and U. of Hawaii

2000 Research Assistant. The effects of density-dependent mortality caused by resident and transient predators on newly settled blue chromis (*Chromis cyanea*), Curaçao and Bonaire

Advisor:Dr. Stuart A. Sandin, Princeton University

1999-2000Senior Thesis Research at Princeton University. Abundance, microhabitat preference, behavior, and predation on the dog whelk *Nassarius mendicus*: the effects of its symbiotic relationship with a hydroid, Monterey Bay, California

Advisors: Dr. Tom Hahn, Dr. Stephen Pacala, Princeton University; Dr. Jim Watanabe, Stanford University

### Professional Service

2011-2014 Secretariat for Western Society of Naturalists annual conference (member and organizer of the annual conference for 500-600 marine scientists)

*University Committees:*

2011-2022 San Jose State University Institutional Animal Care and Use Committee, voting member

*College of Science Committees:*

2022-*present* Field Safety Subcommittee of the College of Science Safety Committee, Member

*MLML Committees:*

2021-*present* Moss Landing Marine Labs – Retention, Tenure Promotion Committee, Chair

2014-*present* Moss Landing Marine Labs – Small Boats Committee, Member

2011-*present* Moss Landing Marine Labs – Diving Control Board, Chair

2011-*present* Moss Landing Marine Laboratories Governing Board, Alternate member

2017-2021 Moss Landing Marine Labs – Retention, Tenure Promotion Committee, Member

2016-2020 Moss Landing Marine Labs – Curriculum Committee, Member

2015-2016 Moss Landing Marine Labs – Curriculum Committee, Chair

*Search Committees:*

2019 Biological Oceanographer search at MLML (Chair)

2016 Marine Invertebrate Zoology search at MLML (Chair)

2015 Faculty Librarian search at MLML (member)

2015 Executive Assistant for Administration and Operations search at MLML (Chair)

2014 Physical Oceanographer search at MLML (member)

*Performance Review Committees:*

2019-*present* Post-tenure Review Committee (member)

2019 Performance Review of the MLML Departmental Chair (Chair)

2016 Research Faculty and Affiliated Researcher Performance Review (member) – performance review of 15 research groups and faculty at MLML

*Advisory Committees:*

2019-*present* Pacific Marine & Estuarine Fish Habitat Partnership (PMEP) nearshore working group

2008-2011 PARC (Palmyra Atoll Research Consortium) Operations Committee

2008-2011 PARC Advisory Group

*Workshops:*

2022 California MPA Network Assessment; National Center for Ecological Analysis and Synthesis (NCEAS) Marine Reserves Working group

2018 “Pathways to Sustainable Aquaculture in California” August 10-11, 2018; hosted by Moss Landing Marine Laboratories, CA Sea Grant, Save our Shores, Life Economy, Sustainable Design Master Class

2017 Deep water MPA monitoring workshop, June 26-27, 2017; hosted by Moss Landing Marine Laboratories and the California Ocean Protection Council

2016 Statewide monitoring of California MPAs using collaborative fishing methodology, Nov 10, 2016; hosted by Moss Landing Marine Laboratories and the California Ocean Protection Council

2016 “Channel Islands MPA workshop after 10 years of monitoring”; hosted by Marine Applied Research & Exploration (MARE)

2016 “Development of a CSU Center for Aquaculture” January 13-14, 2016; Hosted by Moss Landing Marine Laboratories, COAST, and CA Sea Grant

2011 “Update on the status of scientific research on California sheephead and its use for fisheries management”; hosted by MLML and UCSB with the California Dept. of Fish and Game

2009 “The status of scientific research on California sheephead and its use for fisheries management”; hosted by UCSB with the California Dept. of Fish and Game

2007-2008 “The first five-year review of the Channel Islands marine reserve network”; National Center for Ecological Analysis and Synthesis (NCEAS) Marine Reserves Working group

*Peer Review:*

Editorship Marine Biology, Associate Editor – 2019-*present*

Panel Review 2015 Washington Sea Grant Scientific and Technical Review Panel;

2022 NOAA National Centers for Coastal Ocean Science, Competitive Research Program Review Panel - *Understanding multi-stressor impacts on marine ecosystems under climate change*

Grants (2009-) Alaska Sea Grant (1); Austrian Science Fund (WFW) (1); California Sea Grant (2); COAST State Science Information Needs Program (2); COAST Grant Development Program (2); COAST Rapid Response Funding (1); Collaborative Fisheries Research West (1); Delta Stewardship Council (1); Hawaii Sea Grant (2); Lizard Island Research Station Doctoral Fellowship (1); National Environmental Research Council, UK (1); National Science Foundation – Biological Oceanography (6); Netherlands Organization for Scientific Research (1); New York Sea Grant (1); Oregon Sea Grant (1); USC Sea Grant (1); Washington Sea Grant (1)

Journals (2007-) Aquatic Biology (3), Aquatic Living Resources (1), Biological Conservation (1); Bulletin of the California Academy of Sciences (2), Bulletin of Marine Science (1); CalCOFI Reports (3), Coral Reefs (7), Conservation Physiology (3), Ecology (8), Ecology Letters (1), Ecosphere (2), Environmental Biology of Fishes (2), Fisheries Research (1), Fishery Bulletin (2), Functional Ecology (1), Journal of Animal Ecology (2), Journal of Applied Ecology (1), Journal of Ecology (1), Journal of Experimental Biology (1), Journal of Fish Biology (1), Journal of Marine Biology (1), Journal of Marine Systems (1), Journal of Phycology (1), Limnology and Oceanography (1), Marine and Freshwater Research (1), Marine Biology (3), Marine Ecology (2), Marine Ecology Progress Series (19), North American Journal of Fisheries Management (1), Oecologia (4), PeerJ (1), Proceedings of the Royal Society B (6), PLoS ONE (6), Revista de Biología Tropical (1), Western North American Naturalist (1)

*Scholarships* 2010 AAUS PhD Scholarship (8); 2011 AAUS PhD Scholarship (8); 2015 AAUS PhD Scholarship (15); 2017 AAUS PhD Scholarship (5); CSU COAST Graduate Student Research Awards 2012-2022 (48);Packard Grants for MLML students (20); 2013 MLML Scholar Awards (21); 2014 MLML Academic and Service Scholarships (22); 2015 MLML Academic and Service Scholarships (21); 2022 MLML Academic and Service Scholarships (35);

*Thesis (2014-)* PhD Thesis Review for James Cook University (Brett Taylor)

*Tenure-review* Assisted with tenure review of faculty at San Diego State University; 2020

Assisted with professional review of Research Scientists at UC Santa Barbara; 2022

*Outreach:*

2019-*present* *California Collaborative Fisheries Research Program* – produce annual newsletters to anglers summarizing program activities and help host annual volunteer angler appreciation and data workshop events (25-50 people per year) to communicate the results of the program

2011-*present Annual Moss Landing Marine Labs Open House –* 2-day event hosting 2,000+ members of the public at MLML

2018*Fresno Zoo Docents Training –* Presentation on National Geographic Pristine Seas Expedition to Tristan da Cunha

2017 *K-12 student outreach at Tristan da Cunha Islands –* Helped to organize and run a day of marine science activities (intertidal sampling, demonstration of scuba gear, dissections of invasive fish to examine stomach contents) for K-12 students at Tristan da Cunha Islands in the remote South Atlantic

2016 *Invited Speaker for Society of Environmental Journalists* – Panel speaker on the effectiveness of marine protected areas in California after 10 years

2014 *Monterey Bay Aquarium Docents Training* – Presentation on the effects of ocean acidification in kelp forests

2014 *Pacific Grove High School -* Reared and provided juvenile rockfish to the marine biology class

2013, 2014 *Coastal Marine Biolabs Integrative Biosciences Program –* assisted directors Ralph Imondi and Linda Santschi to collect specimens with an otter trawl for their DNA barcoding program of marine species for K-12 students.

*Society Membership:*

Western Society of Naturalists

International Coral Reef Society

Ecological Society of America