
Brent Bancroft Hughes, Ph.D.
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UPCOMING

2018-2019 Friday Harbor Lab Postdoctoral Fellow
University of Washington
Advisor: Dr. Megan Dethier

CURRENT

2015-present David H. Smith Conservation Research Fellow
Duke University and University of California Santa Cruz
Advisors: Drs. Brian Silliman and Kristy Kroeker

2017-present Postdoctoral Researcher
University of Alaska, Fairbanks
Advisor: Dr. Ginny Eckert

EDUCATION

2010-2014 PhD Ecology and Evolutionary Biology
University of California Santa Cruz
Advisors: Drs. Kerstin Wasson and Peter Raimondi

2003 - 2007 MS Marine Science
California State University East Bay &
Moss Landing Marine Laboratories, Moss Landing, CA
Research in Phycology, Marine Community Ecology, and Oceanography
Advisor: Dr. Michael Graham

2001 Oregon Institute of Marine Biology, Charleston, OR
Graduate courses in Marine Ecology and Marine Animal Behavior

1997 - 2001 BA Biology
Truman State University, Kirksville, MO
Advisor: Dr. Lisa Hooper

PEER-REVIEWED PUBLICATIONS

15. Hessing-Lewis, M., E. Rechsteiner, **B.B. Hughes**, M.T. Tinker, A. Olson, Z. Monteith, M.M. Henderson, J.C. Watson. 2017. Ecosystem features determine seagrass community response to sea otter foraging. *In press. Marine Pollution Bulletin.*
14. **B.B. Hughes**, S.C. Lummis, S.C. Anderson, K.J. Kroeker. 2017. Unexpected resilience of a seagrass system exposed to global stressors. *In press. Global Change Biology.*
13. #Eby, R., #R.S. Scoles, **B.B. Hughes**, K. Wasson. 2017. Serendipity in a salt marsh: detecting frequent sea otter haul outs in a marsh ecosystem. *In press. Ecology.*

Updated 1 August 2017

#Indicates Citizen Scientist

12. Wasson, K., R. Jeppesen, C. Endris, D. Perry, A. Woolfolk, K. Beheshti, *M. Rodriguez, #R. Eby, E. Watson, F. Rahman, J. Haskins, **B.B. Hughes**. 2017. Eutrophication decreases salt marsh resilience through proliferation of algal mats. 212:1-11. **Biological Conservation**.
**Indicates Undergraduate Student Researcher, #Indicates Citizen Scientist.*
11. **Hughes, B.B.**, R. Beas-Luna, A. Barner, K. Brewitt, D.R. Brumbaugh, E. Cerny-Chipman, S.L. Close, K.E. Coblenz, K.L. de Nesnera, S.T. Drobitch, J.D. Figurski, B. Focht, M. Friedman, J. Freiwald, K.K. Heady, W.N. Heady, A. Hettlinger, A. Johnson, K.A. Karr, B. Mahoney, M.M. Moritsch, A.K. Osterback, J. Reimer, J. Robinson, T. Rohrer, J. Rose, M. Sabal, L.M. Segui, C. Shen, J. Sullivan, R. Zuercher, P.T. Raimondi, B.A. Menge, K. Grorud-Colvert, M. Novak, M.H. Carr. 2017. Long-term studies contribute disproportionately to ecology and policy. **BioScience** 67:271-281.
10. S. Honig, B. Mahoney, *J. Glanz, **B.B. Hughes**. 2017. Are seagrass beds indicators of anthropogenic nutrient stress in the rocky intertidal? **Marine Pollution Bulletin** 114:539-546. **Indicates Undergraduate Student Researcher*
9. R. Jeppesen, *M. Rodriguez, *J. Rinde, J. Haskins, **B.B. Hughes**, L. Mehner, K. Wasson. 2017. Hypoxia increases fish mortality and reduces oyster growth in a highly eutrophic estuary. *In press*. **Estuaries and Coasts** **Indicates Undergraduate Student Researcher*
8. K. Wasson, **B.B. Hughes**, A. Chang, A. Deck, P. Dinnel, S. Dudas, M. Ferner, E. Grosholz, D. Kimbro, J. Ruesink, A. Trimble, D. Vander Schaaf, C. Zabin, D. Zacherl. 2016. Coastwide recruitment of Olympia oysters: spatial scales of synchrony and predictors of recruitment failure. **Ecology** 97:3503-3516.
7. Silliman, B.R., P.M. Dixon, C. Wobus, Q. He, P. Daleo, **B.B. Hughes**, J. Willis, M. Hester. 2016. Tipping points in marsh resilience to the Deepwater Horizon oil spill. **Nature Scientific Reports** 6:32520. DOI: 10.1038/srep32520.
6. **Hughes, B.B.**, K. Hammerstrom, N. Grant, *U. Hoshijima, #R. Eby, K. Wasson. 2016. Trophic cascades on the edge: fostering seagrass resilience via a novel pathway. **Oecologia** 182:231-241. **Indicates Undergraduate Student Researcher, #Indicates Citizen Scientist*
5. **Hughes, B.B.**, M. Levey, M. Fountain, A. Carlisle, F. Chavez, M. Gleason. 2015. Climate mediates threats to fish diversity and nursery function at the land-sea interface. **Proceedings of the National Academy of Sciences USA** 112:8025-8030.
4. **Hughes, B.B.**, #R. Eby, E. Van Dyke, M.T. Tinker, C. Marks, K.S. Johnson, K. Wasson. 2013. Recovery of a top predator mediates negative eutrophic effects on seagrass. **Proceedings of the National Academy of Sciences USA** 110:1513-1518. *#Indicates Citizen Scientist*
3. **Hughes, B.B.**, J. Haskins, K. Wasson, and E. Watson. 2011. Identifying factors that influence expression of eutrophication in a central California estuary. **Marine Ecology Progress Series** 439:31-43.
2. **Hughes, B.B.** 2010. Variable effects of a kelp foundation species on rocky intertidal diversity

and species interactions in central California. *Journal of Experimental Marine Biology and Ecology* 393:90-99.

1. Hernandez, G.C., **B.B. Hughes** and M. Graham. 2006. Reproductive longevity of drifting kelp *Macrocystis pyrifera* (Phaeophyceae) in Monterey Bay, USA. *Journal of Phycology* 42:1199-1207.

PEER-REVIEWED PUBLICATIONS *IN REVIEW OR IN REVISION*

Toft, J., S. Munsch, J. Cordell, K. Siitari, V. Hare, B. Holycross, L. DeBruyckere, C. Greene, **B.B. Hughes**. 2017. Impact of multiple Stressors on estuarine nursery function across the northeast Pacific coast. *In revision*. *Global Change Biology*.

B.R. Silliman, **B.B. Hughes**, L.C. Gaskins, Q. He, M.T. Tinker, A. Read, J. Nifong, R. Stepp. 2017. Are the ghosts of nature past haunting conservation today? *In revision*. *Current Biology*

BOOK CHAPTERS

Silliman B., **B.B. Hughes**, Y.S. Zhang, Q. He. 2017. Business as usual leads to underperformance in coastal restoration. In: *Effective Conservation Science: Data Not Dogma*. Eds. P. Kareiva, M. Marvier, B. Silliman. Ch. 27.

THESIS & DISSERTATION

Hughes, B.B. 2014. Food webs, resilience, and functioning of an estuary under multiple threats: lessons learned from Elkhorn Slough. Ph.D. Dissertation. University of California, Santa Cruz. 164 pages.

Hughes, B.B. 2007. Effects of *Egretta menziesii* on intertidal benthic assemblages. MS Thesis. California State University East Bay, Hayward. 124 pages.

TECHNICAL REPORTS

8. **Hughes, B.B.** Estuarine & Wetland Ecosystems: the first steps in developing an approach to leveraging existing monitoring programs. Report to California Ocean Science Trust, Oakland, CA USA. June, 2017.

7. **Hughes, B.B.**, C. Endris, K. Beheshti, M.T. Tinker, S.L. Williams, H.G. Greene. 2016. Enhancement of healthy coastal environments by incorporating species interactions into seagrass mitigation design. California SeaGrant Report. Project # R/HCME-18PD. 23 pp.

6. **Hughes, B.B.**, M.D. Levey, J.A. Brown, M.C. Fountain, A.B. Carlisle, S.Y. Litvin, C.M. Greene, W.N. Heady, M.G. Gleason. 2014. Nursery functions of U.S. west coast estuaries: the state of knowledge for juveniles of focal fish and invertebrate species. *The Nature Conservancy*, Arlington, VA. 168 pp.

5. **Hughes, B.B.**, M. Fountain, A. Carlisle, M. Levey, M. Gleason. 2012. The impacts of nutrient loading and environmental conditions on the fish assemblage and available nursery habitat in Elkhorn Slough. *The Nature Conservancy*.

4. **Hughes, B.B.**, J. Haskins, K. Wasson. 2010. Assessment of the effects of nutrient loading in estuarine wetlands of the Elkhorn Slough watershed: a regional eutrophication report card. *Elkhorn Slough Technical Report Series* 2010:1.

3. **Hughes, B.B.** 2009. Synthesis for management of eutrophication issues in Elkhorn Slough. *Elkhorn Slough Technical Report Series 2009:1*.
2. Stephenson, M., J. Negrey, **B.B. Hughes**. 2009. Spatial and temporal trends of methyl mercury in California bays and harbors: A bioaccumulation approach to assess fish and water quality. *California State Water Resources Control Board Technical Report*.
1. Stephenson, M., W. Heim, **B.B. Hughes**, A. Bonnema and K. Coale. 2008. Methylmercury loading studies in Delta wetlands. *CALFED Mercury Project*, Task 5.3a.

PRESS

For links to media coverage of my research go to:

<http://research.pbsci.ucsc.edu/eeb/bbhughes/in-the-news/>

Hughes et al. (2017) BioScience: Highlighted on the BioScience cover, Oregon State University, UC Santa Cruz

Hughes et al. (2015) PNAS: Highlighted on the PNAS cover, Highlighted in commentary by Nancy Rabalais PNAS, Newsweek, Science Daily, American Fisheries Society, UC Santa Cruz, Santa Cruz Sentinel, PNAS Blog, Monterey County Herald

Hughes et al. (2013) PNAS and associated sea otter research: National Geographic, BBC, NPR, Al Jazeera, LA Times, Science Daily, Huffington Post, Christian Science Monitor, The Australian, The Guardian, Mongabay, BioScience, The China Post, UC Santa Cruz, Santa Cruz Sentinel, PNAS Blog, French Tribune, Science Recorder, The Inquisitor, Monterey County Herald, Nature Conservancy Magazine, Southern California Public Radio, Canadian Broadcasting Company Radio

Hughes et al. (2011) MEPS: Santa Cruz Sentinel, UC Santa Cruz

GRANTS

Anthropocene Institute. Enhancing restoration design of imperiled Olympia oysters in a highly degraded estuary \$50,000. 2017-2018. PIs: **BB Hughes**, K. Wasson.

NSF BIO-OCE Trophic linkages in seagrass ecosystems. \$657,000. 2016-2019. PI: G Eckert, Senior Personnel: T. Tinker, **BB Hughes**.

California Ocean Science Trust. Estuarine & Wetland Ecosystems Monitoring Program Integration. \$10,000. 2016-2017. PI: **BB Hughes**.

The Ocean Foundation. Ecosystem functioning of restored seagrass beds. \$14,000. 2016-2017. PI: **BB Hughes**.

Anthropocene Institute/Ocean Foundation, "Restoration of eelgrass to and its effects to key ecosystem services and water quality". \$50,000, 2016-2017. PI: **BB Hughes**.

California Sea Grant, “Enhancement of healthy coastal environments by incorporating species interactions into seagrass mitigation and restoration design”, \$10,000. 2015-2016. PI: HG Greene. **BB Hughes, Ghost author and project leader.**

The Nature Conservancy Grant “Nursery Functions of West Coast Estuaries: A State of the Knowledge Report”, \$52,400, 2013-2014. PIs: **BB Hughes**, J Brown, M Levey, A Carlisle, S Litvin, M Fountain

Central Coast Regional Water Quality Control Board Grant “Discharge measurements for the Tembaldero Slough: determining nutrient loading to Elkhorn Slough”, \$8,000, 2014. PIs: J Haskins, **BB Hughes**

The Nature Conservancy Grant “Investigation of the relationship between the nursery function of estuaries and nutrient loading”, \$50,000, 2012. PIs: **BB Hughes**, M Fountain, M Levey, A Carlisle

NOAA Recovery and Reinvestment Act via the Elkhorn Slough Tidal Wetland Program for eutrophication research and monitoring \$2000, 2010-11.

Earl and Ethel Meyers Foundation Grant for research \$1500, 2011

David and Lucile Packard Foundation Grant for research \$1000, 2005

PADI Foundation Grant for research \$2000, 2005

Earl and Ethel Meyers Foundation Grant for research \$500, 2005

FELLOWSHIPS & AWARDS

University of Washington, Friday Harbor Labs Postdoctoral Fellowship ~\$130,000, 2018-2019

David H. Smith Postdoctoral Conservation Fellowship \$169,000, 2015-2017

NOAA - Walter B. Jones Memorial Award for Excellence in Coastal and Marine Graduate Study, 2014

NOAA National Estuarine Research Reserve Graduate Research Fellowship \$85,000, 2011-2014

Rebecca and Steve Sooy Fellowship in Marine Mammals \$9,850, 2014

UCSC Department of Ecology and Evolutionary Biology Research Award \$2000, 2014

UCSC Department of Ecology and Evolutionary Biology Research Award \$3000, 2013

UCSC Department of Ecology and Evolutionary Biology Research Award \$5200, 2012

Friends of Long Marine Laboratory Student Research Award \$550, 2012

UCSC Department of Ecology and Evolutionary Biology Research Award \$1700, 2011

UCSC STARS Re-entry Student Scholarship \$1000, 2011

Friends of Long Marine Laboratory Student Research Award \$550, 2011

Coastal and Estuarine Research Federation Student Travel Award \$320, 2011

California Estuarine Research Society Student Travel Award \$180, 2011

2nd place Student Poster Award, Northwest Algal Symposium 2005

Americorps Academic Scholarship \$2000, August 2001

RESEARCH EXPERIENCE

2008 - 2014 *Estuarine Ecologist*, Elkhorn Slough National Estuarine Research Reserve, Watsonville, CA.

2008 - 2013 *Research Diver*, Sandoval and Associates, Salinas, CA.

2005 - 2008 *Research Analyst*, Moss Landing Marine Labs, Moss Landing, CA.

2006 - 2008 *Consultant*, Carlsbad Aquafarm, Carlsbad, CA.

2002 - 2007 *Research Assistant*, Moss Landing Marine Labs, Moss Landing, CA

2000 - 2001 *Independent Research*, Truman State University, Kirksville, MO
"Light induced inhibition of *Myxococcus xanthus* development"

1999 - 2000 *Research Assistant*, Truman State University, Kirksville, MO

TEACHING EXPERIENCE (Instructor or co-instructor)

2016 *Course Co-Instructor*, Duke University, Marine Ecology field course

2015 *Course Co-Instructor*, University of California Santa Cruz, Marine Conservation Biology class

2008 - 2010 *Adjunct Faculty*, Cabrillo College, courses taught: Ecology

2005 *Instructor*, MLML Teacher Enhancement Program, taught high school marine botany in Watsonville, CA.

Invited Lectures and TAs

2017 *Invited Lecturer*, Stanford University, Exploring the Critical Interface Between the Land and Monterey Bay: Elkhorn Slough

2016 *Invited Lecturer*, Duke University, Marine Ecology class

2016 *Invited Lecturer*, University of California Santa Cruz, Marine Ecology class

2015 *Invited Lecturer*, Duke University, Marine Mammals class

2015 *Invited Lecturer*, University of California Santa Cruz, Marine Botany class

2014 *Invited Lecturer*, University of California Santa Cruz, Ecology class

2014 *Invited Lecturer*, University of California Santa Cruz, Marine Ecology class

2014 *Invited Lecturer*, University of California Santa Cruz, Marine Botany class

2013 *Invited Lecturer*, University of California Santa Cruz, Marine Botany class

2012 *Invited Lecturer*, Stanford University, Human Ecology class

2012 *Invited Lecturer*, Moss Landing Marine Labs, Chemical Oceanography class

2012 *Invited Lecturer*, University of California Santa Cruz, Marine Botany class

2012 *Invited Instructor*, Elkhorn Slough National Estuarine Research Reserve's Coastal Training Program. Workshop on water quality issues in Monterey Bay, CA

2012 *Invited Instructor* for the Monterey Area Research Institutions' Network for Education (MARINE) workshop on water quality issues in Elkhorn Slough, CA

2011 *Invited Lecturer*, University of California Santa Cruz Marine Botany class

- 2010 - 2014 *Teaching Assistant*, University of California Santa Cruz, Courses: Cell and Molecular Biology, Life in the Sea, Marine Botany (3x), Plant Physiology, Ecology and Evolution
- 2010 *Invited Lecturer*, Cabrillo College Ecology class
- 2009 -present *Research Mentor* for 21 students from California State University Monterey Bay's Undergraduate Research Opportunities Center (UROC), Hartnell College, the University of California Santa Cruz, Duke University and Stanford University
- 2002 - 2005 *Teaching Assistant*, Moss Landing Marine Labs, Courses: Kelp Ecology and Marine Ecology, assisted in designing lectures for Marine Botany

Mentored Students (G = Graduate, U = Undergraduate)

University of California Santa Cruz – Kathryn Beheshti (G), Sean Abby (U), Jessica Glanz, (U), Umi Hoshijima (U), Brett Bulkin (U), Leo Hijikata (U), Scott Borsom (U), Erica Ferrer (U), Tanya Guzman, (U), Luis Hernandez (U), Caitlin Seyfried (U), Nicole D'Antonio (G), Adri Sparks (U), Anthea Fredrickson (U), Daniel Inglese (U), Stephanie Douglas (U)

CSU Monterey Bay – Miguel Rodriguez (U), Jared Worland (U), Lizz Johnson (U), Jenna Van Parys (U)

Stanford University – Ju Lee (G)

University of Arizona - Abby Gritis (U, 2017 Doris Duke Scholar)

Duke University – Lindsay Gaskins (G, committee member)

INVITED SEMINARS and TALKS

Hughes, B.B. May 2017. Food webs, resilience, and functioning of coastal ecosystems. *Invited Webinar*. Canadian Society of Environmental Biologists.

Hughes, B.B. April 2016. Food webs, resilience, and functioning of coastal ecosystems under threat from multiple anthropogenic stressors. *Invited Seminar*. University of California Santa Cruz, Ocean Science Department.

Hughes, B.B. March 2016. Food webs, resilience, and functioning of coastal ecosystems. *Invited Seminar*. University of Florida.

Hughes, B.B., M. Fountain, A. Carlisle, M. Gleason, M. Levey. February 2016. Climate mediates threats to fish diversity and nursery function at the land-sea interface. *Invited Talk* Ocean Sciences Meeting.

Hughes, B.B., M. Fountain, A. Carlisle, M. Gleason, M. Levey. November 2015. Climate mediates threats to fish diversity and nursery function at the land-sea interface. *Invited Talk* Coastal and Estuarine Research Federation Biennial Conference.

Hughes, B.B. October 2015. Food webs, stability, and functioning of nearshore and estuarine ecosystems in the northeast Pacific. *Invited Seminar*. Monterey Bay Aquarium Research Institute.

Hughes, B.B. September 2015. Can sea otters defend and restore our coastlines? *Invited Seminar*. Duke Marine Lab.

Hughes, B.B. April 2015. Food webs, stability, and functioning of nearshore and estuarine ecosystems in the northeast Pacific. *Invited Seminar*. University of Washington, School of Aquatic and Fishery Sciences.

Hughes, B.B. March 2015. Food webs, resilience, and functioning of an estuary under multiple threats: lessons learned from Elkhorn Slough. *Invited Seminar*. Moss Landing Marine Laboratories.

Hughes, B. T. Tinker. November 2014. Oral Presentation. From kelp forests to pickle weed: sea otter effects on ecosystem dynamics in two distinct coastal habitats. Presented to the staff for Monterey Bay Aquarium's Conservation Science Seminar Series.

Haskins, J., **B. Hughes**, K. Wasson. March 2014. Oral Presentation. *Invited Public Seminar*. Long-term water quality monitoring and eutrophication research at Elkhorn Slough. Presented to the Central Coast Regional Water Quality Control Board. Salinas, CA.

Hughes, B. The surprising case of the reappearing seagrass. November 2013. Oral Presentation. *Invited Public Seminar*. Elkhorn Slough Foundation.

Hughes, B. Can sea otters mediate the harmful effects of nutrient pollution on seagrass? September 2012. Oral Presentation. *Invited Public Seminar*. Sea Otter Awareness Week, California State University, Monterey Bay.

Hughes, B. Linking watershed activities to nearshore ecosystem processes: a case study of Elkhorn Slough. February 2012. *Invited Seminar*. California State University Monterey Bay, Division of Science and Environmental Policy.

CONTRIBUTED PAPERS

Hughes, B., K. Beheshti, L. Carswell, B. Silliman, M. Tinker, S. Williams. Are sea otters as the solution for coastal restoration in the North Pacific? July 2017. Oral Presentation. International Congress for Conservation Biology; Cartagena, Colombia.

Hughes, B., K. Beheshti, C. Angelini, T. Tinker, K. Wasson, B. Silliman. Top predator recovery suppresses die-back of shoreline-protecting salt marshes through a trophic cascade. January 2017. Oral Presentation Elkhorn Slough Research Symposium.

Hughes, B., K. Beheshti, C. Angelini, T. Tinker, B. Silliman. Top predator recovery suppresses die-back of shoreline-protecting salt marshes through a trophic cascade. November 2016. Oral presentation. Western Society of Naturalists.

Hughes, B., K. Beheshti, C. Angelini, T. Tinker, K. Wasson, B. Silliman. Sea otter expansion in estuaries can trigger system-wide recovery. March 2016. Oral Presentation. Southern Sea Otter Research Alliance Meeting. University of California, Santa Cruz.

Hughes, B. The return of sea otters to estuaries, implications for ecosystem resilience, functioning, and conservation. February 2014. Oral Presentation. Southern Sea Otter Research Alliance Meeting. University of California, Santa Cruz.

Levey, M.D., **B. Hughes**. Mapping the implications of low oxygen (hypoxia) on available

habitat for select species of flatfish in Elkhorn Slough. November 2013. Oral Presentation. ESRI Ocean GIS Forum. Redlands, California, USA.

Hughes, B. Why is the estuary green and why should we care? January 2013. PhD Proposal Seminar. University of California, Santa Cruz.

Hughes, B., R. Eby, E. Van Dyke, K. Wasson. 2012. Sea otters mediate negative eutrophication effects on seagrass through a multi-level trophic cascade. November 2012. Oral Presentation. Western Society of Naturalists.

Hughes, B., M. Fountain, A. Carlisle, M. Levey, and M. Gleason. Synergistic effects of eutrophication and large-scale climatic patterns on an estuarine fish assemblage. September 2012. Oral Presentation. California Estuarine Research Society Meeting.

Hughes, B. The role of scale when determining the relative importance of bottom-up forces and species interactions on seagrass populations. December 2011. Oral Presentation. Species Interaction Workshop, Stanford University.

Hughes, B., J. Haskins, K. Wasson, E. Watson. 2011. Identifying factors that influence expression of eutrophication in a central California estuary. November 2011 Oral presentation. Coastal and Estuarine Research Federation Biennial Conference.

Hughes, B., J. Haskins, K. Wasson. Eutrophication assessment of Elkhorn Slough, CA. February 2010. Poster Presentation. National Estuarine Research Reserve Annual Technical Meeting.

Hughes, B., K. Wasson, and J. Haskins. Patterns and filters of eutrophication endpoints in Elkhorn Slough. January 2010. Oral presentation. Elkhorn Slough Research Symposium.

Hughes, B., K. Wasson, J. Haskins. Spatial variability in eutrophication indicators across a tidal gradient in Elkhorn Slough, CA. November 2009. Oral presentation. Coastal and Estuarine Research Federation Biennial Conference.

Hughes, B. Effects of *Egrecia menziesii* on intertidal benthic assemblages. April 2007. Thesis Defense. Moss Landing Marine Laboratories

Hughes, B. Effects of *Egrecia menziesii* populations on rocky intertidal algal assemblages. November 2005. Oral presentation. Western Society of Naturalists Annual Meeting.

Hughes, B. Effects of *Egrecia menziesii* populations on rocky intertidal algal assemblages. April 2005. Poster Presentation. Northwest Algal Symposium.

Kupfer, R., **B. Hughes.** Effects of light exposure on *Myxococcus xanthus* development. April 2002. Poster Presentation. Missouri Academy of Sciences Annual Meeting.

Hughes, B. Light induced inhibition of *Myxococcus xanthus* development. April 2002. Poster Presentation. Truman State University Undergraduate Research Symposium.

Hughes, B. Light induced inhibition of *Myxococcus xanthus* development. April 2001.
Oral presentation. Truman State University Tri Beta meeting.

PUBLIC OUTREACH AND SYNERGISTIC ACTIVITIES

Hughes, B. Top predator recovery presents new conservation challenges in the 21st century.
September 2016. Invited Presentation. Monterey Bay Aquarium Volunteer Enrichment Series.

Hughes, B. Los efectos de fertilizantes a la ecología de Elkhorn Slough. March 2012.
Presentación Oral en Español. Monterey Bay AgExpo.

Hughes, B., K. Wasson, J. Haskins. Spatial variability in eutrophication indicators across a tidal gradient in Elkhorn Slough, CA. December 2009. Oral Presentation. Monterey Bay National Marine Sanctuary/Water Quality Protection Program Quarterly Meeting.

Wasson, K., E. Van Dyke, J. Haskins, **B. Hughes.** Parsons Sill Project predictions for habitats, water quality, and biological communities. September 2009. Oral Presentation. Elkhorn Slough Tidal Wetland Project: Science Panel and Strategic Planning Team Meeting.

Hughes, B. Attack of the killer kelp. April 2006. Oral presentation. Moss Landing Marine Laboratories Open House. *Public Outreach Seminar.*

MENTORED GRADUATE & UNDERGRADUATE STUDENT PRESENTATIONS

#Lee, J., F. Micheli, **B.B. Hughes**, K.J. Kroeker, K.G. Peay. Effects of Ocean Acidification on surfgrass interaction with epiphytes, grazers, and opportunistic microbes. Western Society for Naturalists. Monterey, CA. November 12, 2016. Poster Presentation. #*Mentored Graduate Student Project.*

#Beheshti, K.M., **Hughes, B.B.**, Boyer, K, Greene, H.G., Endris, C. "Seagrass Restoration and the Trajectory of Enhanced Ecosystem Functioning." Western Society for Naturalists. Monterey, CA. November 12, 2016. 15-Minute Talk. #*Mentored Graduate Student Project.*

#Beheshti, K., **Hughes, B.**, Silliman, B., Angelini, C. "Crab Facilitation of Salt Marsh Loss: Abiotic Stressors Made Worse by Ecosystem Engineers." Western Society for Naturalists. Sacramento, CA. November 7, 2015. #*Mentored Graduate Student Project.*

#Beheshti, K., **Hughes, B.** et al. "How *Pachygrapsus crassipes* affect *Sarcocornia pacifica* loss in Elkhorn Slough, CA." 6th Annual Ecology and Evolutionary Biology Symposium. Long Marine Laboratory, Santa Cruz. May 8, 2015. 5-Minute Ignite Talk. #*Mentored Graduate Student Project.*

#Beheshti, K., **Hughes, B.** et al. "From *Sarcocornia* to *Zostera*: Just add water." 7th Annual Ecology and Evolutionary Biology Symposium. Long Marine Laboratory, Santa Cruz. April 29, 2016. 15-minute talk. #*Mentored Graduate Student Project.*

*Glanz, J., *B. Bulkin, **B. Hughes.** Trophic diversity influences growth strategies and competitive interactions in the eelgrass *Zostera marina*. Poster Presentation. Western

Society of Naturalists November 2012, UC Santa Cruz Plant Research Symposium Feb 2013, Monterey Bay National Marine Sanctuary Currents Symposium April 2013.

**Mentored Undergraduate Student Project.*

*Abbey, S and **B. Hughes**. Impacts of anthropogenic nutrient loading on competitive interactions between eelgrass and ephemeral algae. April 2012. Poster Presentation. Monterey Bay National Marine Sanctuary Currents Symposium. **Mentored Undergraduate Student Project.*

*Van Parys, J., *M. Rodriguez, R. Preisler, J. Haskins, **B. Hughes**, and K. Wasson. October 2011. Water Quality at Elkhorn Slough and its impacts on Olympia Oysters (*Ostrea lurida*) and Staghorn Sculpins (*Leptocottus Armatus*). Poster Presentation SACNAS Annual Conference. **Mentored Undergraduate Student Project*

*Rodriguez, M., J. Haskins, **B. Hughes**, R. Preisler, K. Wasson. The relationship between water depth and hypoxia in managed estuarine wetlands: analysis and management recommendations. April 2011. Poster Presentation. Monterey Bay National Marine Sanctuary Currents Symposium. **Mentored Undergraduate Student Project.*

*Johnson, L., **B. Hughes**. Variable effects of *Ulva* spp. on dissolved oxygen dynamics. April 2010. Poster Presentation. Monterey Bay National Marine Sanctuary Currents Symposium. **Mentored Undergraduate Student Project*

PROFESSIONAL SERVICE

Society for Conservation Biologists (Honorary Lifetime Membership)

Pacific Marine and Estuarine Fish Habitat Partnership (PMEP), Spatial Data Work Group (2015-present)

Session Co-Chair (Kerry Nichols, Tessa Hill, Kristy Kroeker), Coastal and Estuarine Research Federation, November 2015. "Multiple stressors in vegetated coastal ecosystems."

California Estuarine Research Society Student Representative (2011-2013)

Phycological Society of America (2003-2006), (2011-2015)

Elkhorn Slough Research Symposium, 2010 conference coordinator

Elkhorn Slough Tidal Wetland Program, Science Panel (2009-present)

California Estuarine Research Society (2009-present)

Coastal and Estuarine Research Federation (2009-present)

Northwest Algal Society (2005-2010)

Western Society of Naturalists (2004-present)

Monterey Bay National Marine Sanctuary, Water Quality Protection Program Committee (2009-2013)

Student Body Vice President, Moss Landing Marine Labs (2002-03).

MANUSCRIPT REVIEWER (SINCE 2011)

Nature Climate Change (1x), *Nature Communications* (1x), *Global Change Biology* (1x), *BioScience* (1x), *Ecology* (3x), *Oecologia* (1x), *Journal of Ecology* (1x), *Ecosphere* (1x), *Estuaries and Coasts* (1x), *Marine Ecology Progress Series* (3x), *Journal of Experimental Marine Biology and Ecology* (1x), *Estuarine Coastal and Shelf Science* (1x), *Journal of Sea Research* (1x), *Environmental Biology of Fishes* (1x), *Marine Biology Research* (1x), *Elkhorn Slough Technical Report Series* (2x), *Pacific Marine and Estuarine Fish Habitat Partnership* (1x)

PROPOSAL REVIEWER (SINCE 2015)

NSF Biological Oceanography (1x), National Geographic Society (1x), Washington SeaGrant (1x), The Fram Centre (Norway) (2x), Earthwatch (1x), North Pacific Research Board (1x)

SKILLS

Field Skills: California boater certified, AAUS and NAUI Master and Scientific diver certified (200+ dives), CPR and First Aid certified, marine algal/invertebrate/vertebrate identification, ecological sampling techniques, acoustic tracking, GPS, ADCP, YSI, CTD, Water Quality.

Laboratory Skills: Sterile technique, Microscopy, Fluorometry, Spectrophotometry, Stable Isotopes, Cell culture, image analysis, media preparation.

Computer and Programming Skills: R, Systat, SPSS, SPSS Amos, JMP, Primer, ArcGIS, Canvas, Image J, Endnote, RiverSurveyor, View Argonaut, Microsoft Access/Word/Excel/Power Point, Adobe Photoshop, and website design and maintenance.

COMMUNITY & VOLUNTEER SERVICE

Monterey Bay Aquarium algal taxonomist, 2006-07

High School Teacher Enhancement Program, Moss Landing, CA 2005-06

Americorps volunteer, Kansas City, KS 2000

Special Olympics basketball league coordinator, Olathe, KS 1996-97

American Heart Association volunteer, Kansas City, MO 1994-97

KEY COLLABORATORS

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Susan Williams, Professor, University of California Davis

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Kristy Kroeker, Assistant Professor, UC Santa Cruz

Ken Johnson, Senior Scientist, Monterey Bay Aquarium Research Institute

Kerstin Wasson, Research Coordinator, Elkhorn Slough National Estuarine Research Reserve

Christine Angelini, Assistant Professor, University of Florida

Mary Gleason, Associate Director of Marine Science, The Nature Conservancy

Mike Beck, Lead Marine Scientist, The Nature Conservancy

Aaron Carlisle, Post-doctoral Researcher, Stanford University

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