



Whalefest Monterey 2019 Symposium Presentations (as of 12-12-18)

Brian Balcom, CSA

“The Great Pacific Garbage Patch – Working to Remove Ocean Plastics”

In 2013, The Ocean Cleanup (TOC), a not-for-profit organization based in The Netherlands, began development of a system designed to collect macroplastics from the world’s oceans. Through a series of trials and errors over several years, TOC finalized development of the Ocean Cleanup System (OCS). Named System 001, the OCS is a passive drifting barrier designed to collect all floating macroplastics in the upper 3 m of the ocean using ambient winds and currents. In June and July 2018, TOC completed a tow test in the Pacific Ocean off San Francisco to test the integrity of the system. In September 2018, TOC successfully completed Pacific Trials, a two-week long testing of the system ~350 miles offshore San Francisco. In October 2018, System 001 was deployed ~1000 miles offshore in the Eastern Pacific Garbage Patch, where it will be continuously monitored for the next 12 months. CSA supported TOC during 2017-2018 by evaluating the environmental impact of the OCS, and proposed a series of mitigation measures designed to minimize environmental impact and acquire data on how System 001 affects marine organisms. CSA is also collecting data on the presence and concentration of microplastics found beneath the Eastern Pacific Garbage Patch. Our presentation will 1) summarize the OCS System 001, its purpose, and effectiveness 3 months after its deployment in the Eastern Pacific Garbage Patch; 2) highlight the positive and negative impacts of the OCS and the effectiveness of the mitigation measures implemented during its deployment; and 3) summarize the data collected.

Mr. Balcom is a Senior Scientist with CSA Ocean Sciences Inc., working out of their western regional office located in Monterey, California. Mr. Balcom is a benthic ecologist with nearly 40 years of experience in biological baseline studies, impact assessments, and marine research. Mr. Balcom has specific expertise with assessing and mitigating the environmental impacts associated with energy-related exploration, development, and decommissioning, including oil and gas, wind energy, and marine minerals. He has worked off of all of the U.S. coasts and internationally in Europe, the Middle East and eastern Mediterranean, Africa, Central and South America, and Australia. He frequently consults with foreign ministries, local researchers, and non-governmental organizations regarding current environmental regulations and available mitigation and monitoring measures. He was one of the Federal government’s chief scientists investigating the effects of the Exxon Valdez spill on intertidal and subtidal environments of Prince William Sound, and was a contributor to water column and benthic sampling design and data interpretation following the Deepwater Horizon spill. With four adult children, he has resided in Monterey County for 20 years with his wife, Corkey.

Sherry Flumerfelt, Monterey Bay Fisheries Trust

“Creating a Sustainable Fishing Future for Monterey Bay”

Monterey Bay is a region celebrated for its deep history and culture of commercial fishing. However, the fishing industry has struggled in recent years due to fluctuations in the health of fish stocks, complicated and expensive regulations, weakened infrastructure, and competition with foreign imports. Fortunately, things are starting to look up for the local fishing community. In 2014, representatives from the fishing industry, City of Monterey, Monterey Bay Aquarium, and others came together to establish the Monterey Bay Fisheries Trust (MBFT), a nonprofit with a mission to advance the social, economic, and environmental sustainability of Monterey Bay fisheries. Ultimately, MBFT seeks to achieve a balance between a healthy ocean environment and a healthy fishing economy. MBFT’s executive director, Sherry Flumerfelt, will discuss the Trust’s efforts to strengthen the viability of commercial fishing businesses, increase access to local, sustainable seafood, and support and enhance fisheries conservation and management.

Sherry has spent her career working with coastal communities to find the balance between environmental and economic sustainability. Since 1999, she has worked for nonprofits on a range of issues including commercial and recreational fisheries, marine tourism, marine protected areas, sustainable financing for conservation, and ocean awareness. She helped launch the Trust in 2014, and was hired as the executive director soon after. Prior to this, Sherry was a consultant supporting organizations such as CATCH Alaska, the California Fisheries Fund, the Environmental Defense Fund, and the California Marine Life Protection Act Initiative. Between 1999 and 2007, Sherry worked for the Coral Reef Alliance, an international coral reef conservation organization, where she led conservation and awareness programs in Melanesia, Micronesia, Southeast Asia, and Hawaii. Sherry holds a Masters Degree in Anthropology and International Development from the University of Guelph in Canada.

Tyler Gagne, Monterey Bay Aquarium

“TBD”

The pelagic realm is a dynamic region affected by climate change, human impact, and commercial fisheries. We’ll talk about how we can use seabirds as indicators to reveal the status and condition of this environment. Using north pacific seabird feathers from museums we discuss changes in food webs over the past 125 years. This work has shown that multiple species of seabirds track the complex changes occurring in marine ecosystems.

Tyler Gagne is an Assistant Research Scientist with the Conservation Research team at Monterey Bay Aquarium. He has a background in quantitative ecology and completed his masters at the University of Massachusetts Amherst. He is currently working on research that utilizes machine learning and other analytic tools to better understand biodiversity, illegal and unreported fishing, and climate change impacts.

Steve Haddock, MBARI

“Who Glows There? A Natural History of Natural Light in Monterey Bay”

The presentation will introduce the mechanisms of bioluminescence and fluorescence, and show a sampling of the diversity of marine organisms using these traits. Some potential natural functions of biooptical displays will be explored, and videos of bioluminescence in action will be presented.

Steven Haddock studies marine diversity, molecular biology, and bioluminescence at the Monterey Bay Aquarium Research Institute and UC Santa Cruz. He specializes in fragile gelatinous jellyfish-like creatures that are abundant in the water-column of the deep-sea and open ocean. In addition to conducting research expeditions around the world, he uses genetic methods to reveal the relationships between organisms and to understand the proteins that they use to make light. He also runs the Bioluminescence Web Page (biolum.eemb.ucsb.edu), the citizen-science project jellywatch.org, and has a textbook for teaching computing to scientists at practicalcomputing.org.

George Matsumoto, MBARI

“What is going on at the Monterey Bay Aquarium Research Institute”

This presentation will provide a brief overview of the history of MBARI and some of the projects currently underway.

George I. Matsumoto is currently the Senior Education and Research Specialist at the Monterey Bay Aquarium Research Institute. With an AB degree from UC Berkeley and a PhD from UCLA, George's research interests focus on Ctenophores but include other gelatinous organisms especially those that live in the deep-sea. He also coordinates the MBARI summer internship program, educator professional development workshops, and works with the Monterey Bay Aquarium both as a volunteer and as a reviewer of science content. George has served on the National Ocean Studies Board (2008-2013), the National Marine Educators Association Board (2010-2016), was awarded the QuickScience Ocean Science Leadership Commitment to Education Award, and is an ASLO Fellow. He has served on a number of review boards for NSF, NOAA, GoMRI, and NAS and does his best to spend more time in or on the Ocean than on travel

Paul Michel, Superintendent of the Monterey Bay National Marine Sanctuary

"An Update on the Latest Developments Concerning the Sanctuary"

Paul Michel addresses the latest issues and activities at the Monterey Bay National Marine Sanctuary.

Paul Michel is a nationally-recognized leader in wetlands, coast, and ocean management and protection. As Superintendent of the Monterey Bay National Marine Sanctuary in April, he is responsible for all of the science, education, and resource protection programs involved with managing and protecting the nation's second largest marine sanctuary at over 6,000 square miles.

Matt Savoca, Hopkins Marine Station of Stanford University

“Microplastics and Macro-predators: Assessing the Threat of Marine Plastics to Baleen Whales”

Not much is known about how the physiological ecology of foraging ocean animals relates to the ingestion of ocean plastics. Matt will share his expertise on how large filter feeders find prey across different temporal and spatial scales as well as their susceptibility to microplastic ingestion.

While growing up in New York City, Matt became captivated by the natural world. As an undergraduate at Cornell University, he worked with scientists at the Cornell Lab of Ornithology studying gulls at the Shoals Marine Laboratory on Appledore Island, Maine. Matt's interests in marine biology evolved while completing a Ph.D. in the Graduate Group in Ecology at UC Davis. For his doctoral research, he used a

sensory biology approach to help explain why marine animals confuse plastic debris for prey items. Currently, Matt is a postdoctoral researcher and National Geographic Early Career Explorer at the Hopkins Marine Station of Stanford University.

Peggy Stap, Founding Director of Marine Life Studies and the Whale Entanglement Team (WET)[®]
"Saving Whales From Life-threatening Entanglements - The Whale Entanglement Team (WET)[®]"

Entanglement in fishing gear and marine debris is becoming one of the greatest threats posed to whales worldwide. The number of entangled whales reported in the Monterey Bay National Marine Sanctuary and statewide has increased significantly. Learn how this highly trained team uses specialized equipment to rescue whales from a slow, painful death due to life-threatening entanglements as Stap chronicles some recent rescues. The work is conducted under the authority of the Endangered Species Act/Marine Mammal Protection Act permit issued to the Marine Mammal Health and Stranding Response Program. WET[®] was featured on the PBS/BBC Big Blue Live, August 2015 and has brought national attention to the increase of entanglements.

Peggy Stap co-founded the Whale Entanglement Team (WET)[®] in 2006. Accomplishments include team assembly, 877-SOS-WHALE phone number, providing a response boat, a complete tool cache and a trailer that can carry all the equipment. Marine Life Studies' Research Scientist Program includes a training program for new volunteers of WET[®] as well as holding refresher trainings for existing members. WET[®] was featured during the BBC/PBS Big Blue Live in 2015