

**MBNMS Research Activity Panel
Meeting Summary
September 13, 2019**

Host: Steve Lindley – Fisheries (NOAA Fisheries Service)

Location: NOAA Fisheries Service
110 McAllister Way
Santa Cruz, CA

Date: Friday, September 13th, 2019; 9:00 am to 12:00 pm

Members:

	Discipline	Primary/ Alternate	Name	Institution
X	Research Coordinator		DeVogelaere, Andrew	Monterey Bay National Marine Sanctuary
	Biological Oceanography	primary	Kudela, Raphael	University of California, Santa Cruz
	Biological Oceanography	alternate	Ruhl, Henry	Central and Northern California Ocean Observing System
	Deep-Sea Environment	primary	Cailliet, Greg	Moss Landing Marine Laboratories (retired)
X	Deep-Sea Environment	alternate	Haddock, Steve †	Monterey Bay Aquarium Research Institute
X	Estuarine Environment	primary	Clark, Ross	Central Coast Wetlands Group
	Estuarine Environment	alternate	Wasson, Kerstin	Elkhorn Slough NERR and Foundation
X	Fisheries	primary	Lindley, Steve	NOAA Fisheries Service
X	Fisheries	alternate	Owens, Brian	California Department of Fish and Wildlife
X	Marine & Coastal Geology	primary	Golden, Nadine	United States Geological Survey
	Marine & Coastal Geology	alternate	Paull, Charles	Monterey Bay Aquarium Research Institute
	Marine Conservation Biology	primary	Goldbogen, Jeremy	Hopkins Marine Station
	Marine Conservation Biology	alternate	Micheli, Fiorenza	Hopkins Marine Station
X	Nearshore Environment	primary	Southall, Brandon	Southall Environmental Associates, Inc.
X	Nearshore Environment	alternate	Carr, Mark	University of California, Santa Cruz
X	Physical Oceanography	primary	Cheriton, Olivia	United States Geological Survey
	Physical Oceanography	alternate	Orescanin, Mara	Naval Postgraduate School
	Shelf & Slope Environment	primary	Lindholm, James	California State University Monterey Bay
X	Shelf & Slope Environment	alternate	Sogard, Susan	NOAA Fisheries Service (retired)
X	Social Sciences	primary	Pomeroy, Carrie	California Sea Grant Extension Program
X	Social Sciences	alternate	Scorse, Jason	Middlebury Institute of International Studies
X	Water Quality	primary	Hunt, John *	University of California, Davis
	Water Quality	alternate	Hoover, Bridget	Monterey Bay National Marine Sanctuary

*Sanctuary Advisory Council Member: Research (Primary)

†Sanctuary Advisory Council Member: Research (Alternate)

RAP Coordinator:

X	Burton, Erica	Monterey Bay National Marine Sanctuary
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GUESTS

Barnard, Patrick	US Geological Survey
Behl, Robert	Monterey Bay Marine Innovation Project
De Beukelaer, Sophie	Monterey Bay National Marine Sanctuary
Robinson, Patrick	UCSC
Santora, Jarrod	UCSC & NOAA Fisheries

CONSENT ITEMS

Introductions/Modifications to the Agenda (John Hunt)

HOST PRESENTATION AND DISCUSSION

Marine Heatwave Causes Habitat Compression Impacting Forage Species, Crab Fishery Timing and Record Whale Entanglements (Jarrod Santora, UCSC and NMFS)

- Jarrod provided overview of recent marine heatwaves
- Tools now available for tracking and monitoring marine heat waves (Hobday et al. 2018, Oceanography; <https://www.integratedecosystemassessment.noaa.gov/regions/california-current/cc-projects/blobtracker>)
- Heat wave brings challenges to west coast fisheries management (e.g., record outbreak of HABs, Dungeness crab season delay) (McCabe et al. 2016, Geophysical Research Letters)
- Increased whale entanglements (primarily humpback whales) in fishing gear (2014-2016, mostly Dungeness crab pots)
- Heat wave caused compression of productive habitat
- Habitat compression can be associated with prey-switching and foraging distribution shifts (e.g., seabird Common Murre)
- Crab fishery: Nov-Jul; historically tapers off by March; during 2015/2016, crab peaked April in to May, coincided with whale forage locations (compression)
- California Dungeness crab fishing gear workshop group formed; developed “Best Practices Guide” for tightening up the gear (mandatory/voluntary recommendations)
- Developing framework for Risk Assessment and Mitigation Program (RAMP), informed by ecological indicators and assessments: <http://www.opc.ca.gov/risk-assessment-and-mitigation-program-ramp/>
- Infographic prepared for IEA website
- Jarrod shared additional link: <https://axiomdatascience.com/>

SANCTUARY ADVISORY COUNCIL UPDATE

Summary of June 21st (Cambria) and August 15th (Half Moon Bay) Advisory Council Meetings (John Hunt)

- For meeting minutes, see: <https://montereybay.noaa.gov/sac/sacma.html>

PRESENTATION REQUESTED BY RAP

“Coastal Impacts in Monterey Bay Due to Storms and Sea Level Rise: Update on Coastal Storm Modeling System (CoSMoS; Patrick Barnard/USGS)

- Patrick provided overview of CoSMoS

- State of California sea-level rise guidance document available: <http://www.opc.ca.gov/updating-californias-sea-level-rise-guidance/>
- USGS CoSMoS for central coast to be completed in late 2019
- Tool (Interactive Flood Map): <http://data.pointblue.org/apps/ocof/cms/>
 - Shoreline projections available for all of Monterey Bay
- Tool (USGS Hazard Exposure Reporting and Analytics): www.usgs.gov/apps/hera
- Additional information available at: www.usgs.gov/cosmos

PRESENTATION REQUESTED BY RAP

Pros and Cons of Drone Usage in MBNMS (Erica Burton/MBNMS)

- Erica Burton kicked off RAP discussion with brief overview of recent drone users for research and MBNMS permitting
- RAP members discussed drone use benefits and concerns
- **ACTION**: MBNMS staff and RAP will outline science needs (e.g., 2-pager)

MEETING UPDATES

Ed Ricketts Memorial Award and Lecture (Erica Burton/MBNMS)

- Erica provided information on upcoming award and lecture to be presented to Jim Harvey on Sept 17th at Sanctuary Exploration Center
- RAP discussed role of RAP and MBNMS in presentation of award
- **ACTION**: RAP decided that MBNMS staff (Andrew DeVogelaere, Research Coordinator) would provide background on Ricketts Award and Jim Harvey, and RAP leadership (Vice-chair, Steve Haddock) would present Jim Harvey with award; RAP Chair (John Hunt) will be absent at award ceremony

QUICK UPDATES ON NEW HIRES AT INSTITUTIONS, AND FACILITY UPDATES

- No decisions or actions

SUGGESTED FUTURE AGENDA ITEMS

- Clark: What is the link between research need and rapid funding and sanctuary foundation (Monterey Bay Chapter update); and how do local RAP priorities get into ONMS West Coast Region and Foundation priorities?
- Hunt: Constituent outreach
- Hunt: Management plan review timeline (Nov meeting)

Future Agenda Items (running list):

- Socioeconomic benefits of science (per Scorse)
- West Coast Regional Office update
- RAP Focus:
 - Long-term Monitoring
 - Coordinated water quality monitoring: lessons learned (Hunt/Hoover)
 - Consider interns to follow-up on RAP monitoring plan tasks (Hunt)
 - MBNMS Action Plans (Management Plan Review)
- RAP Membership: reinvigorate non-attending members
- Happy Whale App (Jeremy Goldbogen)
- California Collaborative Fisheries Research Program (CCFRP), and MPA monitoring and synthesis of historic data sets in MBNMS (Mark Carr and Rick Starr)
- Microplastics: How an under-funded marine science community deals with a significant new problem
 - Microplastics and seabirds (chemical cues; Matt Savoca/Hopkins Marine Station)
 - Choy et al (MBARI)
 - NOAA’s Marine Debris Program (Sherry Lippiatt)
- Invite research representative of GFNMS Advisory Council (John Largier)

2019 RAP Meeting Schedule and Locations

Date	Host	Location
March 8	Pomeroy	Long Marine Lab, UC Santa Cruz
May 10	Wasson	Elkhorn Slough NERR, Watsonville
September 13	Lindley	NOAA Fisheries, Santa Cruz
November 1	Clark	Moss Landing Marine Laboratories
