

**MBNMS Research Activity Panel
Meeting Summary
January 14, 2022**

Host: Steve Haddock – Deep-Sea Environment (Monterey Bay Aquarium Research Institute)

Location: Virtual Meeting (information available upon request; erica.burton@noaa.gov)

Date: Friday, January 14, 2022; 9:00 am to 12:00 pm

Members:

	Discipline	Primary/ Alternate	Name	Institution
X	Research Coordinator		DeVogelaere, Andrew	Monterey Bay National Marine Sanctuary
X	Biological Oceanography	primary	Ruhl, Henry	Central and Northern California Ocean Observing System
X	Biological Oceanography	alternate	Kudela, Raphael	University of California, Santa Cruz
X	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
	Marine & Coastal Geology	primary		
X	Marine & Coastal Geology	alternate	Wagner, Amy	California State University, Sacramento
	Marine Conservation Biology	primary	Goldbogen, Jeremy	Hopkins Marine Station
	Marine Conservation Biology	alternate	Micheli, Fiorenza	Hopkins Marine Station
	Nearshore Environment	primary	Southall, Brandon	Southall Environmental Associates, Inc.
	Nearshore Environment	alternate	Carr, Mark	University of California, Santa Cruz
	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	University of California, Santa Cruz
	Social Sciences	alternate	Scorse, Jason	Middlebury Institute of International Studies
X	Water Quality	primary	Hunt, John *	University of California, Davis
X	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

Behl, Robert	Monterey Marine Innovation Project
de Marignac, Jean	West Coast Region, National Marine Sanctuaries
Duncan, Lizzie	Channel Islands National Marine Sanctuary
Gray, Laura	National Marine Fisheries Service
Mizell, Kira	U.S. Geological Survey
Patry, Wyatt	Monterey Bay Aquarium
Redmond-Jones, Beth	Monterey Bay Aquarium
Uttal, Lisa	Monterey Bay National Marine Sanctuary
Wolfrum, Amy	Monterey Bay Aquarium

CONSENT ITEMS

Introductions/Modifications to the Agenda (John Hunt)

PRESENTATIONS REQUESTED BY RAP

Monterey Bay Aquarium Deep Sea Exhibit (Beth Redmond-Jones/Monterey Bay Aquarium)

- Beth provided overview of upcoming exhibit, including construction, floor plans, exhibit models, and live animals.
- Education team is building curriculum for teachers with online components.
- Exhibit longevity is planned for approximately 8 years.
- The opening is scheduled for April 9th.
- For more information, see: <https://www.montereybayaquarium.org/visit/exhibits/into-the-deep>

Monterey Bay Aquarium Deep Sea Exhibit Collections from the R/V *Fulmar* (Wyatt Patry/Monterey Bay Aquarium)

- Wyatt provided overview of animal collection efforts using MBARI's MiniROV deployed from sanctuary vessel R/V *Fulmar*.
- MiniROV is currently operational to depth of 2,000 meters; and has been primarily used for collections in midwater habitat, and oxygen minimum zone (500-700 m). It is approximately 1 m³.
- R/V *Fulmar* served as good platform for the MiniROV; with another week-long cruise planned during March 2022.
- For more information on MBARI's MiniROV, see: <https://www.mbari.org/technology/emerging-current-tools/mini-rov/>

SANCTUARY ADVISORY COUNCIL UPDATE

Summary of December Advisory Council Meeting (John Hunt)

- John presented brief summary of Advisory Council Meeting.
- For meeting minutes, see: <https://montereybay.noaa.gov/sac/sacma.html>

PRESENTATIONS REQUESTED BY RAP

Deep Ocean Marine Minerals and Mining Potential (Kira Mizell/USGS)

- Kira provided overview of marine minerals in the deep sea, including:
 - What, how, and where marine minerals form
 - Marine minerals along western continental margin of U.S.
 - Status of marine minerals development

- Four primary mineral deposits include:
 - Manganese nodules
 - Ferromanganese crusts
 - Seafloor massive sulfides
 - Phosphorites
- Mineral occurrence does not constitute a mineral resource of mining potential.
- No deep ocean marine minerals are being targeted for economic exploration or resource assessment in the US Exclusive Economic Zone (especially not near Monterey Bay).
- For more information on Global Marine Mineral Resources (USGS), see: <https://www.usgs.gov/centers/pcmssc/science/global-marine-mineral-resources>

Local Implications of Deep Sea Mining Efforts (Steve Haddock)

- Steve provided overview of the potential impacts of deep-sea mining on the water column, including increased particulates (advected, sinking, and benthic plumes) and disruption of food chains.
- For New York Times OpEd (Haddock and Choy 2020), see: <http://j.mp/deep-mining>.

RAP FOCUS TOPICS

Updating “Major Marine Science Institutions in the Monterey Bay Region” (John Hunt)

- Over the past 9 months John received updates for all but four institutions and this will be the final version for this update.
- The total budget across all institutions declined over the past 5 years from \$346,850,000 to \$322,650,000, a decrease of 7%. Staffing has declined from 2,418 to 2,179, a decrease of 10%.
- John shared list with RAP members.

ED RICKETTS AWARD AND LECTURE

2022 Ricketts Award: RAP Voting Process (Erica Burton)

- RAP members submitted three nominations for the 2022 Ricketts Award.
- Erica sent email to RAP members with list of candidates and instruction to vote.
- The Ricketts award is for recognition for lifetime achievement in the field of marine science, based in part on studying natural history and excellence in teaching. A major criterion is the ability to give an excellent lecture. Nominees do not have to be local to the Monterey Bay area.
- The 2022 Ricketts Award and Lecture will be later this year (date to be determined).
- History of the award and recipient abstracts can be viewed at: <https://montereybay.noaa.gov/research/ricketts.html>
- **ACTION**: RAP members should email their vote directly to Erica by January 28th.

QUICK UPDATES ON NEW HIRES AT INSTITUTIONS, AND FACILITY UPDATES

- No decisions or actions

SUGGESTED FUTURE AGENDA ITEMS

- No decisions or actions

Future Agenda Items (running list):

- MBA’s Conservation and Science Program update
- MPAs as monitors/buffers of climate change (e.g., recent OPC presentation at SAC; Micheli’s recent newspaper article)
- EPA funding to document water quality enhancement projects in the watershed capacity to reduce harmful algal blooms (Ross Clark)
- Update on research and restoration activities related to closing of the Marina sand mining plant (USGS and others)
- Microplastics in Monterey Bay National Marine Sanctuary: Current and future research to guide management (Matt Savoca/Hopkins Marine Station)
- Kelp and urchin surveys, and seastar wasting (Cailliet/Carr/Lonhart)
- Funded project on kelp as ecological-social systems in Monterey and Mendocino areas (Pomeroy/Carr)
- Offshore wind energy updates

2022 RAP Meeting Schedule and Locations

Date	Hosts	Location
January 14	Haddock	Virtual Meeting (until further notice)
March 11		Virtual Meeting (until further notice)
May 13	Cheriton	Virtual Meeting (until further notice)
September 9	Ruhl	Virtual Meeting (until further notice)
November 4	Wasson	Virtual Meeting (until further notice)