



PRESENTER & CONTACT:

Mary Elaine Helix

BIOLOGIST

Pacific Region

maryelaine.helix@boem.gov

415-296-3353



Page	Discipline	Title	Rank
23	PO	Expansion of West Coast Oceanographic Modeling Capability	1
25	IN (HE/SE)	Potential Impacts of Submarine Power Cables on Crab Harvest	2
27	MM	Data Synthesis and High-resolution Predictive Modeling of Marine Bird Spatial Distributions on the Pacific OCS	3
29	IN (HE/SE)	Archaeological and Biological Assessment of Submerged Landforms off the Pacific Coast	4
31	IM	West Coast Information Transfer Meeting	5
33	FE	Predicting and Detecting the Effects of Climate Change and Ocean Acidification Using Long-term Ecological Data	6
35	FE	Understanding and Mitigating the Effects of Marine Renewable Energy Technologies on the Coastal and Marine Environment in the Pacific OCS Region	7
37	HE	Collecting and Archiving Invertebrates from MARINE Sites for Deposition in the Smithsonian Institution with Local Replicate	8
39	HE	Year-round and Diel Patterns in Habitat-use of Seabirds off Oregon	9
41	HE	Strategic Resampling of Biodiversity Surveys at MARINE Sites: Completion of the Decadal Assessment	10

FE = Fates & Effects

HE = Habitat & Ecology

IM = Information Management

IN = Interdisciplinary

MM = Marine Mammals & Protected Species

PO = Physical Oceanography

SE = Social & Economic Sciences



Discipline	Title	Rank
HE	Strategic Resampling of Biodiversity Surveys at MARINe Sites: Completion of the Decadal Assessment	10
Needed now to complete decadal assessment		



BOEM Information Need:

MARINE long-term sampling provides the backbone for the baseline characterization of intertidal biological communities vulnerable to oil spills and/or wave/wind energy development. Periodic biodiversity sampling provides the link from the fixed plot data to the shoreline community and has been proven to significantly improve our ability to quantify shoreline impacts from oil spills.

Relationship to Previous BOEM-Supported Research:

Prior to 2003, BOEM supported biodiversity sampling of about 100 sites on a 3-4 year rotational basis. After we were downsized, a MARINE partner solely funded this work from 2003 to 2011. Other MARINE partners have funded sampling of 42 sites since 2011, but 19 sites have not been funded in the past 8 or 9 years. The biodiversity protocol complements the fixed plot protocol by providing detailed information about the entire site. It provides the information to extrapolate conditions outside the plots, inform our understanding of species movement within the site, document rare species, including invasives, and map zones in an x, y, z context.



BOEM Objectives:

- 1) Completion of the decadal resampling of biodiversity surveys
- 2) Integration of these data into the MARINE database
- 3) Comparison of biodiversity results across the 8-10 years between surveys
- 4) Linking biodiversity data to the long-term data forming the current baseline condition at MARINE sites within BOEM areas of interest

109	Point Sierra Nevada	10/95	4/01	4/03, 4/04	8
110	Piedras Blancas	11/97	1/08		4
111	San Simeon Point	9/07	9/07		5
112	Vista del Mar	su 04	1/08		4
113	Cambria/Rancho Marino	01	6/01	7/05	7
114	Harmony Headlands	2008	0	0	
115	Cayucos	10/95	5/01	2/08	4
116	Hazards	10/95	4/01	3/05	7
117	Diablo	11/07	1/08		4
118	Shell Beach	10/95	3/01	3/06	6
119	Occulto	3/92	0	0	
120	Purisima	11/93	0	0	
121	Stairs	3/92	3/01	3/03, 2/04	8



Study Methods:

- 1) Sites in areas of BOEM interest that have not been sampled in the past 8-10 years would be identified for sampling.
- 2) The standardized approach would be employed. It involves collecting data along transects secured in the high zone and laid out to the low zone. Point intercept sampling, nearest neighbor, and motile invertebrate counts in plots are used.
- 3) Teams will include highly trained taxonomists for continuity, speed, and accuracy.
- 4) Topography sampling consists of recording the elevation (relative to mean low low water) along each transect.

