Channel Islands National Marine Sanctuary
Sanctuary Advisory Council

Research Activities Panel

DRAFT Key Meeting Outcomes
February 11, 2011
Marine Science Institute, UCSB

Attendance:

Mark Steele	Merit McCrea	Dani Lipski
Donna Schroeder	Jack Engle	Chris Mobley
Carol Blanchette	Michael Sheehy	Mike Murray
David Kushner	Dave Siegel	Kristen Hislop
Dan Richards	Greg Helms	
Jenn Caselle	Steve Katz	

Approximately four members of the public were in attendance.

CINMS Announcements:
Chris Mobley spoke about the Sanctuary budget, noting a 10 percent budget decrease, which will cause a decrease in *Shearwater* days at sea. Chris stressed the importance of creative approaches and collaboration in the future, both between users and by benefiting from volunteers. Chris also spoke about the new building, and potential for undergraduate and graduate volunteers as docents in the outreach center, and the potential for collaboration with researchers and staff.

Research Activity Updates:

Mark Steele reported that his research is mainly at Catalina, not in the sanctuary. Some of his work, however, is along the mainland coast looking at how artificial reefs sustain kelp.

Jack Engle reported that the Bureau of Ocean Energy, Management, Regulation, and Enforcment (BOEMRE) recently approved another five year contract for the Multi Agency Rocky Intertidal Network (MARINe). Jack reported he is receiving reduced funding from the Tatman Foundation for subtidal work. In 2011, a total of 18 days of subtidal field work are planned. He will be continuing subtidal monitoring at Survey Rock at Anacapa (a 29 year dataset), subtidal surveys for fish, abalone, *Sargassum horneri*, and eelgrass. Jack will continue his intertidal research along the coasts. Although some sites are struggling for support, there are some new sites added in areas designated as new MPAs or ASBSs.

Merit McCrea reported he is working with the Love lab, surveying offshore pinnacles to look at young of the year recruitment through fish counts (time counts on transects).

Steve Katz reported that planning for future projects is limited because of uncertainty in the budget. His ongoing projects include: blue whale behavioral and ecological response to shipping (using tags); nutrient subsidies at sea lion rookery and how it is being incorporated into the water column; climate nutrient interaction; water quality; partnering with PISCO to maintain moorings with temperature. Steve is also working on a project that involves tagging fish for movement profiles. Steve is writing a paper looking at MPA effects at different trophic levels, and how to get protection for all trophic levels. Steve is also collaborating with Lee Hanna on LTER.

Dani Lipski reported that she is currently working on planning and coordination of the NOAA Coral Reef Conservation Program's (CRCP) funding for deep sea coral research on the west coast. In 2010, CINMS was involved in a cruise on *McArthur II* to look at deep sea corals in the Footprint Marine Reserve at Anacapa Island. This research included ROV and AUV surveys for corals and water sampling. There are two more years of funding from CRCP but in 2011 the activities will not take place in CINMS.

Dani for Natalie Senyk: Natalie provided an update on the aerial survey program at CINMS. CINMS staff described the various partnerships we have for aerial surveys because they no longer have their own aircraft. CINMS is able to work on Navy, Coast Guard, and contract aircraft. Recently, CINMS has been partnering with the Navy to address concerns of both agencies, with flights every couple of weeks. These surveys are used to determine distribution of whales in the sea range. Also, the Southwest Fisheries Science Center is working with Ben Waltenberger and Natalie to update SAMSAP software so it can be used on various platforms and missions. The NOAA Twin Otter will be available in 2011 for California sanctuaries for about 115 hours. SAMSAP surveys are still ongoing to look at vessel use of the sanctuary but are less frequent than in previous years because of a limited ability to fund contract aircraft time.

Dave Siegel reported that funding for Plumes and Blooms, a project in place since 1996, was renewed by NASA. The research provides optical data sets and full hydrographic surveys. Because the *Shearwater* availability has changed, Dave has been working on a smaller boat which presents challenges. Dave reported on work mapping kelp biomass with Landsat. Dave also reported on an underwater glider he has acquired to sample oceanographic conditions.

Mike Sheehy reported that Santa Barbara Channelkeeper has begun watershed monitoring in Carpinteria, Ventura River, and Goleta to document rain events. Eelgrass surveys are occurring on the mainland, and they are hoping to continue monitoring of eelgrass beds at the islands.

Jenn Caselle reported that PISCO's funding has been dramatically reduced, with more "strings" attached. Funding will continue for ongoing subtidal monitoring, specifically to monitor MPAs. It looks as though PISCO will have funding through 2011, and will be looking for new funding opportunities after that. In the summer of 2011 she will be able to continue northern Channel Islands monitoring. Recruitment monitoring has expanded in the last couple years, adding invertebrate collections (commercially important crabs and urchins), and fish recruitment is in the 11th year and has resulted in two recent papers. However, funding for recruitment research has been cut. PISCO and CINMS are partnering on oceanographic data collection on moorings at the islands but funding for the data processing is at risk. Jenn noted that 2010 was a good year for rockfish recruitment.

Dan Richards announced that the park seabird monitoring program is hiring a biologist with funding from the Montrose program. They are conducting sandy beach monitoring once a year at Santa Rosa Island (sand crabs, beach hoppers), and would like more information on Pismo clams. In the rocky intertidal there is emphasis on revamping databases, catching up on reports, handbook revision, and continuation of regular monitoring in the fall. Funding is coming from NMFS for black abalone work, including movement, survival, and recruitment modules for black abalone (hope for more input for current settlement). The marine program has grown in the National Park Service over the last couple of years, with emphasis on climate change, discussion on coordination, and setting up pH monitoring.

Ian Tanaguchi reported on the progress on a San Miguel Islands red abalone fishery. The process is still ongoing with four options on the table. Decision making has been put on hold until a new risk assessment model can be developed. Ian described some of the process and research that has been done in the past including withering foot studies and translocation or outplanting studies for some species. The group also discussed where abalone recovery has been observed.

David Kushner reported that long term kelp forest monitoring has continued at 33 sites, which includes sites that were established to look at MPA analysis. Data is available to look at comparative analysis. David reported on his observations of *Sargassum horneri* and abalone at the islands, and on the park's work with PISCO on developing a new data map.

Carol Blanchette reported that PISCO funding has run out of funding for intertidal work, and thus intertidal work at Santa Cruz Island is in jeopardy of ending. However, they have a good dataset of intertidal recruitment since 1995 that they are using to look at climate signals. They are also working on ocean acidification as part of project with Libe Washburn and Gretchen Hoffman, measuring pH in nearshore and intertidal sites. Carol is working on the Outreach Center for Teaching Ocean Science (OCTOS) and they applied to the state for Proposition 84 money.

Donna Schroeder announced that BOEMRE has been directed to restructure, and at the end of the year will be BOEM (Bureau of Ocean Energy Management) and BSEE (Bureau of Safety and Environmental Enforcement). The West Coast Regional office in Camarillo is responsible for renewable energy strategies in the ocean, such as wind, tidal, and current. Donna announced that there is an oceanographer vacancy at BOEMRE and the job announcement can be found on USAjobs. They have recently hired a marine archaeologist/biologist who will be working on creating an inventory analysis of coastal and submerged resources, a georeference database on shipwrecks, looking for prehistoric site potential, and identifying a database of coastal historic properties. They also have a partnership with USGS for mapping OCS in the Santa Barbara Channel area, and looking at the southern sea otter range expansion and interaction with manmade structures. Additionally, partnerships with NPS, USGS and UCSC hope to make use of long term databases to understand human interaction with changes in kelp forests. There is also work on seabird, marine mammal abundance, and benthic communities up north. They are also continuing submersible sub surveys.

Research projects that inform MPA effectiveness

The participants identified the following activities that could inform MPA effectiveness if a ten –year review is held in 2013:

a. PISCO research: fish surveys, oceanographic monitoring, recruitment studies
b. Hunter Lenihan lab: MPA related and fisheries management work looking at grass rockfish and lobster.
c. Landsat data can provide information for kelp biomass changes.
d. SAMSAP can be analyzed to look at vessel patterns in response to MPA implementation.
e. Jenny Dugan, sandy beach monitoring.
f. Volunteer Citizen Science: Reef check and REEF. Both programs are active.
g. Collaborative fisheries research. Currently not a lot going on but Peter Nielson will be distributing an RFP for collaborative research funding.

Discussion: The group also discusses some projects that had been designed for MPA analysis but are now not funded, such as the CDFG ROV surveys. Also, a participant commented that south coast monitoring funding is not divided equally across ecosystem features.

Public comment

- (Name unknown) There have been several deaths associated with MPA positioning in Guam related to boat strikes on freedivers.
- Paul Petrich asked about the condition of scallops and David responded that there is some temporal variation of scallops, with a greater abundance inside reserves. He doesn't think the population is under any threat. Jenn also says recruitment is variable, and scallops are spatially patchy.

CINMS Science Needs Assessments

Steve Katz stated that the research department at CINMS has obligations to a larger organization and also community expectations. At the same time they have limited resources and diverse needs. Steve presents some information and products that explain how CINMS manages those interests and prioritizes research. The condition report, management plan, and science needs assessments all shape the research departments priorities. Other drivers include: legal mandates (e.g. NMSA, ESA), community input, and ONMS headquarters initiatives. There are also a series of reporting requirements. CINMS is looking at all of these drivers and needs in a holistic way.

Dani Lipski continued by introducing the science needs assessment to the RAP. The science needs assessments were developed for all sanctuaries by site staff and they identify what information is needed to make management decisions at the site. CINMS science needs include: Climate Change, Habitat Characterization, Protected Species, Water Quality, Marine Zoning Monitoring, Deep Water Monitoring, Invasive Species, Human Dimensions, Informatics, Science-based Decision Support Protocols. Dani stated that the science needs assessments are meant to be shared with interested researchers, such as the RAP, so that the community knows what our management needs are. At the same time, it is important for CINMS to listen to the research community and understand where the gaps are. Science needs assessments are available at: http://sanctuaries.noaa.gov/science/assessment/cinms.html