

WORKSHOP SUMMARY | February 21, 2013

Joint Sanctuary Advisory Council Workshop to Inform Proposed Boundary Expansion

Workshop in Brief

Seaweb convened the Advisory Councils of the Gulf of the Farallones National Marine Sanctuary (GFNMS) and Cordell Bank National Marine Sanctuary (CBNMS) to identify, discuss and prioritize issues related to the recently proposed boundary expansion for each sanctuary. The workshop further informs the public scoping and environmental review process currently underway. Presentations and workshop activities responded to an assessment of council member interests and perspectives on key issue areas. Collaborative discussions centered on identified topics of interest, including science needs and assessments, alternative energy and aquaculture. Workshop outputs will help inform the environmental review and decision-making process on the boundary expansion.

Gulf of the Farallones National Marine Sanctuary: <http://www.farallones.noaa.gov>

Cordell Bank National Marine Sanctuary: <http://www.cordellbank.noaa.gov>

SeaWeb: <http://www.seaweb.org>

Action Items

Timeframe	Name	Action Item	Status
Late February	SeaWeb	Adjust language of assessment PPT for public viewing	Done
Late February	GFNMS, CBNMS	Post workshop presentations on Sanctuary websites	Done

Review of Public Scoping and Draft EIS Process

Sanctuary Superintendents Maria Brown (GFNMS) and Dan Howard (CBNMS) described the history and contextual background of the proposed boundary expansion.

Following NOAA's announcement of the proposed boundary expansion in the federal register in December 2012, the GFNMS and CBNMS launched a review process to identify the scope of issues for the proposed expansion, and prepare a draft environmental impact statement (DEIS) with public input. CBNMS Superintendent Dan Howard provided an overview of initial comments received by the public to date. The deadline to provide comments as part of the scoping effort is March 1. Comments can be viewed online [here](#). A first draft EIS is expected by June and will be made available for public comment by November 2013. A final EIS, including any new rulemaking and associated regulatory changes, will be completed by July 2014.

Assessment of Council Member Interests

SeaWeb and Seatone Consulting conducted a brief assessment of council members' interests and perspectives on key issues as a means to develop the workshop objectives and agenda. Shared at the January 24, 2013 joint council meeting, the assessment specifically asked members to identify: 1) top issues to consider under the proposed expansion, 2) potential new marine activities in the area, and 3) information needs to improve understanding of identified issue areas. Daria Siciliano, Director of Science at SeaWeb, presented the findings and described how results helped identify guest speakers and shape discussions on member identified topics of interest. Questions and comments on the assessment findings elicited discussion on the following:

- Need for minor language amendments in the Q2 slide before public distribution
- Concern about new activities conducted in proposed expansion areas – no new activities is an option favored by a number of council members
- Relationship of EIS process to subsequent management plan review
- Need to apply ecological criteria in defining new boundary areas

Informational Presentations

The assessment revealed numerous informational requests by council members. In response, SeaWeb, Seatone and the Sanctuaries superintendents identified several guest speakers with expertise in the selected key issue areas to present at the February workshop. The guest speakers presented on a range of issues, outlined below. Each presentation will be made available on the sanctuary websites. The presentations addressed:

- ***Oceanography of the North Coast of California.*** John Largier of the U.C. Davis Bodega Marine Lab presented research that illustrates the California Current ecosystem, including the Gulf of the Farallones, as a productivity hotspot and demonstrates Point Arena as the central upwelling area for nutrient rich waters that feed the proposed expansion areas off the north coast.
- ***Using Seabirds and Habitat Features to Identify ‘Hotspots’ in the California Current.*** Jaime Jahnke of PRBO Conservation Science presented research that identified seabird hot spots in the California Current and how current and proposed human activities interact with these areas.
- ***Feasibility Studies for Hydrokinetic Energy in California.*** Cordel Stillman of the Sonoma County Water Agency shared results of the agency’s Alternative Energy Working Group, described issues and challenges the group considered, and reviewed emerging technologies and associated permitting processes.
- ***Coastal Aquaculture in California.*** Kirsten Ramey of the Department of Fish and Wildlife (CDFW) provided an overview of coastal aquaculture operations in California, described the permitting and regulating process for the industry, and reviewed potential environmental impacts.

Working Groups

Following the informational presentations, council members engaged in a collaborative small group exercise to discuss key topics of interest. Three stations addressed the most common issue areas identified during the assessment: science needs and assessments, alternative energy and aquaculture. Members were encouraged to treat the session as an exploratory discussion aimed at generating ideas for the scoping and EIS process. A set of questions for each station guided group discussions and produced the following outputs:

Science Needs and Assessments

How can currently available scientific information be utilized to inform what activities do or do not take place within the sanctuary boundaries or proposed boundaries?

- Seek to understand the ecosystem so as to not produce a management plan that negatively impacts the area
- Determine location/allowance of new activities as a means to inform management
- Utilize socioeconomic data as needed to develop management strategies
- Utilize scientific data to determine net environmental and socioeconomic benefits

- Allow stakeholders the opportunity to submit scientific information for consideration; also anecdotal fishing information

What type of additional science activities (e.g. programs, research efforts, monitoring etc.) are needed to best inform future management of the sanctuaries?

- Determine what science exists in the new area
- Conduct a science activity gap analysis and avoid duplication of efforts
- Identify ecological services (i.e. valuation of ecological services)
- Assess population changes (predators and prey) outside the sanctuaries and the influences inside the proposed boundary area
- Develop partnerships with current research partners/institutions in the area

At what different spatial scales should scientific assessments be carried out to address the needs of different ecological communities within the sanctuary boundaries or proposed boundaries?

- Define sanctuary boundaries by the upwelling system and areas of influence
- Determine sea flow substrate characterization for the proposed boundary area
- Identify microhabitats at the proper scale
- Expand access to the proposed boundary area with an appropriate research vessel
- Consider management capabilities (e.g. enforcement, socioeconomic, research)

What areas, from currently available data, should the sanctuaries pay particular attention to safeguard in terms of wildlife distribution in the proposed sanctuary boundaries?

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|--------------------------------|-------------------|
| • Cetacean migration corridors | • Rocky substrate |
| • Seabirds | • Offshore rocks |
| • Estuaries | • Kelp forests |
| • Pinniped haul outs | • Sandy beaches |
| • Marshes | • Sandy bottoms |

What research and mitigation activities need to be considered to address the effects of climate change in the proposed sanctuary boundaries?

- See all of the above for research and adaptive management
- All invasive species
- Changes in ocean circulation
- Target specific threats for some species in the proposed boundary area
- Research for climate change effects (e.g. if fishing and climate change are both producing negative effects, reducing fishing may help mitigate change)

Identify social and economic uses of the proposed expansion area that might be either compatible or potentially in conflict with ecological needs of the proposed expansion area, and potential trade-offs and solutions.

- Shipping compatible with research activities as long as it does not take place in wildlife distribution hot spots
- See all activities list above and responses to other questions

Alternative Energy

What opportunities, if any, could come from alternative energy development within the boundary area of the GFNMS and/or CBNMS?

- Context for discussions: group considered both positive and negative opportunities
- Currently no proposals exist for alternative energy development in the proposed

- boundary expansion area
- Potential land-based growth opportunities for coastal communities
- Reduction in greenhouse gas emissions – free energy source
- Wave energy likely more probable than wind energy
- Lack of shore-based infrastructure to support alternative energy development
- Self-contained on-board manufacturing
- Voltage drop between generation and distribution
- Population density inverse to generation opportunities
- Evaluation of the issue may benefit from the workshop document, “Ecological Effects of Wave Energy Development in the Pacific Northwest”

What threats or impacts, if any, could result from alternative energy development within the boundary area of the GFNMS and/or CBNMS?

- Habitat alteration may result in detrimental effects due to night lighting, anchorage, fishing exclusion, navigational hazards, sediment transfer and inappropriate siting
- Potential for eroding existing sanctuary regulations and protections
- Disturbance to seafloor (currently prohibited)
- Discharge from equipment in sanctuaries (currently prohibited)
- Impacts from electromagnetic fields and noise on marine mammals, fish etc.
- Entanglement of marine mammals (e.g. whales)
- Impacts to littoral sand transfer
- Impacts on different constituencies
- Visual blight

How might alternative energy development affect my constituency? (Explore based on which constituencies are present in discussion)

- Not in my back yard (NIMBY): visual blight, ecosystem impacts, loss of property values
- Navigation and access concerns: fishing, shipping, whale watching, tourism etc.
- Impacts to popular recreational sites (e.g. surfing, SCUBA, free diving)
- Potential conflicts with Marine Mammal Protection Act and Endangered Species Act
- Ocean health impacts, oceanographic/ecosystem/food web impacts
- Exercise precautionary principle inside sanctuaries
- Burden of proof regarding impacts lies on the developer

How could the sanctuaries best determine what impacts (positive or negative) may come from alternative energy development within sanctuary boundaries?

- Consider how renewable energy would affect different constituencies
- Evaluate the many issues related to habitat alteration
- Assess how to provide the best opportunities for future siting and design of alternative energy development
- Remember that energy efficiency is critical

If alternative energy is proposed within the sanctuaries, what steps need to be taken to properly evaluate any proposal?

- Prepare a federal environmental impact statement (EIS); allow public input
- Follow the California Environmental Quality Act (CEQA) process; allow public input
- Conduct an economic impact study
- Conduct a scientific evaluation of impacts to habitat, species etc.

What information is needed to properly evaluate any potential alternative energy development proposal?

- Address numerous information needs and gaps
- Collect baseline data
- Conduct a literature search on offshore energy development and its associated benefits and impacts
- Conduct outreach to local researchers to identify/acquire unpublished research
- Collect Ocean Observing System (OOS) data

How can science help evaluate any potential alternative energy development proposal?

- Improve understanding across a range of areas: pelagic and benthic habitats, marine birds, and marine mammals; fisheries and fishing
- Improve understanding of development impacts: energy absorbing structures, chemical effects, hard structures and lighting, acoustics, electromagnetic fields, submarine nets
- Consider impacts to shipping
- Evaluate proposals based on a systematic view and consider cumulative effects

Aquaculture

What opportunities, if any, could come from aquaculture development within the boundary area of the GFNMS and or CBNMS?

- Context for discussions: potential for aquaculture in the region is currently unknown
- Economic opportunities: jobs
- Water quality improvement, depending on aquaculture type
- Decreased pressure on natural stocks, depending on aquaculture type
- Reduction in carbon footprint via less vessel traffic
- Food production
- Potential tourism benefits
- Potential educational opportunities
- Potential research opportunities

What threats or impacts, if any, could result from aquaculture development within the boundary of the GFNMS or CBNMS?

- Interaction with native species (e.g. invasive species introduction)
- Disease
- Nutrient loading/waste
- Forage fish population impacts
- Habitat/seafloor impacts (e.g. anchoring, infrastructure, shading)
- Carbon footprint, traffic, runoff
- Aesthetic impacts
- Tourism impacts
- Concentration of pinnipeds
- Interference with species migrations
- Introduction of antibiotics in the environment
- Anaerobic events resulting from too much waste

How might aquaculture development affect my constituency? (Explore based on which constituencies are present in discussion)

- Adds layer to California Department of Fish and Wildlife (CDFW) permitting process

- for aquaculture; first three miles only
- All potential benefits and negative impacts listed above
- Conduct in freshwater (e.g. tilapia) and not in marine sanctuaries
- Economic competition/native fish interactions
- Location in shipping lanes
- Not appropriate in marine sanctuaries

How could the sanctuaries best determine what impacts (positive or negative) may come from aquaculture development within sanctuary boundaries?

- Environmental science research
- Socio-economic studies
- Partnerships with agencies/institutions who have expertise/data related to impacts
- Be precautionary! Why do this in a marine sanctuary?
- Full federal EIS; allow public comment

If aquaculture development is proposed within the sanctuaries, what steps need to be taken to properly evaluate any proposal?

- Read CDFW draft aquaculture guidelines to ensure consistency with state regulations
- Evaluate all available research relevant to aquaculture type and location
- Current regulations do not allow aquaculture; concern that changing regulations would potentially derail expansion process
- Possible that not dealing with this issue could also derail proposed expansion if there is a constituency that leverages aquaculture interests against the process
- Issue should be dealt with in the future separate to the expansion process
- Full federal EIS; allow public comment

What information is needed to properly evaluate any aquaculture development proposal?

- Apply the already existing state process (CEQA/CDFW permitting)
- Habitat impacts
- Geographic area of impacts
- Socioeconomic
- Potential for escapement
- Disease transfer
- Interactions with native species
- Why do this in a marine sanctuary?

How can science help evaluate any potential aquaculture development proposal?

- Fund more science
- Do not see how this is possible
- Evaluate effects of waste stream

Additional comments

- Opportunity for experimental permitting of aquaculture under a research permit
- Should not assume anchors are needed for aquaculture facilities (e.g. floating pens)
- Identify whether impacts are less from certain forms of aquaculture (e.g. algae; diatoms versus fishes; lower on the food chain better?)
- Inquire how salmon fits; fry currently introduced now; open river mouths?

Open Plenary Discussion

During the afternoon open plenary discussion, each station provided a summary report of discussions to the full group. A few council members noted the absence of current permit applications for alternative energy and aquaculture development. Some suggested inclusion of an “anticipated future uses” section in the draft EIS versus a full exploration of these development issues. Others suggested that a literature review, as part of the EIS process, might reveal ideas and options for how the sanctuaries should structure a robust research program. In the concluding remarks, GFNMS Superintendent Maria Brown noted that all comments received during this workshop constitute an integral part of the scoping process. The workshop outputs, along with feedback received at public scoping meetings, will be organized into categories and used to develop the draft EIS.

Workshop Participants

Jaime Jahnke	CBNMS Council Member – Research; GFNMS Council Alternate - Research
Sarah Hameed	CBNMS Council Alternate – Community at Large – Sonoma County
Richard Charter	GFNMS Council Member – Conservation
Clare O’Reilly	GFNMS Council Member – State Government Alternate
Bob Wilson	GFNMS Council Member - Conservation
Rich Kuehn	GFNMS Council Alternate – Community at Large – Sonoma County
Peter Adams	CBNMS Council Alternate – Research
Kevin Krick	CBNMS Council Member – Maritime Activities
John Berge	CBNMS Council Alternate – Maritime Activities
Jackie Dragon	GFNMS Council Alternate – Conservation
Dominique Richard	GFNMS Council Member – Community at Large – Sonoma County (Chair)
Maria Brown	GFNMS Superintendent
Barbara Emley	GFNMS Council Member – Maritime Activities (Secretary)
Bill Wolpert	CBNMS Council Member – Community at Large – Sonoma County
Cordel Stillman	Sonoma County Water Agency
John Largier	GFNMS Council Member - Research
Jan Rollelo	GFNMS staff
Max Delany	GFNMS staff
Tim Reed	GFNMS staff
Lilli Ferguson	CBNMS staff
Dan Howard	CBNMS Superintendent
Leslie Adler-Ivanbrook	CBNMS Council Member – Education
Kirsten Ramey	California Department of Fish and Wildlife
George Clyde	CBNMS Council Member – Community at Large – Marin County (Vice Chair); GFNMS Council Alternate – Maritime Activities

Workshop Convener

Daria Siciliano	SeaWeb
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Workshop Facilitator

Rich Wilson	Seatone Consulting
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