

**Ocean Protection Council Meeting
October 25, 2007
Public Comment**

Date	Name	Affiliation	Subject of Communication
October 22, 2007	John Laird	Assemblymember, 27 th District	Comments on OPC 2008 Proposed Funding Priorities
October 25, 2007	Steering Committee	Oregon Wave Energy Ecological Effects Workshop	Recap of Wave Energy Ecological Effects Workshop
October 25, 2007	David Kossack	San Andreas Land Conservancy	Cumulative Barriers to Fish Passage



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The California Ocean Protection Council
Secretary Mike Chrisman, Chair and Members
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RE: Comments on OPC 2008 Proposed Funding Priorities

Dear Chair Chrisman and Council Members:

I am writing to comment on the California Ocean Protection Council's (OPC) 2008 Proposed Funding Priorities which are on the October 25, 2007 agenda for comment and possible approval. I am a strong supporter of the OPC and its mission of interagency coordination on ocean issues, and the importance of funding critical needs for ocean research, protection and education. In general, the projects and programs selected by OPC staff for funding are consistent with the OPC Strategic Plan. However, I believe there is a need to revise the priorities to better direct the funding to high priority activities where other state and federal funding is not available, and to activities that are ready for funding. In addition, I believe the OPC should provide funding for all the OPC goals identified in the Strategic Plan. My specific comments are provided below.

\$3 million proposed for Climate Change (Item #1)

As the OPC is aware, I am very interested in taking action to address the impacts of climate change – specifically sea level rise – on coastal areas and the ocean. AB 1066 (2007) was drafted to support the OPC role in this area by requiring the OPC to develop planning guidelines for state and local agencies. Although AB 1066 did not make it to the Governor, I hope to work next year with the OPC to identify policy changes that could be used to assist state and local governments preparing for potential impacts associated with sea level rise.

Regarding the proposed \$3 million in the current year – I would also like to work with the OPC to better understand how these funds will be spent. Specifically, it is important to understand what the relationship is between the proposed \$3 million and the previous \$500,000 climate change allocations by OPC for the Shoreline Impact Assessment project funded in June 2007. In addition, the OPC proposal for spending the \$3 million will not be known until after the spring 2008 OPC meeting -- so I believe it is appropriate to delay the funding to the following fiscal year after more information on content and amount is known.



\$7.5 million proposed for Coastal Runoff and Water Quality (Item #4)

I agree with the concerns raised by the OPC regarding coastal runoff and water quality impacts. In fact, this year I authored AB 739 which the Governor recently signed and which identified the funding priorities for the Proposition 84 and Proposition 1E stormwater grants –totaling \$390 million. These are new programs for both the State Water Resources Control Board and the Department of Water Resources.

While I strongly support funding for stormwater and coastal runoff, there is significant funding currently directed to these issues by other state agencies. This is an opportunity for OPC to play a significant role in coastal runoff issues by ensuring the priorities and interagency coordination of the current state programs is assisting in meeting the objectives of the OPC. It may more appropriate for the OPC to delay funding for coastal runoff for another year until after the new SWRCB and DWR programs are initiated and gaps have been identified that are best filled by OPC.

Recommendations for Additional Funding

1. I recommend the OPC provide funding to advance the Marine Life Management Act (MLMA) in order to support sustainable fishery management and fishery management plans. My understanding is that this program is a critical component of ocean ecosystem restoration and it is significantly underfunded.
2. The OPC has developed a Five-Year Strategic Plan to guide the priorities for the Commission. To ensure that all the objectives of the Strategic Plan are addressed, I recommend that funding be directed at all OPC priorities. The current funding priorities fail to support funding for two of the OPC goals – Physical Processes and Habitat Structure, and Education and Outreach. Therefore, OPC should identify funding amounts for these two goals this year.

Thank you for the opportunity to comment on the OPC Funding Priorities. The OPC is an excellent example of progressive and innovative government and I intend these comments to be supportive rather than hinder the OPC as they continue in that direction.

Sincerely,



JOHN LAIRD

Assemblymember, 27th District



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To: The California Ocean Protection Council:
Chair, Secretary for Resources Mike Chrisman
Member, State Lands Commission Chair, Lieutenant Governor John Garamendi
Member, Secretary for Environmental Protection Linda Adams
Member, Susan Golding, CEO and President of the Golding Group
Member, Geraldine Knatz, Executive Director of the Port of Los Angeles
Member, Senator Darrell Steinberg
Member, Assemblymember Pedro Nava

From: Steering Committee, Oregon Wave Energy Ecological Effects Workshop

RE: Recap of Wave Energy Ecological Effects Workshop

Dear Secretary Chrisman and Ocean Protection Council Members,

In the spirit of the West Coast Governor's Agreement on Ocean Health, and because there are potential wave energy projects off the coast of both Oregon and California, we would like to share with you some initial findings from the *Wave Energy Ecological Effects Workshop* we organized at Hatfield Marine Science Center in Newport, Oregon, on October 11-12, 2007. The state of Oregon is interested in developing the capacity to harvest wave energy off its coast as a clean, renewable resource. As this industry develops, part of the discussion should include assessing the potential effects of wave energy technology on the ecological and physical components of our coastal ecosystems. We addressed such issues in our workshop, and below we offer some initial findings. We would be happy to provide a more in depth overview of the findings which will be published as a NOAA Technical Memorandum available in early 2008.

Wave Energy Ecological Effects Workshop

A diverse group of marine scientists from around the country worked to a) develop an initial assessment of the potential impacting agents and ecological effects of wave energy development along Oregon's coast, and b) develop a general conceptual framework of physical and biological relationships that can be applied to specific wave energy projects. To accomplish these goals, we utilized a series of break out sessions to determine:

- 1) What do we know about important wave energy parks and their associated components (such as cables, anchors, buoys) and their effect on the physical and biological components of the ecosystem?
- 2) What don't we know about these relationships, including an identification of key information gaps,

- 3) What is the level of uncertainty, or level of agreement, among scientists about these interactions,
- 4) Can we prioritize important ecological issues (e.g., key interactions), and
- 5) What studies, monitoring, or mitigation measures should be employed to help minimize effects?

Information from each breakout session is currently being vetted and synthesized. Below we offer the initial key findings from each group as reported during the workshop.

RECEPTORS (i.e., ecosystem components that may be affected by wave energy projects)

Physical Environment

Potential impacts:

- Potential significant wave reduction resulting from wave energy production, with possible beach effects (e.g., changes to sediment transport processes)

Ways forward:

- Pilot projects to understand and model wave reduction effects
- Develop mitigation for physical changes through analysis of project geometry, density and distance from shore
- Buoys should not be placed in “sensitive area” (i.e., closer to shore than 40m depth)

Pelagic Habitat

Potential impacts:

- Buoys will likely have a minimal impact on planktonic species
- There could be positive effects on forage fish spp (attracting larger predators)
- Adding structure may induce increased settlement of meroplankton species

Ways forward:

- Structures should minimize loose lines to minimize entanglement of turtle species
- Understand the electro-magnetic field (EMF) effects is important (effects are currently unknown)

Benthic Habitat

Potential impacts:

- Wave energy development can have a large effect on water circulation and currents
- Current changes would effect larval distribution and sediment transport (both on benthos and on beaches)
- Fouling community growth on buoys, anchors, and lines may adversely affect benthic environment if deposited and accumulate on seafloor (e.g., sloughing off or by routing maintenance of mooring lines, buoy structures)

Fish Effects

Potential impacts:

- Wave energy development can affect community structure through changes in species composition and predator effects (e.g., attraction of predators that were previously absent)
- New structures may affect migration corridors (e.g., salmon, Dungeness, elasmobranchs, cetaceans)
- There could be potential behavioral effects through EMF, chemical, and acoustic inputs

Ways forward:

- Establish wave energy demonstration study sites to reduce uncertainty of effects (applicable to all receptors)

Seabirds

Potential impacts:

- Lighting and above water structure may result in collisions with and attraction to buoys
- Impact to seabirds may alter food webs and beach processes (affecting shorebirds)

Ways forward:

- Data gaps that need to be filled include spatial and temporal abundance of birds; bird activity at night; hotspots for birds to be avoided; important migration patterns

Marine Mammals

Potential impacts:

- Mooring cable design (slack v. taught; horizontal v. vertical; diameter) may impact magnitude of entanglement incidents.

Way forward:

- Synthesize basic baseline data (mammal biology, presence/absence/species diversity; information on prey species) to understand potential impacts in both the short and long-term
- Monitor cetaceans (e.g., videography, beachings, tagging, vessel surveys) to understand how they interact with wave energy facilities

STRESSORS (i.e., wave energy structures and their associated components placed in the marine environment)

Energy Absorbing Structures

- Since energy absorbing structures (e.g., buoys, wave snakes, etc) affect a suite of receptors, they should not be established within sensitive habitats and areas (inside 40 m is very sensitive economically and ecologically; best to stay outside 100 m)
- Working ahead of time with industry can minimize impacts

Chemical Effects

- Need to understand the difference between chemical spills versus continuous release of fouling paints when addressing chemical impacts
- Critical uncertainties exist, including: What are the toxic compounds to be used? How much could be released? How will receptors respond? Where is the contaminant going to go?
- There is a need for baseline and control sites, which could include sampling multiple sites in time and space to understand full impacts
- There is a need to understand effects at community level—do these bioaccumulate?
- Chemical movement is dependent upon currents, and can potentially move over large areas.

New Hard Structures and Lighting

- The industry must consider mitigation measures for devices breaking loose and debris accumulation
- Important regulations under the Endangered Species Act, Essential Fish Habitat, Marine Mammal Protection Act, and the Migratory Bird Treaty Act must be closely followed as industry develops
- It is important to understand how new hard surfaces may change bottom communities (organic inputs, etc)
- Monitoring efforts need to be attached to the first large scale project to be used as a model for future projects
- Identify where important environmental hotspots are that can be avoided.

Acoustics

- Critical to understand impact of noise generated by the buoys/cables.
- It is possible to model noise from the buoys/cables of various scales of wave energy projects to assess impacts
- Wave energy facilities, depending on their size and layout, could create a sound barrier that mammals would avoid
- Determine which fish species are especially sensitive to acoustics, and how these projects could impact them.

Electromagnetic Field (EMF) Effects

- Both induced and galvanic energy fields are of concern
- EMF is most likely to affect animals that use EMF fields for orientation or feeding
 - o Induced or galvanic energy field are likely to affect feeding
 - o Magnetic field is likely to affect orientation
- Salmon, crab, sturgeon, and sharks and rays (add albacore for offshore waters) are the species most likely to be affected
- Major areas of uncertainty exist on the effect of EMF on receptors
- Before and after baseline local magnetic field assessment is needed
- Controlled experiments are difficult and complex (confounded with other stressors)

- The workgroup recommends the use of the Collective Offshore Wind Research Into the Environment (COWRIE) experiments as a guide to value of stressor-response experiments with local species
- Mitigation against EMF (armoring and trenching) is likely effective for cabling; needs to be a demonstration of Faraday cage effectiveness in the field for generation devices and subsea (rectifying) pods

System View/Cumulative Effects

- As projects scale up, risks become a function of the extent, density and duration of project operation
- Need to be establish impact thresholds
- Adaptive management is critical to address long term impacts
- As projects scale up, other activities can be displaced (e.g., fishing pressure allocated to other areas; may force whales to alter migration paths, etc)
- It is important to think broadly about cumulative effects when assessing impacts

This only provides a snapshot of the workshop's activities—more information will be available shortly, and will ultimately result in the publication of a NOAA Technical Memorandum.

We thank you for your time, and encourage you to contact any of the Steering Committee members if you have questions regarding the workshop or the content of this letter.

Sincerely,

George Boehlert, Director, Hatfield Marine Science Center, Oregon State University

Robin Hartmann, Ocean Program Director, Oregon Shores Conservation Coalition

Maurice Hill, Minerals Management Service, OCS Alternative Energy Coordinator

Justin Klure, Interim Director, Wave Energy Trust

Greg McMurray, Marine Affairs Coordinator, Oregon Department of Land

Conservation and Development

John Meyer, Program Associate, Communication Partnership for Science and the Sea

Cathy Tortorici, Chief, Oregon Coast/Lower Columbia River Branch, NOAA-NMFS

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Mr. Mike Chrisman
Secretary for Resources
Council Chair
Ocean Protection Council

Public Comment for October 25, 2007 meeting

Re: Cumulative Barriers to Fish Passage. A request for an Ocean Protection Council (OPC) motion directing CalTrans to assess changes in hydrologic and geomorphic processes as a result of SR-1 bridges and approaches through coastal estuaries, lagoons and other wetlands.

Dear Mr. Chrisman and Council Members:

Bridges along California State Route 1 (SR-1) are notorious in their impact to coastal estuaries and lagoons critical to coho, steelhead, tidewater goby and numerous other native species. SR-1 stream crossings typically consist of long approaches filling huge tracts of estuaries and narrow concrete bridges that strangle hydrologic and geomorphic function. The cumulative impacts of these bridges has been to vastly reduced estuarine extent spatially as well as ecological function through a loss of complexity.

Built 50 to 75 years ago many of these bridges currently need replacement, as an example the bridges at Waddell and Scotts Creeks in Santa Cruz County were identified for replacement 10 years ago; only now are these projects being discussed. SB857-Kuehl Fish Passage identifies 5000 coastal stream crossing, if only 10% of these are associated with SR-1 that's 500 estuaries damaged by SR-1 bridges and their approaches. Most SR-1 bridges will require replacement within the next 25 years.

This is a singular opportunity to remove CalTrans bridges and their approaches from the floodplain of these watersheds for the restoration of coastal estuaries and lagoons. These are critical habitat for salmonids and the recovery of these ecosystems is essential for their survival. This is a timely issue, Peter Douglas, Executive Director, CA Coastal Commission stated that an increasing number of bridges replacements are coming before the Commission. **We ask that the OPC pass a motion directing CalTrans to assess changes in hydrologic and geomorphic processes as a result of SR-1 bridges and approaches through estuaries, lagoons and other wetlands and their contribution to cumulative barriers to fish passage consistent with SB857 Kuehl-Fish Passage.** Supporting documents have previously been provided to Bill Craven, Andrea Graham, Drew Bohan, Sam Schuchat, Neal Fishman and Ed Imai.

Sincerely

David S. Kossack