CALIFORNIA OCEAN PROTECTION COUNCIL

John Laird, Secretary for Natural Resources, Council Chair
Matt Rodriquez, Secretary for Environmental Protection
Gavin Newsom, Lieutenant Governor, State Lands Commission Chair
Robert Hertzberg, State Senator
Mark Stone, State Assemblymember
Michael Brown, Public Member

MEMORANDUM

Item 5

TO: California Ocean Protection Council
FROM: Paige Berube, Jenn Phillips, Chris Potter and Holly Wyer
DATE: November 1, 2017
RE: Update on Ocean Protection Council's Proposition 84 Competitive Grant Program

OPC's Proposition 84 Competitive Grant Program

At the August 2017 Ocean Protection Council (OPC) meeting, the OPC authorized a disbursement of $7,000,000 to be split equally between the California Sea Grant College program and the University of Southern California (USC) Sea Grant program to fund and administer scientific research projects that support the OPC's strategic plan and priorities. These disbursements would be subject to the condition that projects selected through these review processes would be presented to the Council for final concurrence.

Eligible applicants for this competitive grant program include public agencies, nonprofit corporations, or private entities subject to Public Resources Code Section 35650, as stated in OPC's Proposition 84 Grant Funding Procedures. The California Sea Grant Program and the USC Sea Grant Program will administer the competitive grant program which will inform and improve management decisions affecting the ocean and coastal environment.

About the California Sea Grant Program and USC Sea Grant Program:
The two Sea Grant programs have expertise in administering competitive grant programs and have experience in establishing robust processes for evaluating, prioritizing, and conducting grant management activities to advance research grants related to coastal and ocean resources. The Sea Grant programs will advertise, receive proposals, administer the proposal review process, and oversee grant management during project implementation. Throughout the process, OPC staff will work closely with the Sea Grant Programs to ensure the research projects address the priorities of the Council.

Below are priority topic areas, organized by six broad focus areas (ocean acidification and hypoxia & other changes in ocean conditions from a changing climate; sustainable fisheries and aquaculture; sea-level rise adaptation & coastal resilience; coastal sediment management; marine pollution; and marine renewable energy).

Priority Topic Areas Administered by the California Sea Grant Program:
Ocean Acidification, Hypoxia & Other Changes in Ocean Conditions from a Changing Climate – Proposals focused on ocean acidification, hypoxia and other changes in ocean conditions will further California's and the Ocean Protection Council's leadership in this field. In particular,

research and projects that focus on the effect of ocean chemistry on critical fisheries and ecosystems, and on the adaptive capacity of organisms and ecosystems to changing ocean conditions, will support smart and swift management decisions in the face of change. Projects and research should build on the state's previous investments, if possible, and be scalable from the local, statewide, regional, national and international levels so that we continue to translate emerging science into action across all levels of government and policy.

Priority topic areas within ocean acidification and hypoxia & changing ocean conditions include:

- Understanding the effects of changing ocean conditions and ocean acidification on key fisheries and ecosystems to evaluate tolerance to future changes and ability to adapt.
- Evaluating response of fisheries to a changing climate and changing ocean conditions, including ocean acidification, ocean warming, harmful algal blooms, changing currents, changes in salinity and the interactions between these environmental changes.
- Assessing socioeconomic and ecological vulnerability of fisheries and coastal communities to ocean acidification and other changing ocean conditions from a changing climate.
- Promoting co-located biological and chemical monitoring to appropriately assess impacts and fill critical information gaps.
- Advancing swift management actions through testing of local and regional approaches to mitigate or lessen changes in ocean chemistry and the effects of those changes and variability in ocean conditions.

Sustainable Fisheries and Aquaculture – Proposals focused on sustainable fisheries and aquaculture will promote healthy marine ecosystems and sustainable marine fisheries and aquaculture in order to protect California's living coastal and ocean resources, and the communities and economic activities that rely upon them. Projects and research in this area may include, but are not limited to: projects that incorporate an ecosystem-based approach to fishery management; projects that consider the impacts of a changing climate on California fisheries; projects that advance scientific understanding of the impacts of, and opportunities for, aquaculture in state marine waters; and projects that prioritize collaboration with fishery participants and fishing communities to develop strategies to increase environmental and economic sustainability. Projects and research in this area will enhance the State's ability to support innovative, science-based approaches to inform more efficient, effective and streamlined fisheries and aquaculture management.

Priority topic areas within sustainable fisheries and aquaculture include:

- Advancing innovative science-based approaches and tools that inform fisheries management in alignment with the Marine Life Management Act (MLMA).
- Supporting improved efficiency of fisheries data collection, synthesis, and management, and increasing accessibility of fisheries data to support more adaptive decision-making.
- Fostering collaborative research and development among fishermen, managers, and other partners to enhance the economic and ecological sustainability of California fisheries.

- Supporting sustainable fisheries livelihoods through advancing the adaptation of shoreside infrastructure to climate impacts and supporting working harbors, and pilot projects that support sustainable, healthy seafood.
- Advancing scientific understanding of the impacts of, and opportunities for, aquaculture in state marine waters, particularly with respect to minimizing potential impacts on marine species and habitats.

Priority Topic Areas Administered by the USC Sea Grant Program:
Sea-level Rise Adaptation & Coastal Resilience – Proposals focused on sea-level rise adaptation and coastal resilience should assess how the short- and long-term risks from climate change, such as sea-level rise and other changes to our coastlines, will affect populations, ecosystems, and infrastructure. Because of the value of California's coastal areas and our dependence on the coast and ocean for recreation, food, and critical infrastructure, it is important to quantify how climate change will impact our ocean and coasts and how we can best anticipate, and plan and prepare for these climate-related changes. Proposals should explore how natural infrastructure and other adaptation measures ameliorate the climate risks related to coastal erosion, sea-level rise, coastal flooding, and storm surge.

Priority topic areas within sea-level rise adaptation & coastal resilience include:
- Assessing vulnerability of communities, ecosystems, infrastructure, cultural resources, and historic sites to sea-level rise.
- Supporting communities and developing strategies to plan, prepare for, and adapt to the impacts of storm events and sea-level rise to increase the resilience of coastal communities, infrastructure, development, and other resources and to reduce hazards.
- Developing decision-support tools and implementing adaptation measures to help communities with unequal burdens from climate risks or insufficient resources to respond to these risks.
- Implementing adaptation measures to ameliorate risks and impacts related to coastal erosion, sea-level rise, coastal flooding and storm surge while providing protection such as nature-based infrastructure and innovative shoreline design and planning.

Coastal Sediment Management – Proposals focused on coastal sediment management should address sediment as an integral component of the coastal ecosystem, representing a public good that must be managed to provide for quality of life, natural resource protection, and economic sustainability. Projects and research in this area may include, but are not limited to: studies on the potential ecological and economic impacts of coastal sediment management projects (e.g., beach nourishment, wetlands restoration, beneficial reuse of sand, managed retreat); research on effective methods to reduce or eliminate harmful effects of coastal sediment management projects; studies that develop indicators that can improve monitoring methods for beach restoration and other projects using sediment; projects that support implementation of the state's *13 Coastal Regional Sediment Management Plans*; and research projects that will increase the understanding of coastal processes affecting the California coast and natural sediment supply available to the coast.

Priority topic areas within coastal sediment management include:

- Increasing the understanding of coastal processes affecting the California coast and sediment supply available to the coast.
- Assessing the potential ecological and economic impacts of coastal sediment management projects; e.g., beach nourishment, wetlands restoration, beneficial reuse of sand, managed retreat.
- Identifying and assessing the effectiveness of methods to reduce or eliminate harmful effects of coastal sediment management projects.
- Developing indicators that can inform development and monitoring plans for beach restoration projects.
- Implementing the *California Sediment Master Plan*.
- Implementing the state's 13 Coastal Regional Sediment Management Plans.

Marine Pollution – Proposals focused on marine pollution should improve the State's understanding of the sources, loading, and impacts of marine pollutants. Proposals under this program may include, but are not limited to, addressing the following themes: cross-cutting pollution issues, the implications of marine pollution for human health; and projects that advance the State's ability to effectively and cost-efficiently monitor for and assess the impacts of emerging marine pollution problems.

Priority topic areas within marine pollution include:

- Improving our understanding of the effectiveness of actions taken to improve water quality through systematic assessments of coastal and marine receiving waters in the State. Pollutants to consider may include, but are not limited to, stormwater pollution, unregulated pollutants (contaminants of emerging concern), microplastics, nutrients, and toxics.
- Improving our understanding of how climate change may impact existing or emerging marine pollution issues, such as bacterial pathogens and metals, and how to adaptively manage pollution issues as ocean conditions change.
- Improving our understanding of local and regional hotspots of anthropogenic nutrient inputs, and their impacts as drivers of multiple water quality problems, including the types of sources that drive nutrient inputs (runoff, stormwater, or wastewater), and how anthropogenic inputs are impacting coastal and offshore (including deep ocean) biogeochemical processes.
- Advancing assessments of emerging water quality issues that impact human and ecosystem health, including implementing the recommendations of *Framing the Scientific Opportunities on Harmful Algal Blooms and California Fisheries*.
- Using innovative approaches to advance our understanding of how to best protect water quality.

Marine Renewable Energy – Proposals focused on marine renewable energy issues should improve the State's understanding of the potential impacts and feasibility of deploying nascent technologies offshore California that would harvest offshore wind, wave, tidal, and ocean thermal energy for both small-scale and commercial energy production. Projects and research

in this area may include, but are not limited to: research on the potential ecological impacts of deploying any marine renewable technology offshore California and strategies to eliminate or reduce them; studies to develop indicators that will inform marine renewable energy project development and operation monitoring plans; and project and studies that assess the technological, economic, or environmental feasibility of deploying wind, wave and tidal energy devices in California.

Priority topic areas within marine renewable energy include:

- Assessing the potential ecological and economic impacts of wind, wave and tidal energy development offshore California at a specific location/region or statewide.
- Identifying and assessing the effectiveness of methods to reduce or eliminate harmful effects of marine renewable energy projects.
- Developing indicators that can inform project development and monitoring plans for a commercial scale or pilot scale project.
- Assessing the technological, economic, and environmental feasibility of deploying wind, wave and tidal energy devices in California at either a pilot or commercial scale.
- Assessing the potential for reusing outer continental oil and gas facilities to support renewable energy development offshore California.

It is important to note that although marine protected areas (MPAs) are not listed among the priorities above, they remain a top priority for OPC. MPAs have not been included as a priority for this competitive grant process because OPC has several other funding sources that are continuing to support the ongoing management and implementation of California's MPA network, including: 1) $2.6 million of Proposition 84 funds (remaining from $3 million approved by the Council at its June 10, 2014 meeting) to be spent on long-term MPA monitoring; 2) $2.5 million annual allocation of General Fund to support ongoing MPA monitoring; and 3) up to $5.4 million annual allocation of once-through cooling interim mitigation funds to support MPA management including enforcement, compliance, education and research.

Proposal Review Process and Grant Administration Process for Both Programs:
Proposals will undergo a structured and proven review process led by the two California Sea Grant programs. Review panels will be convened to review both the pre-proposals and the full proposal's submissions to the competitive grant program. The review panels will be specific to the focus areas outlined above (e.g. a review panel will be convened for Sustainable Fisheries and Aquaculture, and another review panel will be convened for Marine Renewable Energy) and will score all pre-proposals and proposals using standardized criteria co-developed by the Sea Grant programs and OPC staff. Review panels will include subject matter experts, scientists, and agency representatives. OPC staff will approve membership of the review panels. OPC staff will be involved in all stages of the review process, including the technical review and final decision-making. At its discretion, the OPC may request additional review by likely user groups of the research findings or suggest coordination of complementary proposals. Projects selected through this review process will be brought back to the Council for final consideration of grant awards. Each Sea Grant program will provide all post-award grant administration, including reporting and financial accounting on the grants selected for funding.

Proposition 84 Competitive Grant Program Timeline:
The competitive grant program will include both a pre-proposal and full proposal phases. The request for proposals is anticipated to be posted in early 2018 for about 10 weeks, and the pre-proposal phase will be open during this time. During the pre-proposal phase, in coordination with OPC, Sea Grant will host an informational webinar for prospective applicants to provide background information and application requirements. The request for proposals is anticipated to close in early spring 2018. The pre-proposals will be reviewed by expert panels, including OPC staff, state agency representatives, and scientists, as described above. It is anticipated that applicants will be notified whether they should submit a full proposal in summer 2018. The full proposal submission deadline is anticipated to be in late summer 2018 and the review panels will reconvene for full proposal review in late summer to early fall 2018. OPC staff will return to the Council with recommendations of which projects to fund in late fall or early winter 2018. All projects will be complete by early 2022, and final invoices submitted from Sea Grant to the OPC by June 2022.