

CALIFORNIA OCEAN PROTECTION COUNCIL

Staff Recommendation

November 29, 2012

**SEA LEVEL RISE AND SHORELINE HAZARDS GRANT ROUND  
VULNERABILITY ASSESSMENTS AND LOCAL COASTAL PLAN UPDATES**

File No.:12-055-01

Project Manager: *Mary Small*

**RECOMMENDED ACTION:** Authorization to disburse up to \$2,500,000 to fund competitive grants to create vulnerability assessments, data collection and updates to Local Coastal Programs to help local governments plan for adaptation to sea-level rise and associated climate change impacts along the open coast of California.

**LOCATION:** Statewide

**STRATEGIC PLAN FOCAL AREA:** Climate Change

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**EXHIBITS**

Exhibit 1: Letters of Support

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**RESOLUTION AND FINDINGS:**

Staff recommends that the Ocean Protection Council adopt the following resolution pursuant to Sections 35500 *et seq.* of the Public Resources Code:

“The Ocean Protection Council hereby authorizes disbursement of an amount not to exceed two million five hundred thousand dollars (\$2,500,000) to the Coastal Conservancy to fund competitively selected projects that complete technical assessments, research, and data collection to assist in the development of climate change vulnerability assessments, adaptation plans and updated Local Coastal Programs along the open coast of California. This authorization is subject to the conditions: 1) that the Coastal Conservancy shall coordinate with the Coastal Commission on grant criteria, and 2) that each grant shall be submitted for subsequent review and approval by the OPC prior to the final award of each grant.”

Staff further recommends that the Ocean Protection Council adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the Ocean Protection Council hereby finds that:

1. The proposed project is consistent with the purposes of Division 26.5 of the Public Resources Code, the California Ocean Protection Act.
2. The proposed project is consistent with the Ocean Protection Council's grant program funding guidelines.”

## **PROJECT SUMMARY:**

Staff recommends that the Ocean Protection Council (OPC) approve \$2,500,000 to fund competitive grants to provide funds for local and regional vulnerability assessments and updates to Local Coastal Programs (LCPs) to address sea-level rise, coastal hazards and other climate change-related impacts. Staff from the Coastal Conservancy and the Coastal Commission will develop a competitive grant program to fund projects that conduct technical assessments, analyze vulnerabilities to sea-level rise and update Local Coastal Programs to address future sea-level rise and associated impacts. If approved, staff from these agencies will develop the grant criteria with input from local governments and other partners. The grants will prioritize projects that result in technical assessments essential to development of land use and policy changes addressing sea-level rise, coastal hazards and other shoreline changes related to climate change; or completion of revised land use plans and implementation policies that will be submitted to the Coastal Commission for consideration as an LCP update. Priority will also be given to assessments and plans that can be implemented or that can be used by multiple jurisdictions such as model ordinances. Staff from the Coastal Conservancy and Coastal Commission will present selected projects to the OPC for final approval at a future meeting.

## **PROJECT DESCRIPTION:**

### **Project Background:**

Sea-level rise is already happening and will have significant impacts to the coast of California. As reported at the September OPC meeting, National Research Council (NRC) recently released its report [“Sea-level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future”](#). The report confirms that California has already seen sea-levels rise and is likely to see significant increases in sea-level over the next century. The report also concludes that over the next several decades the most significant impacts will come from the combined effects of sea-level rise and extreme weather event such as the El Nino storm cycles and high tides. El Nino events of 1982 and 1997 caused temporary increases in sea level that combined with storm surges caused significant coastal flooding and erosion. The impacts of these kinds of events will likely be amplified as the sea-level rises. The report concludes that sea-level change has enormous implications for coastal planning, land use, and development along the California coast. The 2009 Pacific Institute study, funded in part by OPC, estimated that without any adaptive planning the economic impacts of sea-level rise by 2100 could exceed \$100 billion.

### Planning for sea-level rise must occur at the local and regional scale

The OPC has played an important role helping state agencies to understand and prepare for sea-level rise. One recurring theme in all of the state’s reports on climate adaptation is the importance of partnering with local and regional entities. This project will allow OPC to advance work at the local and regional scale on this important issue.

Over the past four years, the OPC has provided statewide leadership in understanding and planning for sea-level rise. The OPC coordinates the Coastal and Ocean Working Group for the

Climate Action Team (CO-CAT), comprised of senior level staff from 16 California state agencies. CO-CAT wrote the coastal and ocean chapter of the 2009 California Climate Adaptation Strategy and is currently providing input into the update of the Climate Adaptation Strategy, to be released later this year. Both the 2009 Strategy (and the 2012 update) specifically identify the need to support regional and local planning to address sea-level rise impacts. Similarly, Pacific Institute study highlighted the significant economic impacts and the need to begin adaptation planning at local and regional levels immediately. The Natural Resources Agency and California Emergency Management Agency recently released the California Climate Change Adaptation Policy Guide. This guide also emphasizes the importance of starting to plan for climate change impacts immediately and recognizes the critical role of local and regional jurisdictions in this effort.

In 2011, the OPC adopted the interim sea-level encouraging state agencies to follow the science-based recommendations developed by the CO-CAT in an Interim Guidance Document. These recommendations represent a consensus among state agencies on sea-level rise and are designed to help state agencies incorporate sea-level rise into planning decisions. Earlier this year, the OPC completed a project to collect high-resolution elevation data (LiDAR) for the entire coastline. This data allows for mapping the likely impacts of sea-level rise and extreme events on their communities and resources a level of detail to inform local planning decisions. The LiDAR data is being used by communities from Humboldt Bay to the Tijuana Estuary to understand and start planning for sea-level rise vulnerabilities. While a few communities have begun to work on vulnerability assessments, there is a need for assistance to help complete this work. USC Sea Grant conducted a Coastal California Adaptation Needs Assessment in 2011 which found that local communities understand the need to start planning for climate change impacts but lacked the financial resources to complete this work. These grants will directly address that need.

#### **Project Details and Scope of Work:**

The proposed project would allocate \$2,500,000 to fund competitive grants for local and regional sea-level rise vulnerability assessments and updates to Local Coastal Programs (LCPs) to address sea-level rise impacts. If approved, staff from the Conservancy and Coastal Commission will develop the specific criteria, guidelines and program description for the grant round. The grants will focus on sea-level rise and other climate change vulnerability assessments that are needed to inform land use and policy changes in updates to LCPs. The purpose of this grant program is to provide assistance to local and regional entities that are interested in proactively understanding vulnerabilities to sea-level rise and related impacts and that are willing to develop plans to address these impacts. Grants will prioritize projects that will lead to updates of LCPs or that can be used by multiple jurisdictions, such as model ordinances.

Local Coastal Programs are basic planning and regulatory tools used by local governments to guide development in the coastal zone, in partnership with the Coastal Commission. LCPs specify appropriate location, type, and scale of new or changed uses of land and water. Each LCP includes a land use plan and measures to implement the plan (such as zoning ordinances). Prepared primarily by local governments, these plans govern decisions that determine the short- and long-term conservation and use of coastal resources. Many of the 76 coastal counties and

cities have elected to divide their coastal zone jurisdictions into separate geographic segments; as a result, there are 128 separate LCP segments in California. While each LCP reflects unique characteristics of individual local coastal communities, regional and statewide interests and concerns must also be addressed in conformity with Coastal Act goals and policies. Following adoption by the local planning authority, an LCP is submitted to the Coastal Commission for review for consistency with Coastal Act requirements. The Commission retains only limited permit authority once an LCP is certified as consistent and retains permit authority where certification is not accomplished.

Local governments may amend a certified LCP to add new policies, ordinances, maps or other necessary components, or to make changes to existing information. Amendments to certified LCPs only become effective after approval by the Commission. Similarly, Port Districts and universities may choose to update and/or change their port master plans or university long-range development plans; the Commission must review such changes before they become effective. Impacts of climate change such as sea-level rise and increased storm frequency will affect existing property and infrastructure in the coastal zone. Local governments, Port Districts, and university administrations currently administer coastal plans that may contain policies, ordinances and standards may need to be updated and revised as new science and other information about the impacts of climate change are developed.

The grant program will be designed to be flexible, recognizing that some communities along the coast have already completed assessments or adaptation plans while others have not begun to address these issues. Communities around Humboldt Bay, Alameda County, and Monterey Bay (among others) have already begun to conduct vulnerability assessments. The City of Santa Cruz and cities in the San Diego Bay areas have completed sea-level rise adaptation plans. One of the reasons for structuring this as a competitive grant round is to enable the OPC to fund projects that are responsive to specific community needs.

While some communities have already begun to develop and implement adaptation plans, other communities are just beginning to grapple with the potential impacts of sea-level rise along their coast. While there is clear consensus that the coast will experience significant flooding from the combined effect of sea-level rise, extreme high tides, storms and coastal erosion in the future, these impacts will play out differently in each region of the coast depending on the shoreline structure, development pattern and many other variables. Understanding, planning for, and preparing for these impacts must be done at the local and regional scale.

Vulnerability assessments will help determine which critical community resources are subject to flooding due to the combination of sea-level rise, high tides, storms and extreme tides. Resources included in the assessments could include tidal marshes, agricultural land, and built infrastructure such as highways, wastewater treatment plants, and residential and commercial areas. Using new data and tools, such as the recently completed high resolution Coastal LiDAR, it is now possible to map areas vulnerable to inundation for different levels of sea-level rise and storm conditions. Understanding the resources at risk due to sea-level rise is the first step in developing adaptation strategies and in identifying needed amendments to LCP's including the land use plan and implementing ordinances.

**PROJECT HISTORY:**

In 2009, the OPC helped fund a study by the Pacific Institute of the potential economic impacts of sea-level rise along the California coast. That study concluded that critical infrastructure, important natural resources and nearly \$100 billion in property along the California coast are at increased risk from flooding from a 1.4-meter sea-level rise if no adaptation actions are taken.

Also in 2009, OPC coordinated the Coastal and Ocean Working Group for the Climate Action Team (CO-CAT), comprised of senior level staff from 16 California state agencies. CO-CAT wrote the coastal and ocean chapter of the 2009 California Climate Adaptation Strategy.

In 2010, OPC worked with CO-CAT and experts from the OPC's Scientific Advisory Committee to develop the interim sea-level rise guidance which was adopted by the OPC early in 2011. OPC has continued working with CO-CAT and other state agencies to implement the sea-level rise guidance.

During its December 2011 meeting, the OPC discussed the [2011 California Coastal Adaptation Needs Assessment](#) completed by USC Sea Grant. This study found that the main barriers to implementing SLR and climate change adaptation strategies are lack of adequate funding, staff and support for implementation. Then Director Amber Mace identified the OPC as a key player in assisting local communities plan for sea-level rise and Secretary Schuchat identified Local Coastal Plans as a key component for planning for coastal risks. At the suggestion of Councilmember Rodrigues, the Director indicated that the OPC could partner with the Coastal Commission and others to coordinate funding efforts for sea-level rise planning.

Earlier this year, the OPC funded project to collect coastwide high resolution elevation (LiDAR) data was completed. This data addresses a critical information need for local and regional entities trying to understand sea-level rise impacts.

As reported at the September OPC meeting, the OPC helped fund the National Research Council (NRC) recently released report [“Sea-level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future”](#). The report confirms that California is likely to see significant increases in sea-level over the next century and also concludes that over the next several decades the most significant impacts will come from the combined effects of sea-level rise, coastal erosion and extreme weather events.

CO-CAT is also leading the current effort to update the Climate Adaptation Strategy; the public draft will be released later this year. Both the 2009 (and the expected update) specifically identify the need to support regional and local planning for addressing sea-level rise impacts. Finally, the Natural Resources Agency and California Emergency Management Agency are developing the California Climate Change Adaptation Policy Guide, which is currently out in draft form. This guide emphasizes the importance of starting to plan for climate change impacts immediately and recognizes the critical role of local and regional jurisdictions in this effort.

Finally, the Coastal Commission is in the process of developing climate change policies, including guidance for local governments on how to address climate change in their LCPs. Their draft policy will be released for public comment late in 2012.

## **PROJECT FINANCING**

**Ocean Protection Council**      \$2,500,000

The anticipated source of funds will be the fiscal year 2008 appropriation from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84). Proposition 84 authorizes the use of these funds for purposes consistent with Section 35650 of the Public Resources Code, establishing the California Ocean Protection Trust Fund (Pub. Res. Code § 75060(g)). Under Section 35650(b), Ocean Protection Trust Fund monies may be expended for projects authorized by the OPC that are identified as appropriate Trust Fund purposes. These purposes include projects that provide funding for adaptive management, planning, coordination, and other activities to minimize the adverse impacts of climate change, including sea-level rise on California's ocean ecosystem. (Pub. Res. Code § 35650(b)(2)(J)). Modernizing local coastal plans will directly improve the management of coastal and ocean resources as specified by this section.

## **CONSISTENCY WITH CALIFORNIA OCEAN PROTECTION ACT:**

The proposed project is consistent with the Ocean Protection Act (Division 26.5 of the Public Resources Code). Specifically, the project is consistent with Public Resources Code Section 35621, in that the council will coordinate with the Coastal Commission and Coastal Conservancy to improve the effectiveness of state efforts to protect ocean resources, and create a mechanism for sharing scientific data related to coastal and ocean resources among agencies. This section authorizes the council to award grants and provide assistance to public agencies and nonprofit organizations to support this effort. In allocating grants and assistance, the council is directed to give preference to public agencies that are meeting the goals described in Section 35620. Section 35620 goals include council support to: 1) state agencies' use and sharing of scientific and geospatial information for coastal- and ocean-relevant decision making, and 2) baseline scientific and geospatial information that is available to public agencies which assess, inter alia, the effects of climate change, cumulative effects, predicted patterns of human activities along the coast and other social, economic and cultural effects. (See Pub. Res. Code § 35620(a)).

The proposed project will potentially result in maps, scientific and technical assessments, and sea-level rise assessments that will enable the Coastal Commission and local governments to evaluate one of the major effects of climate change on coastal California. The grant criteria will ensure that the products will be publicly available for other planning agencies to extend the benefits of each grant awarded.

## **CONSISTENCY WITH THE OPC'S STRATEGIC PLAN:**

### **Focal Area B (Climate Change), Issue 4: Impacts to Coastal Communities by Storms, Erosion and Sea-Level Rise.**

This project directly implements two objectives from OPC's 2011 Strategic Plan:

**Objective 4.1:** "Improve knowledge and understanding of climate change impacts among state, regional and local decision-makers." By providing grants to improve local and regional entities to conduct vulnerabilities assessments this project will improve understanding of climate change impacts.

**Objective 4.2:** "Encourage the development and adoption of sea-level rise adaptation strategies." By providing grants to local and regional entities to develop LCP updates and local adaptation plans, this project will encourage development and implementation of adaptation strategies.

## **CONSISTENCY WITH THE OPC'S GRANT PROGRAM FUNDING GUIDELINES:**

The proposed project is consistent with the OPC's Grant Program Funding Guidelines adopted November 20, 2008, in the following respects:

### **Required Criteria**

1. **Directly relate to the ocean, coast, associated estuaries, or coastal-draining watersheds:**  
The purpose of the proposed projects is to help communities along the open coast plan for climate change impacts. The OPC has played an important role helping state agencies to understand and prepare for sea-level rise. One recurring theme in all of the state's reports on climate adaptation is the importance of partnering with local and regional entities, this project will allow OPC to advance work by those partners on this important issue.
2. **Support of the public:** As discussed above, the need for this project has been identified in numerous assessments and plans, including the USC Sea Grant Coastal California Adaptation Needs Assessment and the California Climate Adaptation Strategy. Letters of support are attached as Exhibit 1.
3. **Greater-than-local interest:** As discussed above, the OPC and other state and federal agencies have or are in the process of releasing a number of studies and plans that highlight the importance of working with local governments to plan for the impacts of sea level rise and climate change along the coast. While planning must occur in local jurisdictions, ensuring that planning is done is of statewide importance. Finally, the proposed grant round will seek to support data collection or analysis that can be used by multiple jurisdictions (such as regional impact analysis or model ordinances).

### **Additional Criteria**

6. **Leverage:** Grant funds will be provided by the Ocean Protection Council. Both the Coastal Conservancy and the Coastal Commission are committing staff time to manage and support

this program. This is a significant contribution. The competitive grant round will seek matching funds as part of the selection process.

7. **Timeliness or Urgency:** Given the long timeline of local and regional planning work; there is a need to accelerate these planning efforts immediately. With the completion of policy guidance and technical data collection, it is the perfect time to support local and regional efforts to address the detailed planning issues. If approved, the project partners will begin work on this project immediately.

As discussed above, the state has recently completed several reports that all identify the need to work with local governments to start to analyze vulnerabilities and to plan for climate change impacts. The Coastal Commission is just completing its climate change policy and the Office of Planning and Research (OPR) is developing general plan guidelines to assist local governments in streamlining the revision of general plans and the incorporation of climate change criteria in the planning process. In addition, the state has just completed a multi-million dollar effort to collect elevation data that can inform sea level rise vulnerability assessments and adaptation planning. .

8. **Coordination:** The proposed project involves a partnership between the Ocean Protection Council, the Coastal Conservancy, the Coastal Commission and other stakeholders. If approved, the Conservancy and the Coastal Commission will seek input from local governments and other state and federal agencies to identify the highest priority needs for the program. The two agencies will consult with other state and federal agencies, including the Office of Planning and Research (OPR), Sea Grant and others to develop the grant criteria.

#### **COMPLIANCE WITH CEQA:**

The proposed project is categorically exempt from review under the California Environmental Quality Act (“CEQA”) pursuant to 14 Cal. Code of Regulations Section 15306 because the project involves only data collection, research and resource evaluation activities that will not result in a serious or major disturbance to an environmental resource. Staff will file a Notice of Exemption upon approval by the OPC.