

# SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

50 California Street • Suite 2600 • San Francisco, California 94111 • (415) 352-3600 • Fax: (415) 352-3606 • www.bcdc.ca.gov

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**TO:** Commissioners and Alternates

**FROM:** Steve Goldbeck, Acting Executive Director (415/352-3611 [steveg@bcdc.ca.gov](mailto:steveg@bcdc.ca.gov))  
Jessica Davenport, Coastal Planner (415/352-3660 [jessicad@bcdc.ca.gov](mailto:jessicad@bcdc.ca.gov))  
Brenda Goeden, Sediment Program Manager (415/352-3623 [brendag@bcdc.ca.gov](mailto:brendag@bcdc.ca.gov))

**SUBJECT: Staff Report and Recommendation for Contract Authorization to Implement the Commission's Coastal Impact Assistance Program Grant**  
(For Commission consideration on January 19, 2012)

## Summary and Recommendations

The staff recommends that the Commission authorize the Executive Director to enter into the contracts necessary to expend up to \$500,000 of the \$945,000 in Coastal Impact Assistance Program (CIAP) funds awarded to BCDC by the U.S. Department of the Interior's Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE) for the Commission's Climate Change and Sediment Management Programs:

### Climate Change Program:

1. High Resolution Elevation Data: \$50,000
2. Shoreline Development Database: \$150,000
3. Head of Tide/Tidal Surge Study: \$180,000
4. Assistance to Local Governments: \$390,000

### Sediment Management Program (\$175,000):

1. Development of a Science and Research Strategy
2. Development of a Regional Sediment Management Plan for San Francisco Bay

## Staff Report

**Recommendation.** The staff recommends that the Commission authorize the Executive Director to enter into the contracts necessary to expend the \$945,000 in Coastal Impact Assistance Program (CIAP) funds awarded to BCDC by the U.S. Department of the Interior's Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE), and now administered by the U.S. Fish and Wildlife Service, for the Commission's Climate Change and Sediment Management Programs. The staff also recommends that the Commission authorize the Executive Director to make minor, non-substantive changes to these contracts.



*Making San Francisco Bay Better*

**Background.** The CIAP program was authorized by Congress under the Energy Policy Act of 2005 (Public Law 109-58). Section 384 of the Act establishes the CIAP, which assists states in mitigating the impacts associated with outer continental shelf oil and gas production. Funds are to be used for the conservation, protection and preservation of coastal areas, including wetlands. Under the CIAP, the Secretary of the Interior is authorized to distribute a portion of \$250 million to each of six states: Alabama, Alaska, California, Louisiana, Mississippi, and Texas. Pursuant to the Act, all funds must be used for one or more of the following purposes:

- Conservation, protection, or restoration of coastal areas, including wetlands;
- Mitigation of damage to fish, wildlife, or natural resources;
- Planning assistance and the administrative costs of the CIAP;
- Implementation of a federally-approved marine, coastal, or comprehensive conservation management plan; and
- Mitigation of the impact of outer continental shelf activities through funding of onshore infrastructure projects and public service needs.

The CIAP was administered by the U.S. Department of the Interior's Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE) (formerly the Minerals Management Service). Only states that submitted a CIAP State Plan that met BOEMRE standards for approval were eligible to receive CIAP funds.

In 2009 BOEMER approved the California Natural Resources Agency's State Plan based on proposals solicited from the state resources agencies and eligible coastal counties. In addition to being consistent with one or more of the CIAP-authorized uses, each proposal was required to discuss how the proposed project advances the state toward meeting the goals and objectives of the California Ocean Protection Council's Strategic Plan. These goals and objectives are organized by the following six themes:

- Governance;
- Research and Monitoring;
- Ocean and Coastal Water Quality;
- Physical Processes and Habitat;
- Ocean and Coastal Ecosystems; and
- Education and Outreach.

However, on October 1, 2011, the CIAP was transferred to the U.S. Fish and Wildlife Service to administer.

**BCDC's Proposals to the Natural Resources Agency.** In response to the Natural Resource's Agency's solicitation, BCDC staff developed two CIAP proposals designed to achieve several of the three-year goals in the Commission's Strategic Plan. One proposal included four elements supporting the Commission's Climate Change Program and the other focused on its Regional Sediment Management Program. The proposals were reviewed by the Natural Resources Agency and incorporated into the California CIAP State Plan, which was approved by BOEMRE in July 2009. BOEMRE then requested that BCDC provide detailed work plans and budgets for these two programs. After requested revisions were made, the work plans were approved in September 2011, and BOEMRE entered into cooperative agreements with the Natural Resources Agency for these two programs. BCDC subsequently entered into interagency agreements with the Natural Resources Agency to allow BCDC to receive and expend the CIAP funds. The Commission was previously awarded CIAP funds in 1992.

**BCDC's Approved Climate Change Proposal.** The approved Climate Change Program grant includes the following projects:

1. **High Resolution Elevation Data.** Completion of this task will result in the creation, post processing or other use of an accurate, high-resolution regional digital surface model (DSM) dataset covering the entire Bay and shoreline. The DSM dataset will help BCDC and our partners accurately analyze and map the vulnerability of wetlands and existing shoreline development. The work to be performed could include evaluating existing LiDAR (light detection and ranging) data and identifying gaps; working with the California Ocean Protection Council and other partners to process and combine existing LiDAR data into a regional DSM; acquiring new LiDAR in coordination with partners; integrating, managing and disseminating the data; analyzing and mapping of specific shoreline areas vulnerable to sea level rise in coordination with local and regional partners; and coordinating with partners to establish a centralized repository for the data. A consultant would complete the bulk of the work, supervised by BCDC staff. The project would expend \$50,000 over one year.
2. **Shoreline Development Database.** The goal of this task is to help create a comprehensive information management and retrieval system (using a centralized database) for the Commission's permits, linked to a web-based Geographic Information Systems (GIS) application. This should provide BCDC staff with a powerful tool to improve information retrieval on shoreline development and, thus, improve decision-making capabilities regarding climate change adaptation. The work to be performed includes developing a database structure for shoreline development information, digitizing shoreline development information, and populating the database. Database development would be managed and undertaken by a consultant with assistance from BCDC staff. Data entry would be undertaken by hired interns and/or consultants, guided by either a supervising consultant or BCDC staff. The project would expend \$150,000 over three years.
3. **Head of Tide Study.** The goal of this study is to assess the impacts of sea level rise and coastal flooding that may arise from the inland migration of the head of tide (HOT), a region where rich ecological, biological, cultural, and economic resources exist at the upstream limit of San Francisco Bay tides in tributary rivers. This project consists of two primary tasks: (1) development of a HOT base map (including the definition of HOT, mapping of HOT locations, and descriptions of HOT cultural and ecological attributes at each location); and (2) development of guidelines for assessing the vulnerability of HOT locations to sea level rise and coastal flooding induced by climate change (i.e., how do alternative methods of forecasting migration differ in terms of cost and results). A consultant would complete a large portion of the work, supervised by BCDC staff and guided by a technical advisory committee. The project would expend \$180,000 over two years.
4. **Assistance to Local Governments.** The goal of this project is to help Bay Area local governments plan for and implement actions to adapt to Bay-related impacts of climate change. The work to be performed includes developing and providing to Bay Area local planners and resource managers: (a) information resources and guidance for planning for climate change impacts, (b) educational opportunities on adaptation planning, and (c) technical assistance to implement adaptation planning. BCDC staff would conduct a large portion of the work.

Part of the technical assistance work will include support for the community-scale portion of the Adapting to Rising Tides (ART) pilot project<sup>1</sup>. BCDC staff would work with a Bay Area local government to analyze how Bay-related climate change impacts will affect a shoreline community's assets, and develop a process for integrating these considerations into decision-making to improve community resilience. BCDC would hire a subcontractor (e.g., a non-profit organization, local government or consulting firm) to assist with several of the project tasks for the community-scale portion of the ART project. The project would expend \$390,000 over three years.

**BCDC's Approved Regional Sediment Management Proposal.** The purpose of the Commission's Regional Sediment Management Program is to prepare an integrated, regional sediment management strategy (RSM) that includes studying, better understanding, and managing Bay sediment processes, in order to maximize the health of the Bay and its various habitats, minimize management costs, and help address climate change impacts and other system stressors. Secondary purposes are to coordinate and focus research efforts that address management goals, harmonize management policies by federal, state and local agencies affecting sediment processes, and educate managers regarding RSM. The San Francisco Bay RSM program is based on the concept that sediment is a valuable resource that should be conserved and used to benefit Bay Area habitats, recreation and shoreline stability. The Long Term Management Strategy for the Placement of Dredged Material in the Bay Area (LTMS) Management Plan is based on the same concept, but focuses solely on the beneficial reuse of dredged sediment from navigation projects and does not consider other managed sediment sources and needs in the Bay Area. The RSM program will expand on the successful LTMS program to include flood control channels, beach nourishment, watershed management, aggregate mining and habitat restoration projects. The Commission staff will continue to work cooperatively with the LTMS partners in this effort and expand the partnership to a broader group of sediment managers and stakeholders. Knowledge gained from the RSM program will aid in reviewing and adapting the LTMS program in light of changing sediment trends.

The Regional Sediment Management Program proposal includes two primary tasks:

1. **Development of a Science and Research Strategy for Sediment Supply and Transport Issues.** The tasks for this portion of the project are to: (a) provide the Commission with a greater understanding of the state of sediment knowledge in the Bay; (b) determine the research, engineering and modeling efforts that need to be undertaken to better understand the sediment transport system; (c) develop a prioritized research strategy for Bay sediment issues that will assist managers in making science-based decisions; and (d) promote funding of the proposed research strategy. This work will be done in collaboration with researchers, academia and technical experts. In addition, a BCDC Sea Grant Fellowship has been developed to assist in this task.
2. **Development of a Regional Sediment Management Strategy for San Francisco Bay.** This task would develop a San Francisco Bay regional sediment management program blueprint that addresses the issues related to the decreasing sediment supply and creates regional solutions beyond the dredging program. A RSM program is needed to adapt to decreased sediment supply from the Delta as well as impacts associated with climate change, including storm surges, flooding and increased sea level rise. The first step in developing this program is creating a blueprint for the region that can then be further expanded into a management plan.

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<sup>1</sup> In addition to the community-scale component, the ART project also involves conducting a vulnerability assessment for a subregion of San Francisco Bay, along the shoreline of Alameda County. BCDC is working with ICLEI Local Governments for Sustainability and NOAA Coastal Services Center on the ART project, as well as many local stakeholders.

The blueprint would be further developed by investigating management issues created by changes to the sediment system, assessing potential impacts and developing new and innovative ways to address shortages in sediment supply. This task would include (a) increasing the sediment knowledge base of Bay Area managers; (b) engaging sediment managers at the local level including public works departments and flood control districts; (c) greater coordination with restoration practitioners, including those working in local watersheds, wetland and beach restoration projects; (d) exploring new sediment management techniques; and (e) development of a management strategy that benefits the Bay Area as a whole.

Although significant portions of the funds for the Climate Change Program are pass-through funds to contractors who will implement some or portions of the projects, BCDC staff will implement some projects and supervise others, as discussed above. For the Climate Change Program, BCDC will retain roughly half of the funds (approximately \$343,000) to cover staff work and project administration costs over a three-year period. For the Regional Sediment Management Program, the \$175,000 will support staff efforts, including a Sea Grant Fellowship (\$27,666 for one year), to develop both the Science and Research Strategy and the Management Plan for the region over a three-year period.

**Consistency with the Commission's Strategic Plan.** All of the projects in the CIAP work plans are consistent with the Commission's Strategic Plan goals. As discussed above, the Climate Change Program CIAP proposal includes four projects: (1) creating high resolution elevation data for the Bay and its shoreline; (2) developing a shoreline development database; (3) conducting a head of tide study; and (4) providing assistance with sea level rise adaptation to local governments. All four Climate Change Program tasks are consistent with several goals in the Commission's Strategic Plan. Tasks 1, 3 and 4 will help achieve the Commission's strategic goal of playing an integral role in developing and implementing a regional proactive strategy for dealing with global climate change. Task 2, the development of the shoreline development database, will enable the staff to make progress toward the strategic goal of improving BCDC's program for protection, use and restoration of Bay resources, specifically through achieving the objective of creating an information management system. The Commission has been unable to achieve this objective due to insufficient funding.

As with the Climate Change Program, the Regional Sediment Management Program tasks are consistent with several goals in the Commission's strategic plan in that they will: (1) promote optimum and sustainable use and management of Bay resources; (2) improve and implement BCDC's program for protection, use and restoration of Bay resources; (3) improve coordination and interaction with other agencies to improve the Bay; and (4) assist the Commission in playing an integral role in developing and implementing a regional proactive strategy for dealing with global climate change. In addition, the development of the science strategy will facilitate the Commission's goal of integrating science in its management decisions.

The Climate Change and RSM Programs funded by the CIAP will also help the Commission advance its strategic goal of improving coordination and interaction with other agencies to improve the Bay. The proposals includes collaboration with several federal partners, including the U.S. Geological Survey (USGS) the National Oceanic and Atmospheric Administration (NOAA), the U.S. Army Corps of Engineers (USACE), Federal Emergency Management Agency (FEMA), NOAA's Coastal Services Center, National Marine Sanctuary Program and the San Francisco Bay National Estuarine Research Reserve. In addition, both the Climate Change and RSM Programs will also involve collaboration with state and local agencies, such as the Coastal Conservancy, the State and Regional Water Quality Control Board, California Ocean Protection Council, local governments and other partners.