



**San Francisco Bay Conservation and Development Commission
2020 State Fellowship Opportunity
Regional Sea Level Rise Adaptation Planning Fellow**

1. Host location and contact information:

San Francisco Bay Conservation and Development Commission
375 Beale Street, Suite 510
San Francisco, CA 94105

2. Fellowship Supervisor:

Dana Brechwald, Adapting to Rising Tides Program Manager

3. Point of contact for California Sea Grant and prospective fellows and finalists:

Dana Brechwald
Adapting to Rising Tides Program Manager
415-352-3656, dana.brechwald@bcdc.ca.gov

4. Position Description:

General Overview:

San Francisco Bay Conservation and Development Commission: The San Francisco Bay Conservation and Development Commission (BCDC) is a California state planning and regulatory agency with regional authority over the San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh. BCDC was created in 1965 and is the nation's oldest coastal zone agency. Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. The Commission leads the Bay Area's ongoing multi-agency regional effort to address the impacts of rising sea level on shoreline communities and assets. Its authority is found in the McAteer-Petris Act, the San Francisco Bay Plan, and other special area plans and laws and policies.

The Planning Division is responsible for conducting major planning studies, specialized research and policy development, and keeping the Commission's policy plans current, including the San Francisco Bay Plan. Planning division staff work collaboratively with other agencies and organizations on issues of regional importance including marsh conservation, sea level rise adaptation, recreation planning and oil spill prevention and response.

Adapting to Rising Tides Program: In 2010, BCDC and NOAA's Office for Coastal Management brought together local, regional, state and federal agencies and organizations, as well as non-profit and private associations for a collaborative planning project along the Alameda County shoreline to identify how current and future flooding will affect communities, infrastructure, ecosystems and economy. Since then, the ART Program has continued to both lead and support multi-sector, cross-jurisdictional projects that build local and regional capacity in the San Francisco Bay Area to plan for and implement adaptation responses. These efforts have enabled the ART Program to test and refine adaptation planning methods to integrate sustainability and transparent decision-making from start to finish and foster robust collaborations that lead to action on adaptation.

The Regional Shoreline Adaptation Plan (RSAP) for the Bay Area is a long-term planning effort to protect communities, critical developed shoreline areas and natural ecosystems, enhance the resilience of Bay and shoreline systems and increase their adaptive capacities to flooding and rising sea level. The RSAP will be a Bay-wide, stakeholder-driven regional strategy to prioritize the projects and actions that will address the most critical flood risks posed to the region by rising sea level. The RSAP will help protect communities and the built and natural environment located along the Bay shoreline by making smart funding decisions today to limit future post-disaster recovery expenditures and prevent the loss of regionally-critical functions and disproportionate impacts to vulnerable communities. Development of the RSAP

will be collaborative and involve staff from local governments, special districts, and the private and nonprofit sectors, each of which will provide in-kind and/or direct support for the project.

Regional Sea Level Rise Adaptation Planning Fellow:

One fellow will be placed in BCDC's planning division to help support the agency's Regional Shoreline Adaptation Plan process and the Adapting to Rising Tides Program. The fellow will have the opportunity to participate in a highly collaborative, regional scale planning process while developing and applying geospatial, analytic, and communication skills to aid in the execution of regional scale adaptation planning and the ART process. The fellow will:

- Build GIS expertise and capacity using desktop and web-based tools to analyze exposure to current and future flooding.
- Gain familiarity with adaptation planning processes at a regional scale, capitalizing on completed vulnerability assessments utilizing the ART Assessment Questions to collect data and information that inform characterization of vulnerability and consequences for the assets, systems of assets, sectors and services addressed in the projects.
- Develop communication skills participating in large collaborative processes to address the specific challenges of building climate resilience across different communities, assets and services, and jurisdictions and owners
- Coordinate and provide staff support for meetings of the various stakeholder groups including regional working group and public meetings.
- Gain experience developing data and functions for web mapping applications used by BCDC staff and the public.

Although the Regional Adaptation Planning projects will be the fellow's primary tasks, additional opportunities will likely include supporting the agency's internal GIS data and web mapping applications, in house training opportunities including robust exposure to regulatory and enforcement processes, and potential assistance in San Francisco Bay Plan amendment processes. BCDC is dedicated to accommodating and developing the fellow's professional goals, ensuring exposure to a wide range of tasks and agency partners, and will tailor the suite of tasks accordingly. BCDC has a long history of hosting fellows and interns and staff is used to welcoming and engaging fellows in meetings, challenging and topical work assignments. Fellows have universally found the experience enriching and rewarding and have continued their career with BCDC or moved to partner organizations, such as the San Francisco Estuary Partnership, San Francisco Planning Department and the Coastal Commission.



2020 California Sea Grant State Fellowship Sediment Management Fellow

1. Host location and contact information:

San Francisco Bay Conservation and Development Commission
375 Beale Street, Suite 510
San Francisco, CA 94105

2. Fellowship Supervisor:

Brenda Goeden, Sediment Program Manager

3. Point of Contact: Brenda Goeden

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4. Position Description:

San Francisco Bay Conservation and Development Commission: The San Francisco Bay Conservation and Development Commission (BCDC) is a California state planning and regulatory agency with regional authority over the San Francisco Bay, the Bay's shoreline, and the Suisun Marsh. BCDC was created in 1965 and is the nation's first coastal zone agency. Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. BCDC leads the Bay Area's ongoing multi-agency regional effort to address the impacts of rising sea level on shoreline communities and assets. Its authority is found in the McAtter-Petris Act, the San Francisco Bay Plan, the Suisun Marsh Preservation Act, the Suisun Protection Plan, and other special area plans and laws and policies.

The Sediment Management Team is seeking a Fellow to assist in the development of the San Pablo Bay and potentially Suisun Bay chapters of the San Francisco Bay Regional Sediment Management (RSM) Plan. This work entails: reviewing and summarizing known science for the area and identifying existing data gaps; identifying sediment management activities; considering and developing alternative sediment management options; developing recommendations for improving current practices; and working with stakeholders to reach consensus and work towards implementing new strategies. This work incorporates sediment science, climate change resilience planning, natural and nature-based infrastructure; and stakeholder outreach for the two of the San Francisco Bay embayments mentioned above.

RSM plans approach sediment management through the context of the broader sediment system, with considerations of sediment sources, movement, sinks, and exchange with the ocean. Application of this approach to San Francisco Bay and its watersheds will assist

watershed managers, flood control districts, navigation programs, and coastal managers to better understand the impacts that individual permit decisions may have locally and system-wide. In turn, the impacts of sediment processes should be evaluated and considered for projects. Because physical processes can significantly influence biological processes, sediment dynamics are important components of the estuarine system that fuels the environmental and economic vitality of the Bay Area. The San Francisco Bay RSM Plan is a living document and has been contributed to by the sediment management team, including four previous Sea Grant Fellows. Once the plan is established for each embayment implementation can begin for that area with local community involvement and project planning.

In this position, the Fellow, working with program staff, will review relevant research regarding sediment supply, demand, and transport within and beyond the San Francisco Bay Estuary, and conduct site visits and meetings with the local community. The Fellow will also engage regional experts in the field through individual consultations, meetings, and symposia development. The Fellow would also research potential funding sources for prioritized and proposed research to fill identified data gaps.

GIS Mapping and Geospatial Analysis Product Development. A portion of the RSM work includes the use of spatial analysis using GIS, creating layers and maps for the work plan. The analysis would include conservation areas, areas where special status species occur, and areas of human impacts. This task would include researching necessary data and information, inputting data into the inhouse GIS system and developing visualization products that will assist managers in understanding relationships between environmental conditions, human activities, and environmental effects.

Other Fellowship Opportunities. The Sea Grant Fellowship program at BCDC also offers the opportunity to learn about regional planning and the associated regulatory process. Focus topics at BCDC include sea level rise adaptation and climate change issues, sediment dynamics, resource protection, and wetland restoration. The Fellow will apply their academic training to practical professional experiences, receive training from BCDC staff, and participate in staff activities. The Fellow will also have the opportunity to regularly attend a variety of meetings with federal, state, and local agencies (EPA, U.S. Army Corps of Engineers, National Marine Fisheries Service, U.S. Fish and Wildlife Service, Regional Water Quality Control Board, State Lands Commission, California Department of Fish and Game, and city and county planning departments), make presentations, and prepare reports and documents specific to sediment management issues. Though the primary focus of these fellowship is further development of an RSM plan, the opportunity exists to do regulatory analysis, project management, environmental review, and review sediment quality testing to a limited extent.

BCDC has hosted NOAA Fellows nearly every year (two-year term) for the last fifteen years and has hosted multiple California Sea Grant Fellows since 2010, and is experienced in mentorship programs. In addition, the Commission regularly has a number of interns working in the different units including legal, enforcement, permitting, sediment management, planning, and

clerical. These interns come from a variety of backgrounds and provide opportunities to exchange experience. BCDC staff is diverse, and is composed of regional planners, lawyers, enforcement staff, policy and program analysts, structural engineers, ecologists, oceanographers, and high-level executive staff. BCDC Fellows participate in agency work in a manner equivalent to staff, attending general staff meetings and Commission meetings, and becomes part of the BCDC team.