



## San Francisco Bay Conservation and Development Commission 2022 California Sea Grant State Fellowship Program

### Fellowship Opportunity 1: 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](mailto: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.

**Bay Adapt** is an initiative to establish regional agreement on the actions necessary to protect our people and the natural and built environment from rising sea levels. Bay Adapt will build a new type of regional collaboration among a wide variety of agencies and stakeholders, based on a strong foundation of climate science and the proactive Bay Area adaptation efforts both already underway and proposed. Through this collaborative action-setting initiative, Bay Area regional, local and community leadership will identify, deliberate, and commit to a set of shared actions that will allow the Bay Area to adapt better and adapt faster to a rising Bay. Currently, the initiative is nearing completion of the final draft of the Joint Platform, the nine actions the region should take to "set the stage" for successful adaptation. Later in

2021 BCDC will initiate the implementation phase, where key stakeholders will take on leadership roles to enact the actions together.

**Regional Sea Level Rise Adaptation Planning Fellow:**

**One fellow will be placed in BCDC's planning division** to help support the agency's Bay Adapt 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, including vulnerability and consequence analysis, creating appropriate adaptation responses for specific locations, linking adaptation to regional plans, regional governance for successful adaptation, and providing both large-scale and localized expertise, research, analysis, and support to communities around the Bay.
- 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.



**San Francisco Bay Conservation and Development Commission**  
2022 California Sea Grant State Fellowship Program

*Making San Francisco Bay Better*

Fellowship Opportunity 2: **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

Sediment Program Manager

375 Beale Street, Suite 510

San Francisco, CA 94105

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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 band, 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 responsible and productive use of Bay resources for this and future generations. Its authority is established in the McAteer-Petris Act and the Suisun Marsh Preservation Act, the San Francisco Bay Plan, the Suisun Marsh Protection Plan, and other special area plans and laws and policies. The Commission leads the Bay Area's ongoing multi-agency regional effort to manage sediment in the Bay and to address the impacts of rising sea level on shoreline communities and assets. Sediment Management is one of BCDC's core programs and is a key consideration as the region looks to accelerate habitat restoration and resiliency projects to keep pace with sea level rise.

**Sea Grant Fellow Opportunity.** The Sediment Management Team is seeking a Fellow to assist in the development of scientifically-based outreach materials to explain the San Francisco Bay's sediment dynamics, regionally-managed activities such as dredging, and needs for sediment in habitat and adaptation projects. The fellow will help communicate sediment management goals and initiatives through website enhancement, story map development, and other mediums to assist the region in understanding this vitally important resource and how natural and human processes affect the system.

In addition, the fellow will have the opportunity to develop white papers on subjects such as how augmenting sediment in marsh restoration projects can support listed species; analyze and describe if/how increased beneficial use of dredged sediment captures greenhouse gases; impacts of human activities on the sediment system; or other sediment related topics that will underpin policy amendments.

As a member of BCDC's Sediment Management team, the fellow would promote regional sediment management efforts in the Bay Area through the development of web-based resources and science-based planning documents that communicate the sediment management needs of the region. A regional sediment management approach must carefully consider sediment sources, movement, sinks, and exchange with the ocean. Application of a regional approach to San Francisco Bay and its watersheds will help managers better understand the impacts of individual permit decisions locally and system-wide. In turn, managers can also evaluate the impacts of systemic processes such as climate change

and sea level rise on permitted projects. Mud and sand feed the estuarine system that fuels the environmental and economic vitality of the Bay Area.

**GIS Analysis 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 website, story map, or other to be identified tools. 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 human activities and environmental effects.

**BCDC Fellowship Experience.** 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, 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 planners), make presentations, and prepare reports and documents specific to sediment management issues. Though the primary focus of these fellowship is further development of regional sediment management, 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 and has recently initiated an environmental justice internship for undergraduates.

Fellows and 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 operate in a manner equivalent to staff, attending general staff and Commission meetings, and become part of the BCDC team.