

## ACTION

## 2

## Establish a regional wetland and stream monitoring program

Plan and implement a regional monitoring program for wetlands and streams in the Bay Area and the Delta to help local, regional, state, and federal agencies evaluate the effectiveness of efforts to sustain healthy aquatic habitats and resources.

**TASK 2-1** Develop and implement a Bay Area and Delta regional wetland monitoring plan that establishes separate, yet closely coordinated, steering committees for the upper and lower Estuary. The plan will identify regulatory and management monitoring priorities, as well as existing wetland, stream, or riparian monitoring efforts, to determine where there may be opportunities for partnerships and where there are gaps.

**BY 2018** Hold initial meeting of the steering committees.

**TASK 2-2** Determine how much funding is needed to support program management and administration, technology purchase and upgrades, hardware and software operations and maintenance, practitioner training and helpdesk support, and annual data synthesis and reporting; develop a business model to meet these funding needs.

**BY 2018** Complete the business model.

**TASK 2-3** Complete the California Aquatic Resource Inventory (CARI) for the Delta; complete riparian inventories for the Delta and Bay Area; upload the inventories into the California EcoAtlas information system.

**BY 2018** Complete the Delta CARI and the Delta and Bay Area regional riparian inventories.

**TASK 2-4** Establish a regional network of sentinel tidal marsh monitoring stations within the Delta and the Bay to support ecological forecasting and planning, incorporating and building on the San Francisco Bay National Estuarine Research Reserve program.

**BY 2019** Establish sentinel marsh monitoring network.

**TASK 2-5** Establish a network of streamflow gauges and fish population surveys within select tributary streams to assess aquatic habitat conditions for existing or potentially reintroduced steelhead and salmon.

**BY 2021** Establish the stream gauge network.

### BACKGROUND

The public continues to invest in the restoration of wetlands, streams, and riparian areas in the Estuary region. A strong regional monitoring and assessment program is needed to track the progress of restoration, recovery, enhancement, and mitigation projects, to troubleshoot their problems, and to assess their cumulative effects. Project results also need to be compared over time relative to their specific performance criteria and to changing conditions. While this CCMP action is focused on improved monitoring in light of climate change uncertainty, it also seeks to integrate data into a decision-making framework that relies upon ecological forecasting, and tests alternative scenarios.

This CCMP action envisions a monitoring program with separate but coordinated Delta and Bay Area divisions. Each steering committee should reflect its regional restoration community and their different monitoring priorities. It is further envisioned that each of the two regional divisions would have an estuarine and a watershed component.

As part of this stepped up level of regional monitoring, this CCMP action also supports completion of the California Aquatic Resource Inventory (CARI). CARI is a standardized statewide map of surface waters and related habitat types based on the National Wetland Inventory of the US Fish and Wildlife Service and the National Hydrography Dataset of the US Geological Survey, as well as on maps from regional and local agencies. Currently the Bay Area Aquatic Resource Inventory (BAARI) is viewable in the California EcoAtlas, but the Delta CARI still needs to be completed.

### OWNERS

SF Bay Joint Venture (Tasks 2-1, 2-2, 2-3, 2-4)  
 SF Bay National Estuarine Research Reserve (Task 2-4)  
 SF Bay Regional Water Quality Control Board (Task 2-1)  
 SF Estuary Institute (Tasks 2-1, 2-3, 2-5)  
 SF Estuary Partnership (Tasks 2-2, 2-4, 2-5)

### COLLABORATING PARTNERS

CA State Coastal Conservancy, CalTrout, Central Valley Regional Water Quality Control Board, Delta Stewardship Council, Interagency Ecological Program, Sacramento-San Joaquin Delta Conservancy, SF Bay Conservation and Development Commission, SF Bay Regional Water Quality Control Board, SF Bay Sentinel Site Cooperative, US Army Corps of Engineers, US Environmental Protection Agency, US Fish and Wildlife Service Refuges, US Geological Survey, various special resource management, flood control, water, and parks districts

### NEXUS

Actions 1, 3-8, 24; Goals 1, 4; Objective a, c, l