

ACTION 16

Integrate natural resource protection into state and local government hazard mitigation, response, and recovery planning

Provide technical support and resources to local governments so they can better protect and support the value of natural resources in resilience and hazard planning.

TASK 16-1 Establish and implement innovative approaches for integrating natural resources into hazard mitigation, response, and recovery planning in the Delta.

BY 2017 Complete the Delta Levee Investment Strategy.

TASK 16-2 Provide technical assistance to Bay Area cities and counties including guidance, case studies, and suggested approaches for integrating natural resource protection into hazard mitigation planning. Facilitate completion of hazard mitigation plans (emphasizing the co-benefits of integration with climate change adaptation plans) that include specific actions to protect natural resources. Plans should take into account the contribution of natural resources to reduced hazard impacts and increased resiliency.

BY 2021 Complete 30 Bay Area city or county hazard mitigation plans that include natural resources as an asset category.

TASK 16-3 Provide information and technical assistance to Bay Area cities and counties on how to include natural resource considerations in disaster recovery planning. Facilitate completion of Disaster Recovery Plans that include 'Recovery Support Functions' (RSFs) for natural resources as described in the Federal Emergency Management Association's *National Disaster Recovery Framework* (FEMA's NDRF).

BY 2021 Complete ten local (city or county) Disaster Recovery Plans that include FEMA's NDRF RSFs for natural resources.

BACKGROUND

Natural resources such as subtidal habitats, tidal marshes, and floodplains provide many important ecological services, including flood protection and water conservation. However, these natural resources, and the species that live in them, can be damaged by earthquakes, fire, floods, levee failures, spills, and other hazardous or extreme events, just as human communities can be damaged. Emergency response and recovery efforts can also have unintended impacts on natural resources if not carefully planned.

The Federal Emergency Management Agency's (FEMA) *National Mitigation Framework* points out that community resilience depends in part on "recognizing and communicating the reinforcing relationships between environmental stewardship and natural hazard risk reduction (e.g., enhancement of flood storage through wetland protection and restoration and holistic floodplain management)." FEMA is now integrating consideration of climate change into its National Preparedness System.

This CCMP action supports efforts to address similar preparedness issues on the regional level. The Association of Bay Area Governments (ABAG) and the San Francisco Bay Conservation and Development Commission (BCDC) are working with cities and counties to develop and update local resilience plans, aligning hazard mitigation, climate adaptation, and general plans. ABAG and BCDC are providing technical assistance to streamline the planning process and facilitate implementation. The two agencies are also working to advance natural resources as an asset category, so the vulnerability of these resources can be assessed in hazard mitigation and climate adaptation planning alongside other valuable assets. One BCDC-led effort, the Adapting to Rising Tides Program, has already begun providing models of how natural resource protection and hazard mitigation can be integrated into climate adaptation plans.

This CCMP action also supports similar efforts in the Delta including the *Delta Levee Investment Strategy*. The Delta Stewardship Council is currently developing this strategy, which includes natural resources as an asset category. In 2016, the Council completed a supporting report entitled *Improving Habitats along Delta Levees: A Review of Past Projects and Recommended Next Steps*. This report provides guidance on ensuring that state levee investments include habitat enhancements that provide a net benefit for aquatic species in the Delta.

To support such local efforts across the country to prepare for disasters and adapt to climate change, FEMA has developed a number of guides. This CCMP action emphasizes use of FEMA's NDRF RSFs, as stated in Task 16-3. According to this NDRF model, the core recovery capability for natural and cultural resources is the ability to protect the resources through response and recovery actions, and to restore them as necessary post-disaster. Some Bay Area cities, such as Oakland, are currently engaged in using the NDRF as the framework to develop the city's Recovery Plan, which includes a section focused on natural resources.

OWNERS

Association of Bay Area Governments (Task 16-2, 16-3)
Delta Stewardship Council (Task 16-1)

COLLABORATING PARTNERS

SF Bay Conservation and Development Commission, various local municipalities

NEXUS

Actions 15, 17, 23
Goals 1, 2, 4
Objectives a, b, d, e, k, l

