

Identify, protect, and create transition zones around the Estuary

Protect areas between estuarine and terrestrial ecosystems (transition zones), and their ecosystem services, to help the Estuary adapt to rising sea levels. Integrate transition zones into baylands restoration and enhancement projects to provide both migration space and high water refugia.

TASK 4-1 Convene a regional steering committee and technical advisory committee to guide a Bay-wide, science-based, inventory of existing and projected future transition zones. Base the inventory on current baylands restoration projects, land use, ownership, topography, elevation, and other criteria consistent with climate change adaptation science and regional, state, and federal agency initiatives.

BY 2017 Establish transition zone inventory steering and technical advisory committees.

TASK 4-2 Complete a regional inventory of transition zones based on the methodology developed by the technical advisory committee.

BY 2018 Complete Bay transition zone inventory.

TASK 4-3 Protect transition zones and land for migration space, based on identified needs and opportunities, through acquisition of fee title, partnerships to develop conservation easements, or other management agreements.

BY 2021 Protect, or plan to protect, 10 of the identified sites.

TASK 4-4 Include enhancement, restoration, or creation of transition zones in tidal restoration and multi-benefit climate adaptation projects where feasible.

BY 2021 Include transition zones in five tidal restoration projects.

BACKGROUND

Efforts to address the ecological and economic threats imposed by sea-level rise and other aspects of climate change have begun to focus on the estuarine-terrestrial transition zone in areas above the current and future water line. The 2015 *Baylands Habitat Goals Science Update* (Baylands Goals) defines the transition zone as existing and predicted areas of interaction among tidal, terrestrial, and fluvial processes that result in mosaics of habitat types, assemblages of plant and animal species, and sets of ecosystem services that are distinct from those of adjoining estuarine, riverine, or terrestrial ecosystems.

As reported in the 2015 *State of the Estuary Report*, the transition zone includes the space for tidal habitat migration upstream and land-

ward (i.e., the migration space). If appropriately conserved, transition zones can accommodate Bay expansion without loss of the ecosystem services provided by tidal marshland or unacceptable flood hazards. They can also provide habitat and foraging areas for native wildlife, refuge from predators and high water, and corridors for wildlife movement.

An important first step is to identify those transition zones, both existing and predicted, that are not yet developed so they can be protected. Other steps recommended in the *Baylands Goals* are the development of a regional transition zone assessment program and a comprehensive portfolio of strategies for the conservation, restoration, and management of the transition zone.

This CCMP action supports the *Baylands Goals* recommendations by focusing on the regional transition zone inventory, the protection of some identified sites, and the inclusion of transition zones in tidal restoration projects. These tasks will involve using the best available science and technology to forecast sea level rise rates and then visualize the resulting shifts in habitat location and connectivity.

In terms of application to the Estuary watershed, this action focuses on the Bay. However it is also consistent with, and will be coordinated with, existing and emerging regional, state, and federal initiatives and plans relating to sea level rise adaptation. For example, the US Fish and Wildlife Service's *Tidal Marsh Recovery Plan* includes an action focused on allowing for landward transgression of high marsh zones by acquiring and protecting adjacent undeveloped lands not yet serving as habitat. The *Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta* also discusses the importance of transition zones.

As already described in the Background for Action 3, transition zones should be a part of a dynamic continuum of aquatic, tidal, and terrestrial habitats. Connecting these habitat types is the most cost-effective way to protect the complete portfolio of their individual and collective ecosystem services.

OWNERS

SF Bay Joint Venture (Tasks 4-1, 4-2, 4-3, 4-4)
SF Estuary Partnership (Tasks 4-1, 4-2, 4-3, 4-4)

COLLABORATING PARTNERS

Restoration community and other interested public, private, and non-profit entities.

NEXUS

Actions 1-8, 14, 15, 16, 17, 24
Goals 1, 2
Objectives a, c, d, e

