Adapting to Rising Tides

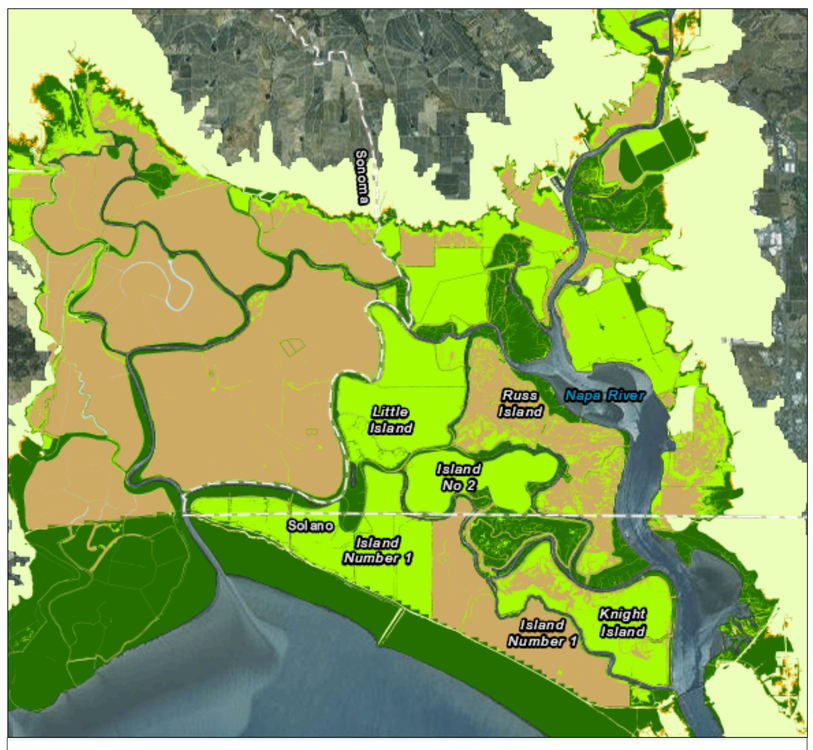
NAPA COUNTY

Sea Level Rise and Baylands Habitat

Sediment Scenarios

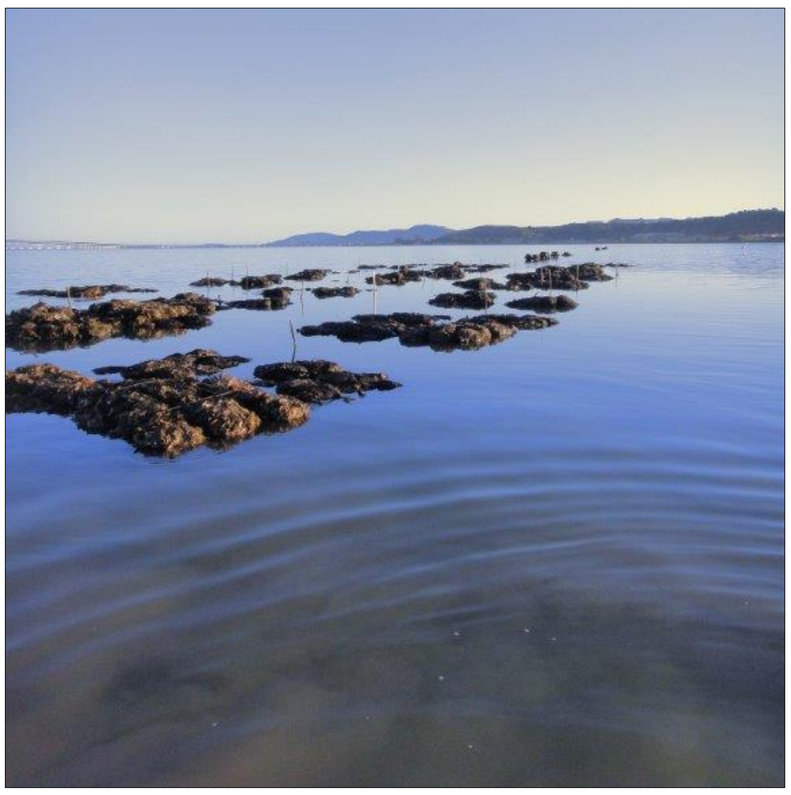
Climate scenarios are needed to understand how and when marshes may be affected by sea level rise, and what actions should be taken. To understand these factors it is helpful to evaluate a **range of possible futures**. These two maps show marsh extent and diversity by 2050 under a scenario when sediment is constricted (left) and sea levels rise drowns out low marsh areas. When more sediment is available, marsh accretion is able to keep pace with sea level rise (right).

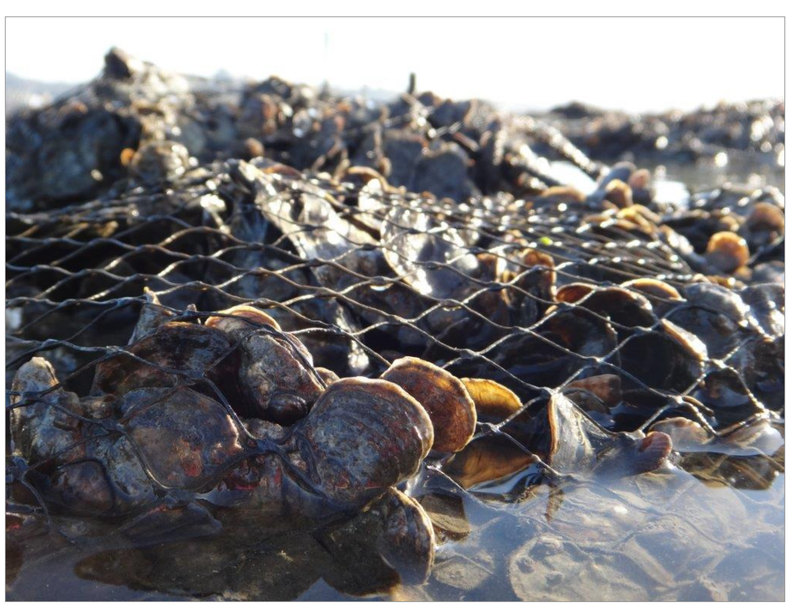
2050 marsh extent under a low sediment scenario



2050 marsh extent under a high sediment scenario

Low Marsh
Mid Marsh





How can we build habitat resilience?

Increase sediment supply

Nourishing marshes by placing dredged sediment on adjacent mudflats allows waves and tides to move the sediment naturally upland.

Restore large areas of managed pond to tidal marsh such as the Napa-Sonoma Restoration Project and Cullinan Ranch.

Reconnect drainages such as those parallel to the bay shore from Cullinan and the top of the centennial strip marsh, and by providing connectivity between strip-marsh units (Sonoma Creek and west units).

Provide space and coarse sediment to facilitate the function, maintenance and evolution of the Highway 37-Mare Island supratidal marsh terrace.

Optimize management of ponds for a diverse suite of waterbirds and consider relocating, reconfiguring, or enhancing ponds to accommodate future sea level rise.

Remove barriers to tidal and hydraulic connectivity by elevating Highway 37 to a causeway.

Enhance and restore eelgrass and oyster beds at the mouth of Napa River and nearby areas.

Enhance and restore transition zone habitat adjacent to tidal marsh, including natural creek levees.

Improve salinity gradients by increasing the use of recycled water.

Photos of oyster bed restoration in San Rafael courtesy of California State Coastal Conservancy.
Scenario maps courtesy of Point Blue Conservation Science's Tidal Marsh Viewer, 2016.