

City of Alameda

Alameda County

Site Description

The City of Alameda on the east side of San Francisco Bay comprises Alameda Island, a peninsula (called Bay Farm Island), and a small island owned by the U.S. Coast Guard. Nearly half of the city is built on filled and/or reclaimed historical tidelands and submerged lands, making it difficult to identify the exact location of the original state lands. This assessment looks at flood impacts to Public Trust resources along 11 key shoreline segments, including critical recreation areas, transportation corridors, and large areas of the Alameda Point Naval Air Station, which is planning an extensive redevelopment. As Bay water levels rise to mean higher high water + 52 inches (and higher), additional impacts to the Public Trust will occur to parcels at the western and southern ends of Bay Farm Island.

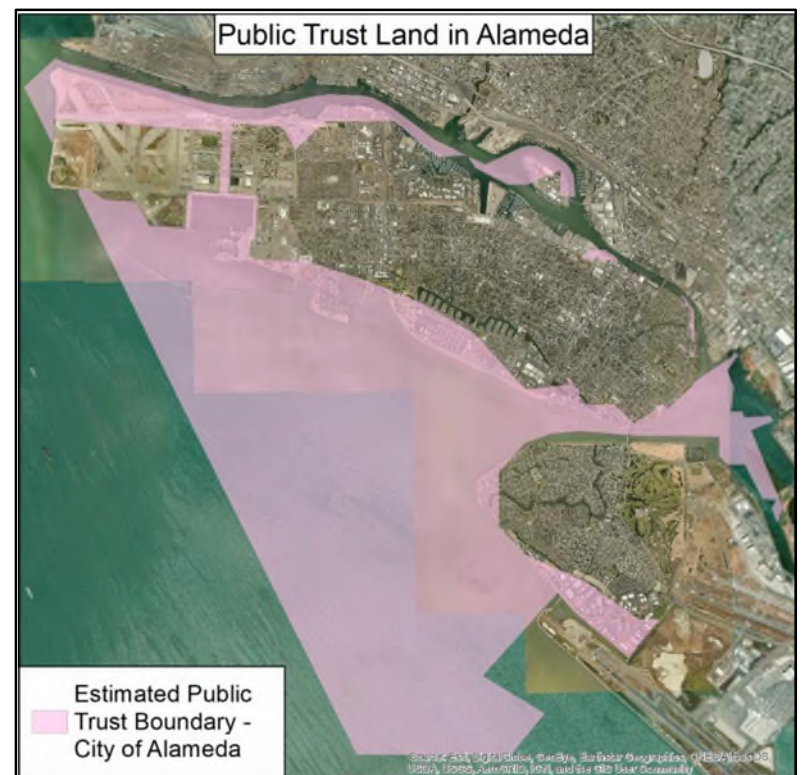


Granted Land Type:
Smaller Harbor/Marina
with Recreational
Amenities or Natural
Assets

Public Trust Uses

Primary Uses: Commerce,
Recreation

Secondary Uses: Safety &
Navigation



Modeling system used for mapping:
COAST

Sea level rise scenarios/elevations
[LINK TO FULL ASSESSMENT](#)

Coastal Hazards considered:
tidal inundation, 100-year storm

Vulnerable Public Trust Resources	
Built Facilities	Marinas (12), Parks (7), Hornet Field, Multipurpose Field, Main Street Dog Park, Lincoln Middle School Field, Public boardwalk, Encinal boat ramp, San Francisco Bay Trail, San Francisco Water Trail, USS Hornet Museum, Ferry Terminals (2), Commercial buildings (52), Shoreline Drive, Main sewer pipes and stormwater drainage system
Natural Assets	Crown Beach, Crab Cove, Elsie Roemer Bird Sanctuary (7-acre salt marsh and offshore eelgrass beds), Alameda Beach, mudflats

Other Site Vulnerabilities

The City of Alameda found that it will face significant losses from damage to buildings, infrastructure, and property exposed to flood hazards, using a model that overlays the value of parcels with flooding data. In addition, access to the ferry terminal on Alameda Island would be lost with 48 inches of sea level rise, and at Bay Farm Island at 52–66 inches.

This would cut off a critical commuter transportation route to San Francisco, and a service that brings visitors to support the local tourism and recreation economy. Finally, non-market losses of recreation and habitat values are concentrated at Crown Beach, one of the few and most popular beaches in San Francisco Bay.



Proposed Adaptation and Mitigation Measures

Protect

Build new levees and seawalls and/or replace existing levees and seawalls with horizontal levees and living shorelines that combine oyster reefs offshore with expanded beaches, cobble berms. Beach nourishment, expand dunes at Crown Beach.

Restore aquatic vegetation.

Accommodate

Elevate existing levees and seawalls along Eastshore Drive, shoreline near Webster and Posey Tubes, Bay Island. Upgrade pump and sewage infrastructure. Elevate roads. Expand flood protection barriers, flood-proof facilities, explore other flood control options like installing pump stations. Augment salt marsh and mudflats along Crown Beach, Eastshore Drive, shoreline near Western and Posey Tubes. Coordinate with East Bay Regional Park District on Crown Beach Master Plan. Develop long-term strategies through local ordinances and replacements and repairs. Assess bridge vulnerability.

Retreat

Allow beach to retreat inland. Develop tidal neighborhoods. Install different bike/pedestrian pathways. Consider land acquisition along Northern Waterfront to create a buffer between private upland property and water.

The City of Alameda uses a Social Vulnerability Index to understand which communities are the most vulnerable to rising seas and flood risks. The impacted populations most vulnerable to flood exposure in Alameda include renters, those who are severely housing-cost burdened, low income, seniors living alone, and communities of color. The area of highest overlapping sea level rise risk and social vulnerability is in western Alameda, at and near Alameda Point. This information will influence how the city prioritizes implementing adaptation strategies to protect the most vulnerable residents.

Anticipated Costs of Sea Level Rise (millions)*

	Current	2030 (10 in.)	2050 (23 in.)	2100 (83 in.)
Assets at Risk or Repair and Replacement Costs	n/a	\$40.6	\$48.7	\$188.1
Losses in Non-Market Value	n/a	\$78/year, decreasing through time		
Cost of Adaptation	n/a	\$11	\$34	\$493

* Repair and Replacement Costs from Table L-4, p. L-19; Losses in Non-market Value from p. L-20; Adaptation Costs from Table L-8.