

City of Monterey

Monterey County

Site Description

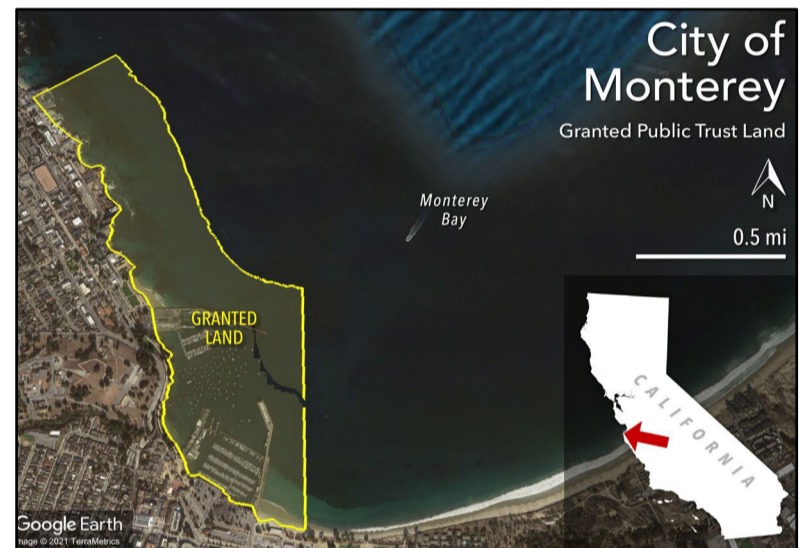
The City of Monterey is located at the south end of Monterey Bay. The city was first granted the state tidelands within its city boundaries in 1868. The original grant was repealed and replaced in 1919 and amended in 1984 to specify that the city's granted lands included submerged lands to a depth of 60 feet at low tide water. The scope of this assessment was developed to complement previous studies with a focus on the tidelands of Monterey, which are generally located between Wharf 2 and the Monterey Bay Aquarium. Monterey took a transect approach to their assessment and divided their granted land into characteristic areas, including the fisherman wharves, marinas and moorings, natural coastal habitat and access points, and the cannery row waterfront. The city operates and maintains the Monterey Harbor and as well as many visitor serving commercial parcels with recreation, retail, and restaurant uses.



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

Public Trust Uses

Primary Uses: Commerce, Fishing
Secondary Uses: Recreation



Coastal Hazards considered:
tidal inundation, wave run-up, shoreline change/
erosion

Modeling system used for mapping:
In-house model

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

Vulnerable Public Trust Resources	
Built Facilities	Monterey Bay Aquarium, Cannery Row, lodging, restaurants, retail shops. Pile-supported structures. Remnant historical structures. Seawalls. Roadway/sidewalk. Public restrooms. Sewer lift stations. Coast Guard Pier and Breakwater. Monterey Harbor recreation trail. Old Fisherman's Wharf (total loss at 60 in. of sea level rise). Municipal Wharf 2 (total loss at 60 in. of sea level rise). Municipal Marina (floating docks and moorings). Breakwater Cove.
Natural Assets	Sandy pocket beaches bound by rocky headlands/bluffs and reef (total loss at 60 in. of sea level rise). San Carlos Beach. Cobble bluffs. Rocky and sandy intertidal habitat. Public access points at McAbee Beach, Monterey Plaza Hotel Beach, San Carlos Beach, and Monterey Harbor Beach.

Other Economic Vulnerabilities

Impacts from the 2030 and 2050 sea level rise scenarios are largely due to loss of revenue streams from Wharf 1 and 2 in addition to citywide loss of transient occupancy taxes and sales tax from loss of these attractions. The impacts from a 5-foot sea level rise scenario (2100) reflect the direct and indirect economic output and job losses due to the loss of visitor-days and sales caused by closure of one or both major attractions in Monterey—the aquarium and the wharves—from damage associated with the 2100 sea level rise scenario.



Proposed Adaptation and Mitigation Measures

See section 8 for detailed descriptions of Monterey’s adaptation strategies.

Natural or Nature-Based Adaptation Strategies

Present day–2050: Opportunistic beach nourishment

2050–2100: Living shorelines and artificial reefs.

Building and Infrastructure Strategies

Present day–2050: Cannery Row Waterfront—regular inspection and repair; dry flood proofing. Old Fisherman’s Wharf & Municipal Wharf II—repair. Coast Guard Breakwater—reinforcement. Access and parking for boating infrastructure—flood storage or conveyance infrastructure, barriers to prevent flooding, elevating parking areas.

2050–2100: Cannery Row Waterfront—design for future wave impacts; secondary flood protection measures (i.e., wave return wall pictured at top right). Old Fisherman’s Wharf & Municipal Wharf II—replacement. San Carlos Beach Park—reconfigure revetment and bluff-top amenities (potential to utilize a managed retreat approach). Marina upgrades for floating docks, piles, and utilities.

Extended Closure

It is assumed that after a major storm event coupled with the 2100 sea level rise scenario, there would be an extended closure period (assumed to be 5 years) during which the damaged facilities are repaired or replaced.

Anticipated Costs of Sea Level Rise (millions)*

	Current	2030 (8.8 in.)	2050 (23.8 in.)	2100 (62.6 in.)
Assets at Risk or Repair and Replacement Costs	n/a	\$1.0075	\$2.06	\$34.0837
Losses in Non-Market Value	n/a	\$0.185	\$1.021	\$1.558
Cost of Adaptation	n/a	n/a	n/a	n/a

* Lost Revenue from Table 7.1; Non-market Value Estimates from Tables 7.18 to 7.20.