

City of Santa Barbara*

Santa Barbara County

Site Description

The City of Santa Barbara's Public Trust grant spans the coastline from Hendry's Beach on the west to the Andree Clark Bird Refuge on the east. The Santa Barbara coastline is characterized by a mix of coastal bluffs and low-lying sandy beaches and backshores and serves a variety of land uses. This includes natural areas, recreational beaches and parks, critical infrastructure (transportation, wastewater, and communication infrastructure), the Harbor and all associated facilities, and numerous commercial and industrial developments. Rising sea levels will present increased physical risks to the area, including shoreline erosion and degradation, decreased beach widths, amplified storm surges, and inundation of coastal flood waters. The City has significantly advanced sea level rise planning and adaptation projects since submitting its AB 691 assessment, including the adoption of a phased approach Adaptation Plan with over forty high-priority actions slated to begin in the next 5 years.

Coastal Hazards considered:
tidal inundation, 100-year storm, storm wave run-up, shoreline erosion/bluff erosion



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

Public Trust Uses

Primary Uses: Fishing, Recreation

Secondary Uses: Navigation, Conservation



Modeling system used for mapping:
CoSMoS 3.0 (USGS) and Coastal Resilience Santa Barbara (ESA)

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

| Vulnerable Public Trust Resources | |
|-----------------------------------|--|
| Built Facilities | Transportation infrastructure, recreation facilities, stormwater infrastructure, Stearns Wharf, harbor services and associated facilities, public property, communication infrastructure, water supply and wastewater infrastructure, Laguna Channel and Tide Gate/Pump System |
| Natural Assets | Recreational areas, beaches, trails, parks, bluffs, Mission Creek, Arroyo Burro County Beach Park |

* This was a city-wide assessment and therefore the resources, economic information, and proposed adaptation measures may include areas of analysis outside the city's granted lands.

Other Economic Vulnerabilities

The assets affected are currently worth the amounts below. These amounts (or costs) assume replacement-in-place (no relocation) and as currently designed and represent a rough order of magnitude cost in 2018 dollars for planning purposes only. The costs do not reflect losses and other costs associated with taking no action. The assets include the Braemar Lift Station, Laguna Tide Gates, Laguna Stormwater Pump Station, Harbor, Stearns Wharf, El Estero Wastewater Treatment Plant, and the Charles E. Meyer Desalination Plant. The actual replacement costs for these facilities in the future could likely be much higher. The Santa Barbara Harborworks (breakwater, marinas, etc.) was estimated to be valued around \$50 million–\$60 million, based on review of damages documented at Crescent City and Santa Cruz harbors during earthquakes in 2006 and 2011 (damages converted to 2018 dollars and scaled to size of Santa Barbara Harbor).



The Santa Barbara Harbor and Stearns Wharf are valuable and important assets in the city. The harbor includes the marina, commercial uses, parking, industrial areas, and the City Pier, which supports the Coast Guard and houses a fuel dock. Under existing conditions, storm events and especially high tides (king tides) can dislocate pile caps at the floating docks, and waves can overtop the harbor breakwater and reduce public access. More than 2 feet of sea level rise (e.g., the 2060 case) is expected to regularly impede normal harbor functions, and the harbor in its current configuration would be unusable by 2100, with more than 6 feet of sea level rise.

Proposed Adaptation and Mitigation Measures

Policy Adaptation Strategies

Create shoreline monitoring program and identify action thresholds.

Natural or Nature-Based Adaptation Strategies

Study and implement sand bypassing and beach berm construction programs; study and implement additional beach nourishment and seasonal berms.

Building and Infrastructure Strategies

Manage bluff drainage to reduce erosion from runoff and irrigation; require bluff setbacks for new development/ redevelopment and limit use of revetments to protection of essential public services, access points, and major roads; relocate or remove non-critical assets; comprehensively study impacts to wastewater, water, recycled water, and stormwater systems; raise or modify Harbor breakwater, rock groin, sandspit, and the walkway and wall from breakwater to Harbor commercial area; renovate marina facilities and the City Pier in phases, raise piles by the time 0.5–1 feet of sea level rise occurs; study appropriate triggers for temporarily closing Stearns Wharf during major storms; redesign and reconstruct the Laguna tide gate and pump system.

Proposed adaptation and mitigation measures are from the City of Santa Barbara's Sea-Level Rise Adaptation Plan that was adopted in 2021. The AB 691 Assessment referred to this plan, which was developed after the AB 691 submission due date (2019).

Anticipated Costs of Sea Level Rise (millions)*

| | Current | 2030 (9.6 in.) | 2050 (30 in.) | 2100 (79.2 in.) |
|---|-------------|----------------|---------------|-----------------|
| Assets at Risk or Repair and Replacement Costs | \$397–\$459 | | | |
| Losses in Non-Market Value | | | | |
| Average Annual Public Trust Revenues at Risk | | | \$14.4 | |

* These costs are from (p. 45) Table 6: Approximate 2018 Replacement Costs for Public Works Assets in Place as Currently Designed. These cost evaluations have been updated in the most recent Adaptation Plan and the values are more the 2 orders of magnitude greater than what is presented in this table.