

Santa Cruz Port District

Santa Cruz County

Site Description

In 1968, the State of California granted the Santa Cruz Port District sovereign tidelands and submerged lands within the north Santa Cruz Harbor, located on the northern side of Monterey Bay. The Santa Cruz Port District, enacted in 1950 when there was a need for a homeport and refuge for a growing number of fishing boats and other small craft, now manages approximately 37 acres of granted lands, 26 of which are seabed (submerged) areas. The entirety of the Santa Cruz north harbor area can be considered a man-made facility, with construction completed in 1973. The harbor area supports a wide range of landside and waterside businesses, marine surf and rescue operations, and a wealth of recreational and commercial boating opportunities. The harbor hosts numerous annual events and activities both on land and on the water for the enjoyment of the public.

Because the shoreline within the harbor area is man-made and protected with riprap, the main shoreline changes resulting from sea level rise are associated with rising tides, impacting public access, commerce, and recreational/commercial activities. Some adaptation strategies the Port District plans to implement to combat these impacts include elevating the area around the harbor, reinforcing berms, and improving harbor infrastructure.

Coastal Hazards considered:
tidal inundation, king tides, 100-year storm



Granted Land Type:
Smaller Harbor/Marina

Public Trust Uses

Primary Uses: Recreation, Commerce

Secondary Uses: Navigation, Fishing



Modeling system used for mapping:
NOAA

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

Vulnerable Public Trust Resources

Built Facilities	Marina restrooms and docks, Moorage for the District's dredge, RV Park area, marine engine repair facility, dry storage area, Maintenance and dredge yards, Garbage collection/compaction area, oil recycling stations, lift stations, pedestrian walkways
Natural Assets	Multiple scenic viewpoints with benches overlooking the harbor area, and access to the Arana Gulch watershed's pedestrian and biking trails and green space

Other Economic Vulnerabilities

Estimates are in 2019 dollars. These costs reflect impacts to hourly parking in the daytime hours from 8:00 a.m. to 6:00 p.m. based on parking area information from WDI (2016). It is estimated that losses in revenue due to impacts to parking areas could be on the order of \$50/day by 2050, \$100/day by 2060, and \$1,000/day by 2100.

Noted in the assessment is that by 2060, other costs will be significant, but these costs were not estimated in this analysis.

Proposed Adaptation and Mitigation Measures

Protect

By 2030, protect visitor serving venues and natural resources such as native coastal vegetation.

By 2100, elevate the area around the harbor by raising the grade of land side areas with fill and reestablishing paving, access pathways, and existing infrastructure.

By 2100, as an alternative to raising site grades in general, the harbor basin perimeter could be improved with a raised berm to confine floodwaters to the harbor basin. This type of solution might only be feasible up to a point, as access to and from the harbor basin would need to ramp up and over the berm.

Accommodate

By 2030, rebuild dock abutments and access paths with a higher hinge point for the float or install a new abutment structure that allows vertical adjustments to be made over time.

By 2100, most buildings can be elevated.

Retreat

By 2100, replace and relocate some buildings.



King Tide Hazard Zones

Based on the current outlook, initial sea level rise related impacts could start to affect the north harbor around 2050 to 2060. These estimates are based on the medium to high risk sea level rise projection, which has a 1 in 200 chance (0.5 percent risk) of occurring. In terms of sea level rise threshold, the above equates to a rise of the mean sea level of 1.9 to 2.6 feet. Adaptation and mitigation to improve sea level rise resilience at the north harbor can therefore be timed with a threshold of

1.9 to 2.6 feet of sea level rise from present day. At that time, the projected rate of sea level rise remains moderate at around 0.8 inches per year or

8 inches over a decade, which leaves room for planning of capital improvement projects, including identifying funding options.

Anticipated Costs of Sea Level Rise (millions)*

	Current	2030 (9.6 in.)	2050 (31.2 in.)	2100 (82.8 in.)
Assets at Risk or Repair and Replacement Costs	n/a	\$0.0001	\$0.011	\$11.0
Losses in Non-Market Value				
Cost of Adaptation	\$8.35 per year			

* Estimates for losses in parking revenues; Table 7, p. 27.