Meeting Date: 12/17/20
Staff: K. Kunkel

Staff Report 64 (Informational)

Informational Update on AB 691 (2013, Muratsuchi): State Granted Lands and Sea-level Rise

INTRODUCTION:

Sea-level rise puts much of the California coast, including our major ports, harbors, and beaches, at risk. In 2013, the Legislature passed AB 691 to require local trustees of granted Public Trust lands with gross revenues that average over $250,000 annually to inventory their trust assets, assess vulnerability to sea-level rise, and formulate feasible and effective adaptation and resiliency measures. There were 32 local trustees required to submit assessments by July 1, 2019. Commission staff and the firm Revell Coastal reviewed the assessments and are developing a report to summarize the information. The report will identify the data, tools, and resources needed to understand risks to trust assets and options for protecting and adapting them. Commission staff and Revell Coastal are in the final stages of completing two-page summaries for each assessment. This staff report provides an update on the two-page summaries and next steps.

BACKGROUND:

The Legislature has granted Public Trust lands to over 80 local public entities that are known as grantees or trustees. The granted lands must be managed in trust for the benefit of all the people of California. The uses permitted in each granting statute vary. Some grants authorize ports, harbors, airports, wharves, docks, piers, and other structures necessary to facilitate commerce and navigation, while others allow only visitor-serving recreational uses or open space. All grants reserve to the people the right to fish in the waters over the lands and the right to convenient access to those waters for that purpose.

Local trustees manage granted lands in trust pursuant to the common law Public Trust Doctrine, the specific granting statute(s), the California Constitution, and other laws governing the trust and the trustee's fiduciary duties. While granted Public Trust lands and assets are managed locally, the Commission has residual and review authority over these lands and their management. The Commission represents the statewide public interest to ensure that trustees manage their granted lands in conformance with the law.

AB 691 supports the Commission's oversight role of granted Public Trust lands by gathering information from trustees on the local and site-specific vulnerabilities associated with sea-level rise, as well as strategies for safeguarding and adapting Public Trust lands and resources. Sea-level rise poses significant challenges to the management of granted and ungranted sovereign Public Trust lands and resources. Rapidly warming temperatures and rising waters will result in a wide range of impacts to critical infrastructure, commercial enterprises, navigational safety, public access, recreation and tourism, fisheries, and coastal ecosystems. The Commission and local trustees have a responsibility to the public to ensure that Public Trust values and uses are carefully considered amid these challenges and that there is robust communication and coordination between the State and local jurisdictions so that planning and adaptation efforts are effective.

To learn more about the AB 691 criteria, resources for assessing sea-level rise vulnerability, and the Public Trust, visit the AB 691 webpage.

DISCUSSION:

Staff and Revell Coastal developed two-page summaries for all submitted AB691 assessments. The summaries distill the essential information from each assessment that satisfies the required criteria. They are concise versions of the assessments, written for the public and decision-makers. They also present the assessments in a standard format that makes it easier to compare information and develop analysis.

After the initial assessment reviews, it was clear the submissions reflected a range of approaches. Many trustees found it challenging to develop quantitative information related to vulnerability and adaptation. AB 691 gave grantees flexibility for satisfying the requirements, including a provision that they could use previously completed studies to satisfy the criteria. This meant that staff received assessments that were compilations of sea-level rise vulnerability studies and planning documents related to other planning efforts, like FEMA Hazard Mitigation Plans or Local Coastal Programs. Some grantees did create assessments specifically developed for AB 691. These assessments also varied in length from less than 10 pages to more than 600 pages. The two-page summaries make it easier to compare and contrast the risks to granted Public Trust lands, resources, and assets and proposed adaptation strategies. They also provide a format to easily communicate findings to local officials, the Legislature, the public, and other stakeholders.

The two-page summaries contain the following congruent sections: Site Description, Public Trust Uses, Tidal Gauge Referenced, Modeling System Used, Vulnerable Public Trust Resources, Anticipated Costs of Sea-level Rise, and Proposed

Adaptation and Mitigation Measures. Each summary highlights a noteworthy feature from the full assessment. For example, the San Diego Unified Port District's summary (Exhibit A), features the Port's proposed partnerships to protect coastal dependent uses, fill research gaps, and prepare for sea-level rise. For the City of Crescent City (Exhibit B), the section on social equity, environmental justice, and the needs of vulnerable communities is highlighted.

Staff and Revell Coastal acknowledge that when complex assessments are condensed down to such an abbreviated format, certain information is excluded from the summary. These summaries highlight the pieces of information important to move forward, but there is a lot of nuance and more developed analysis that can be found in the full assessments. The two-page summaries are intended to be companion pieces to the full assessments, most of which are available on our website.

NEXT STEPS:

Commission staff in collaboration with Revell Coastal are working to finalize the two-page summaries, gather feedback from trustees and agency partners, and post the final summaries on our website by January 2021. Staff and Revell Coastal are also developing a comprehensive summary assessment report to identify best practices in the assessments, determine the most vulnerable priority Public Trust assets by trustee category, recognize the challenges trustees face in planning for sea-level rise, and provide recommendations for future sea-level rise planning efforts. Staff will present the draft report to the Commission as early as at its February 2021 meeting.

OTHER PERTINENT INFORMATION:

This informational update is consistent with Strategy 1.1 of the Commission's Strategic Plan to deliver the highest levels of public health and safety in the protection, preservation, and responsible economic use of the lands and resources under the Commission's jurisdiction; Strategy 1.4, to incorporate strategies to address climate change, adapt to sea-level rise, incentivize water conservation, and reduce greenhouse gas emissions and the generation of litter and marine debris into all the Commission's planning processes, project analyses and decisions; Strategy 1.4.1, to provide applicants and grantees with the best available science on the impacts of climate change, sea-level rise, and adaptation strategies; Strategy 1.4.2, to coordinate with lessees, grantees and agency partners to implement actions, and where appropriate require lessees, to address impacts of

climate change, adapt to sea-level rise, promote and incentivize water conservation, reduce greenhouse gas emissions, and reduce generation of marine debris and litter; and Strategy 1.4.3, to adopt flexible, adaptive approaches to address sea-level rise that protect vulnerable populations and give priority to natural infrastructure solutions consistent with the public's trust needs and the State's climate change adaptation strategy "Safeguarding California" and Executive Order B-30-15 on climate adaptation.

EXHIBITS:

A. San Diego Unified Port District AB 691 two-page summary
B. City of Crescent City AB 691 two-page summary

San Diego Unified Port District

San Diego County

Granted Land Type:
Larger Ports

Public Trust Uses

Primary Uses: Commerce, Navigation, Recreation, Environmental Stewardship, Fisheries

Tidal gauge referenced:
La Jolla – 9410230

Modeling system used: CoSMoS

LINK TO FULL ASSESSMENT

CALIFORNIA STATE LANDS COMMISSION

REVELL COASTAL

Site Description:

The State Legislature formed the San Diego Unified Port District (District) in 1962 through the San Diego Unified Port Act, codified in California Harbors and Navigation Code, Appendix 1, and granted certain public trust tidelands and submerged tidelands in and around San Diego Bay. The District encompasses portions of five cities–San Diego, National City, Chula Vista, Imperial Beach and Coronado–and the San Diego International Airport. With approximately 5,750 acres of water and land, the District hosts a wide range of public trust compliant uses and improvements including public access, maritime, commercial, industrial, institutional, conservation, and recreation.

Sea-level rise is projected to potentially impact the coastal lands along the San Diego Bay, creating a set of challenges and related opportunities to build the resilience and adaptive capacity of the area. The potential impacts from projected sea-level rise, such as inundation, storm events, and increased risk of flooding and coastal erosion, have the potential to impact the District, including natural resources, public access, infrastructure, and business operations.

Vulnerable Public Trust Resources

Built Facilities	Roads, rail, bikeways, pathways, marine terminals, buildings, piers, stormwater management, sewer lifts, boat launch ramps
Natural Assets	Beach accessible areas, parks

Anticipated Costs of Sea-Level Rise (millions)*

	Current	2030	2050	2100
Repair and Replacement Costs		$48.4	$58.7	$114.5 - $1.04
Losses in Non-Market Value	$40 - $61 (Current Value)			$11.9 – $12.3
Loss in Revenue		$16.1	$16.1	$24.8 - $39.2

Costs listed above for Repair and Replacement demonstrate the No Action scenario. Losses in non-market value are extensive and estimated in detail per year on page 136 of the report. Page 142 describes adaptation strategies with associated costs in detail. For example, restoring salt marsh or eelgrass for sea-level rise accommodation would cost between $16,000 - $45,000 per acre.

*Repair Costs from Table ES-6 and ES-7 pp. 15-16 (loss of port revenue not included); Loss in Revenue from Table ES-6 and ES-7 pp. 15-16 (loss in port revenue); Tables 4 and 5, pp, 28-29 provide detailed estimates of City and non-City assets.

Proposed Adaptation and Mitigation Measures

Policy Adaptation Strategies:

- Protect District mission-driven uses by employing adaptation strategies that protect against, then accommodate temporary coastal flooding and inundation
- Limit redevelopment in at-risk locations
- Design standards, provide adequate setbacks

Natural or Nature-Based Adaptation Strategies:

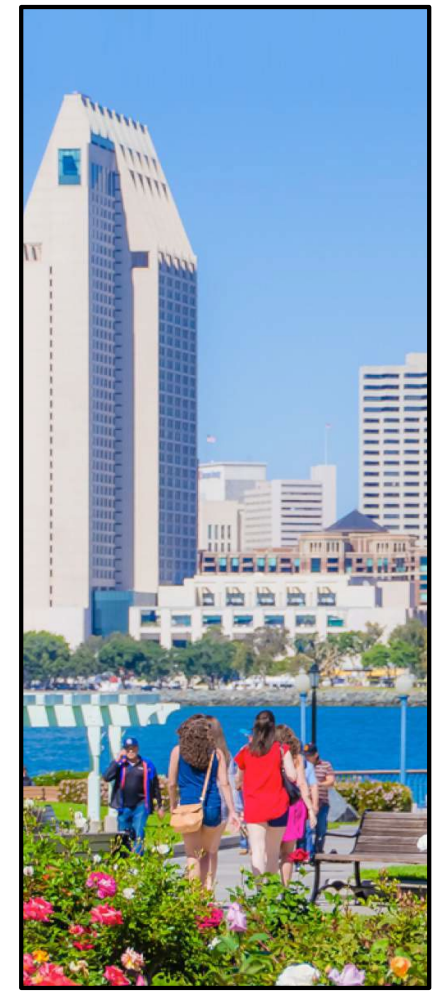
- Living shoreline, living breakwaters (oyster reef/floating reef)
- Bio-enhancing concrete, beach nourishment
- Wetland terraces, sediment augmentation, restoration

Shoreline Strategies:

- Revetments, breakwaters (branch box/floating/submerged)
- Bulkhead, seawall, groins
- Floating sector gate

Building and Infrastructure Strategies:

- Embankments, retractable barriers/aquafence
- Elevate infrastructure, floodable park



Partnerships

Collaboration with other relevant jurisdictions will be fundamental to the District's success in implementing the Framework. Of significance, the District and Navy Regional Southwest recently entered into a Memorandum of Agreement to align their planning initiatives related to projected sea-level rise and coastal flooding. As the two largest land managers along San Diego Bay, a continued partnership between the District and the Navy is crucial to protecting coastal dependent uses. Likewise, working with academia is important for the District to identify and fill research gaps. As a result, the District and academic institutions such as Scripps Institution of Oceanography will continue their long-standing relationship of research in San Diego Bay.

Crescent City

Del Norte County

Granted Land Type:
Smaller Ports/Harbors

Public Trust Uses
Primary Use: Recreation

Other Uses: Commerce, Navigation, Environmental Stewardship

Tidal gauge referenced:
Crescent City– 941975

Modeling system used: NOAA

LINK TO FULL ASSESSMENT

CALIFORNIA STATE LANDS COMMISSION

REVELL COASTAL

Site Description:

Crescent City is situated on a low-lying portion of the Pacific coast in northern California. In 1868, the State Legislature granted Crescent City 194 acres of sovereign land in trust. The City controls land and tideland properties waterward of the 1948 ordinary high-water mark, bounded by the Redwood Highway to the north, Crescent City Harbor District granted lands boundary to the east, Lighthouse Way breakwater to the south, and Front Street to the North.

Like much of coastal California, Crescent City is vulnerable to extreme coastal events combined with rising seas. Extreme events such as storm surges and tsunamis can and have already caused widespread adverse impacts to coastal resources and infrastructure, and sea-level rise will exacerbate these impacts.

Vulnerable Public Trust Resources	
Built Facilities	Pier, levee, park, cultural center, trails, dog park, breakwater, environmental center, RV campground, swimming pool, wastewater treatment plant
Natural Assets	Estuary

Anticipated Costs of Sea-Level Rise (millions)*

	Current	2030	2050	2100
Replacement Cost of Existing Assets	~$113.37			
Losses in Non-Market Value		~$0.3	~$3.3	~$4.9
Value of Exposed Assets		~$1.27	~$8.17	~$44.12

The 2100 sea-level rise projection of 6 feet will directly impact all of the City's assets on the eastern half of the grant. The Elk Creek Estuary will be inundated during much of the tide cycle and the tidal impacts will extend inland along the Elk Creek drainage north of the Redwood Highway and beyond the limits of the City's granted lands. This inundation would result in significant damage to the existing City assets with these areas and extend the coastal processes of shoreline scour further inshore than the current established shoreline.

* Replacement cost from Table 4, p.14; non-market value Table 5, p.15; value of exposed assets Table 6, p.15.

Proposed Adaptation and Mitigation Measures

Accommodation Strategies:

- Replace and elevate B Street Pier
- Elevate and strengthen Lighthouse Way Breakwater
- Elevate pedestrian bridge over Elk Creek
- Elevate sections of the Redwood Highway
- Beach renourishment northwest of Lighthouse Way Breakwater
- Develop a debris management plan

B Street Pier in Crescent City

Protection Strategies:

- Elevate, extend, and armor levee on east and west sides of Elk Creek
- Develop and implement a program to capture perishable data after significant events to support future migration efforts, including the implementation and maintenance of the hazard mitigation plan

Retreat Strategies:

- Limit new development in mapped hazard area
- Where appropriate, support retrofitting, or purchase or relocate structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazards

Social Equity, Environmental Justice, and the Needs of Vulnerable Communities:

The entirety of the Crescent City granted lands area's shoreline is located within the zone of highest vulnerability for people and businesses from a social and economic perspective. These are the areas considered to be least likely to possess the capacity and resources to prepare and respond to hazards like flooding. As sea-level rise encroaches on this community, the areas of highest vulnerabilities will only increase. Engaging communities that will face unequal distribution of sea-level rise related impacts, such as the fishing and recreational industries, will ensure that adaptation strategies accurately reflect their risk, needs, and priorities.