

CALENDAR ITEM

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J. Deleon

S. Pemberton

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K. Keen

**STAFF REPORT ON THE CALIFORNIA STATE LANDS COMMISSION STAFF'S
ACTIVITIES TO ADDRESS SEA LEVEL RISE**

OVERVIEW:

As sea levels continue to rise, California's coastline will change, which will have a number of significant consequences for sovereign public trust lands, resources, and assets. This staff report provides background information about the potential impacts of sea-level rise on the public trust lands and resources under the State Lands Commission's (Commission) jurisdiction. It also provides an update about how the Commission and its staff have been addressing sea-level rise in its planning, leasing, and regulatory actions.

BACKGROUND:

The Commission serves the people of California by managing and protecting over 4 million acres of sovereign land, including the beds of California's navigable rivers, lakes and streams, and the State's tide and submerged lands. The Commission's jurisdiction extends along the State's 1,100+ miles of coastline and offshore islands, from the ordinary high water mark, as measured by the mean high tide line (except where there is fill or artificial accretion), to three miles offshore. The Commission also exercises oversight authority over sovereign public trust lands granted in trust by the Legislature to approximately 80 local jurisdictions.

Except for those locations where the boundary has been permanently fixed by either a court decision or an agreement with the Commission, the landward boundary of most sovereign public trust land is what is referred to as an "ambulatory boundary" because it moves with the ebb and flow of the tide. As previously mentioned, the boundary between state-owned sovereign land and private uplands is generally based on the location of the ordinary high water mark, as measured by the mean high tide line (except where there has been fill or artificial accretion). As a practical matter, this means that sea-level rise will likely affect the boundaries between sovereign public trust lands and privately owned uplands. Other sea-level rise impacts that could potentially affect the Commission's jurisdiction include an increase in applications to build new seawalls and protective structures, applications to maintain and repair existing protective structures, and various changes in the characteristics of coastal marshes, wetlands, and lagoons.

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The Commission employs a variety of management tools to protect the State's resources and accomplish its goals and objectives, including the resolution of boundaries between public and private lands, surface and mineral leases, cooperative management agreements, and, when necessary, litigation to enforce the protections of the Public Trust Doctrine, the State's property rights, and environmental quality laws. Through its boundary and title settlements, the Commission secures and protects the public's access rights to public lands within its jurisdiction and preserves resource areas that provide irreplaceable natural habitats for wildlife, vegetation, and unique biological communities.

Because sovereign lands are extensive, contain varied natural and cultural resources, and are home to various endangered species, their management requires a wide variety of programs and expertise. State lands are used by public and private entities for many purposes, including wetland restoration; water-dependent recreation; open space; ports; harbors; marinas; pipelines; industrial wharves; recreational piers and docks; marine terminals; dredging; timber harvesting; grazing; mining of sand, gravel, and precious metals; shoreline protective structures; and development and extraction of oil, gas, and geothermal resources. When considering lease applications and proposals for the use, occupation, or development of the State's public trust lands and resources, the Commission ensures that any approved use or project is both consistent with the common law Public Trust Doctrine and in the State's best interests.

The common law Public Trust Doctrine is integral to the Commission's work and especially important in the context of sea-level rise. The public's right to use and access California's waterways for commerce, navigation, fishing, boating, water-oriented recreation, and environmental preservation is protected by the Public Trust Doctrine. The Public Trust Doctrine ensures that title to sovereign land is held by the State in trust for the people of the State, who are the beneficiaries of the trust and entitled to access and use these lands. Sea-level rise will potentially limit the public's right to access these lands, as well as the protection of resources. The Commission has a fiduciary duty to the State and to the public to protect and preserve the State's trust assets. As such, a large part of the Commission's efforts to address sea-level rise have and will continue to focus on protecting public access and the public's property rights and interests in these public trust lands and resources.

According to a recent study by the National Research Council (NRC 2012), tide gauge measurements show that global sea level rose by an average of about 1.7 ± 0.5 millimeters per year (mm/yr) over the last century. However, the rate of sea-level rise has increased to about 3.1 ± 0.7 mm/yr during the last two to three decades. The NRC report assesses future global sea-level rise and future sea-level rise along the coasts of California, Oregon, and Washington. The rate of sea-level change is not uniform around the world, nor is it the same in every place along the west coast of the United States. In California, the presence of a major plate tectonic boundary at Cape

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Mendocino causes the coastline to behave in different ways on either side of the feature. The NRC report accounts for those differences, as well as the major contributors to global sea-level rise (i.e. oceanic thermal expansion and the melting of glaciers and ice sheets). The NRC report also accounts for the atmospheric and oceanic variables that affect rates of sea-level rise in individual coastal regions. Thus, the NRC projects different values for future sea-level rise on either side of Cape Mendocino.

Relative to the year 2000, the NRC projects that sea level could rise along the California coast south of Cape Mendocino by 5 to 24 inches by the year 2050 and 17 to 66 inches by 2100. From Cape Mendocino to Puget Sound in the north, sea level is projected to change by -1 to +19 inches by 2050 and 4 to 56 inches by 2100. However, these figures do not account for the fact that the coast of northern California, Oregon, and Washington will one day undergo the next big subduction zone earthquake, which might cause some coastal areas to immediately subside and local sea level to suddenly rise by at least one meter.

There are numerous threats to California's coastal and bay communities and infrastructure from sea-level rise. Vast state-owned lands and resources under the Commission's jurisdiction will be affected by rising sea levels. Because of their nature and location, these lands and infrastructure are already vulnerable to natural hazards, including storms and extreme high tides. While some of these lands remain in a natural state, significant portions have been developed pursuant to leases issued by the Commission or through legislative grants to local jurisdictions. Future sea-level rise is expected to compound the effects of natural hazards on existing coastal and bay structures and will likely reduce or eliminate public access along the coastline in some areas.

The Commission, as a land and resource trust manager, has significant influence over on-the-ground development and uses of public trust lands that will be affected by sea-level rise. As discussed below, Commission staff is collaborating with federal, state, and local agencies to plan for and mitigate the impacts of sea-level rise on the lands and natural resources under its jurisdiction.

ADDRESSING SEA-LEVEL RISE:

INTERNAL ACTIVITIES

In 2009, the Commission issued a report entitled: *A Report on Sea Level Rise Preparedness* (http://www.slc.ca.gov/Reports/SEA_LEVEL_Report.pdf).¹ The report includes the results of a survey, which assessed whether trustees of legislatively-

¹ An update to the Report was provided to the Commission at its December 10, 2010 meeting; http://archives.slc.ca.gov/Meeting_Summaries/2010_Documents/12-10-10/Items_and_Exhibits/49.pdf

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granted lands and the Commission's lessees had considered the potential impacts of sea-level rise. Based on survey responses, the Commission adopted recommendations from the report to improve sea-level rise preparedness. The recommendations that Commission staff are implementing include:

- 1) Update the Commission's lease application to incorporate sea-level rise considerations;
- 2) Include sea-level rise considerations in jurisdictional determinations;
- 3) Require boundary line agreements and title settlements to include a provision stating that the public trust easement will move with submergence or when subject to the ebb and flow of the tide;
- 4) Address the effects of sea-level rise on any relevant resource categories of a proposed project in the Commission's California Environmental Quality Act documents and in comment letters; and
- 5) Require all marine oil terminals to consider sea-level rise projections over the remaining life of the terminal.

In 2013, AB 691 (Muratuschi), Chapter 592, Statutes of 2013, was enacted to address sea-level rise impacts on granted public trust lands. Granted public trust lands include some of the State's most significant contributors to local, state, and national economies, including the ports of Los Angeles, Long Beach, San Diego, San Francisco, and Oakland. AB 691 requires local trustees of granted public trust lands with annual gross public trust revenues exceeding \$250,000 to prepare and submit to the Commission an assessment of how they propose to address sea-level rise, including impacts on existing facilities and future development. Assessments must be submitted to the Commission by July 1, 2019. Later this year, grantees will receive letters offering assistance with AB 691 compliance.

In 2014, Commission staff participated in the Assembly Select Committee on Sea-Level Rise and the California Economy hearings. The Select Committee consulted many stakeholders to analyze the impacts of sea-level rise on coastal agriculture, fishing, aquaculture, tourism, and ports. The Select Committee also reviewed the authority of certain state agencies to address those issues. The Commission's Executive Officer provided testimony to the Select Committee on how the Commission and staff have been addressing sea-level rise and the threat to public trust lands and resources under the Commission's jurisdiction.

Current efforts to improve the Commission's consideration of sea-level rise issues in its decision-making include a revised surface leasing application that poses new questions regarding the impacts of sea-level rise. The questions will serve as a guide for applicants who propose new development or improvements to existing development to assess the impacts of future sea-level rise on their proposed projects. Applicants will

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also be asked to identify project design alternatives and/or adaptation measures to avoid impacts to coastal resources and structures, as well as minimize risk to proposed projects during their life expectancies. The information gained from these application questions will help the Commission develop appropriate and effective lease terms to address and adapt to sea-level rise, including terms to protect and enhance public access and recreational opportunities to the State's public trust lands, as well as protect the State against hazard and liability risks associated with sea-level rise.

In addition, staff is designing a webpage to serve as a resource for applicants who must respond to the sea-level rise questions. The webpage will include statewide tools, maps, datasets, and other relevant information. It will be continually updated and will also serve as a resource for the public and legislative grantees subject to the requirements of AB 691.

COLLABORATION AND PARTNERSHIP

The Commission staff is also addressing sea-level rise by contributing to statewide efforts to prepare and adapt. As a member of the State's Climate Action Team Coastal and Ocean Resources Working Group (CO-CAT),² Commission staff coordinated with other coastal and bay conservation and management agencies to review and provide recommendations for the *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). Released in July 2014 by the California Natural Resources Agency, the Safeguarding California Plan is part of ongoing efforts to reduce impacts and prepare for risks associated with climate change by providing policy recommendations and guidance for decision-makers, including priority actions for protecting coastal communities and ocean and coastal ecosystems.

The Commission is also a member of the State Coastal Leadership Group on Sea-Level Rise (Leadership Group). The Leadership Group includes the executive leaders of the Ocean Protection Council, State Lands Commission, California Coastal Commission, San Francisco Bay Conservation and Development Commission, and State Coastal Conservancy. The main focus of the Leadership Group is to develop and implement a coordinated approach for the State that leverages resources, expertise, and complementary agency missions to address sea-level rise. The Leadership Group is developing a shared definition/vision of resilience that can facilitate sea-level rise preparedness and is in the process of crafting an Action Plan that will identify and prioritize specific activities to interpret the Safeguarding California principles and

² The CO-CAT is a forum for senior-level staff from California state agencies with ocean and coastal resource management responsibilities to share information and coordinate on actions, including the implementation of the ocean and coastal resources chapter of the 2009 California Climate Adaptation Strategy and development of sea-level rise guidance.

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accomplish successful resilience. After the Action Plan is finalized, staff will bring it to the Commission for its consideration.

Another way that the Commission collaborates to facilitate sea-level rise preparedness is through the California Collaborative on Coastal Resilience (Collaborative). The Collaborative, a subgroup of the Leadership Group, is focused on ways that state agencies can support local coastal jurisdictions in their efforts to prepare for sea-level rise. The Collaborative convened a workshop in March 2015 in Humboldt County to bring local stakeholders and partners, including tribes, together to discuss local adaptation projects, challenges, and how the State can be of assistance. This pilot project is helping the various agencies involved in improving collaboration among a diverse stakeholder group and providing ideas for how the State can help local governments be proactive in addressing sea-level rise.

CONCLUSION:

Sea-level rise, if unaddressed, will have catastrophic consequences for the State's millions of acres of sovereign lands, including limiting public access and ceding the State's property rights to private entities, particularly as the legal sovereign land boundary moves landward with the mean high tide, and the call to protect private property becomes increasingly urgent. Additionally, impacts from sea-level rise also pose significant risks to existing infrastructure located on public trust lands. The Commission and its staff are committed to being proactive, creative, and diligent to meet the challenges presented by climate change and rising sea levels. Through continued collaboration, commitment to science-based, comprehensive, and transparent policy development, and focused education efforts, the Commission and its staff will continue to protect and enhance the public's interests in the lands, resources, and assets under the Commission's jurisdiction as sea-level rises.