

Planning Areas: Countywide

SUMMARY:

It is anticipated that climate change will result in significant impacts along the coast, including sea level rise, changing patterns of fluvial flooding, storm surge, and erosion (“coastal hazards”). As such, staff asks that the Board of Supervisors consider the information and presentations at the hearing and direct staff to pursue funding to study areas and infrastructure at risk from climate change. Staff recommends that the direction include seeking funding to prepare a resiliency plan(s) that would address protecting or relocating critical infrastructure, outline managed retreat scenarios for areas at risk, and analyze other measures that will make private property and public areas and infrastructure resilient to climate change hazards.

In August 2018, Resource Management Agency (now County Housing and Community Development) Planning staff presented the Alternative Energy and Environment Committee of the Board of Supervisors (AEE) with a report on future hazards expected because of climate change relating to the Moss Landing Community. Since then, additional studies, reports and guidance have been developed identifying potential risks resulting from coastal hazards, including sea level rise, coastal erosion, storm surge, and flooding. Based on information gathered by staff, it is clear that coastal hazards are not limited to development in the Moss Landing Community Plan area. Climate change may also cause changes to rainfall patterns, which could affect non-coastal areas and our aquifers.

On January 29, 2020, County Planning staff presented coastal hazards information to the Planning Commission as an educational workshop. On July 23, 2020, Planning staff also presented information relating to local studies and efforts to the Board of Supervisors’ Alternative Energy and Environment Committee. The Committee recommended that the information, as well as the presentations from agencies involved with local climate change studies, be made to the Board of Supervisors, with the addition of a representative that can discuss potential climate change impacts to aquifers.

DISCUSSION:

Many efforts addressing climate change are being pursued at the local and state level, some of which have been used to inform updating the Moss Landing Community Plan and its implementing ordinances. These studies and documents will also be used to inform amendments to other coastal plans, plan for resiliency of public infrastructure, and identify areas susceptible to hazards from erosion and flooding.

These studies, some of which are provided as links in this report, demonstrate that important areas of the County and public infrastructure are at significant risk from coastal hazards. Coastal hazards could potentially impact low-lying areas of the county, such as Moss Landing, Castroville, Monterey Dunes Colony, Pebble Beach, and areas of unincorporated Carmel. County infrastructure including roads, highways, and utilities will also be affected. Potential changes in rainfall patterns from climate change could cause changes to water storage design and flooding patterns in the non-coastal areas of the County as well. Due to its geographic location and development intensity, Moss Landing and the surrounding area, including Highway 1 in the Moss Landing area, are perhaps the most susceptible to the impacts of climate change, specifically sea level rise and storm surge along the coast, coastal erosion changes, and potential changes in flooding patterns from rainfall variability.

Staff is presenting this general information to the Board of Supervisors and asking for Board direction whether we should prioritize analyzing coastal hazards at this time. If so, staff would seek funding and prepare studies to identify areas and public infrastructure at risk and plan for their resiliency to coastal hazards.

The attached documents summarize some of the state and local efforts taken to address coastal hazards and climate change. A few of the attached documents are as follows:

- The County's Office of Emergency Services currently implements the County's adopted 2016 *Multi-Jurisdictional Hazard Mitigation Plan* that addresses the types of hazards that could occur from climate change. Risks associated with climate change include sea level rise, storm surge along the coast, coastal erosion changes, and potential changes in flooding patterns from rainfall variability. This plan, which includes cities and the unincorporated area, is currently being updated over the next year. Climate change information and policies being developed for the updates of the Multi-Jurisdictional Hazard Mitigation Plan and the Moss Landing Community Plan are being shared between planners working on these updates. County staff is already pursuing federal grants to fund resiliency efforts. An excerpt of the *Multi-Jurisdictional Hazard Mitigation Plan* is provided in **Exhibit A** and the full plan can be accessed at <https://www.co.monterey.ca.us/home/showdocument?id=13709>.
 - The *State of California Sea-Level Rise Guidance*, including the Executive Summary, provides a science-based methodology for government to analyze and assess the risks associated with sea level rise, and to incorporate sea level rise into planning, permitting, and investment decisions. The Executive Summary is provided in **Exhibit B** and the full plan can be accessed at http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-
 - As part of the Moss Landing Community Plan update, the County obtained a grant to study climate change effects. The grant funded a 2017 *Coastal Climate Vulnerability Report* related to climate change effects along the Monterey Bay with a specific focus on North Monterey County. This report is the first comprehensive look at this section of the Monterey coast related to climate change and identifies potential impacts that climate change could have on private property and public infrastructure. The full report is provided in **Exhibit C** and can be accessed at <https://www.co.monterey.ca.us/home/showdocument?id=57558>).
 - The California Coastal Commission is providing comprehensive climate change policy guidance for local governments to include within its Local Coastal Program. The Executive Summary is provided in **Exhibit D** and the full plan can be access at https://documents.coastal.ca.gov/assets/slr/guidance/2018/0_Full_2018AdoptedSLRGuidanceUpdate).
 - The Association of Monterey Bay Area Governments (AMBAG) led an effort to study climate change risks to Highway 1 infrastructure in northern Monterey County. Monterey County is participating in this effort. The Executive Summary is provided in **Exhibit E** and the full plan and appendices can be accessed at <https://ambag.org/plans/central-coast-highway-1-climate-resiliency-study>).
1. The Monterey Bay National Marine Sanctuary, as part of its 2008 *Final Management Plan* to protect the Sanctuary's resources, developed a Coastal Armoring Action Plan with a goal of reducing expansion of hard coastal armoring development utilizing preventive measures and other coastal armoring alternatives. This information is discussed in the Coastal Development section provided as *Monterey Bay National Marine Sanctuary - Final Management Plan*, (2008) Section II, Coastal Development, National Oceanic and Atmospheric Administration of the plan provided in **Exhibit F.1**. The full plan can be accessed at <https://montereybay.noaa.gov/intro/mp/mp.html>. The Final Management Plan is in the process of being updated, with a decision on the updated plan expected in early 2021.

2. The State of California's Legislative Analyst's Office issued a report (December 2019) describing state and local government's role in addressing climate change. The Fact Sheet, *Preparing for Rising Seas: How the State Can Help Support Local Coastal Adaptation Efforts*, State of California Legislative Analyst's Office, provides a helpful summary and is attached as **Exhibit F.2** and the full report can be accessed at <https://lao.ca.gov/Publications?Year=&CategoryID=&Type=&phrase=Preparing+for+Rising+Seas>).

The documents listed below provide additional general information, including those prepared for certain areas of Monterey County:

- *Storm Water Resource Plan for the Greater Monterey County Integrated Regional Water Management Region*, Coastal Conservation and Research, Inc. Introduction Chapter is provided in **Exhibit F.3** and the full plan can be accessed at <http://www.greatermontereyirwmp.org/wp-content/uploads/2019/08/Greater-Monterey-County->
- *Salinas River State Beach Dune Restoration Project Brochure Salinas River State Beach Dune Restoration and Management Plan, January 2016*, Central Coast Wetlands Group and Coastal Conservation and Research in partnership with California State Parks is provided in **Exhibit F.4** (without appendices) and the full document can be access at <https://drive.google.com/file/d/0B4qUY-zc8V-WMXhFSi1SaGh5Wlk/view>.
- *AB 691 Sea-Level Rise Assessment, Moss Landing Harbor Sea Level Rise Vulnerability and Adaptation Strategy Report, June 2019*, prepared by the Central Coast Wetlands Group for the Moss Landing Harbor District. The full report is provided in **Exhibit F.5** and can be accessed at <https://mlml.sjsu.edu/ccwg/wp-content/uploads/sites/23/2020/01/Moss-Landing-Harbor-AB-691-> The California Department of Fish and Wildlife has submitted a letter commenting on this report. This letter is included in your packet in Exhibit F.5.
- *High Tide Tax: The Price to Protect Coastal Communities from Rising Seas, 2019* by The Center for Climate Integrity, a project of the Institute for Governance and Sustainable Development. The full document is provided in **Exhibit F.6** and can be accessed at https://www.climatecosts2040.org/files/ClimateCosts2040_Report-v5.pdf.

The Board of Supervisors will receive a coordinated presentation on coastal hazards from the California Coastal Commission, Moss Landing Marine Laboratory/Central Coast Wetlands Group, the Monterey County Water Resources Agency and their team from the United States Bureau of Reclamation, and the Association of Monterey Bay Area Governments that cover some of the materials referenced above.

OTHER AGENCY INVOLVEMENT:

Staff has been conferring with the Monterey County Water Resources Agency (WRA) regarding flood zones and with many agencies, including the Coastal Commission, related to protection of the Moss Landing Community and policies related to the Moss Landing Community Plan Update. County staff serve on the AMBAG Steering Committee for the *Central Coast Highway 1 Climate Resiliency Study*. The WRA has hired a consultant team working under the supervision of the United States Bureau of Reclamation that is studying, in part, climate change effects on aquifers and WRA operations. These conversations are assisting staff in developing policies and eventual regulations relating to climate change effects. The focus of this presentation is the efforts by these agencies.

FINANCING:

Funding for staff time associated with this presentation is included in the FY20-21 Adopted Budget for Housing and Community Development. There is no fiscal impact associated with the presentation. If directed by the Board, staff will be looking for outside funding sources to prepare the climate hazards risk assessment(s) and resiliency plan(s).

BOARD OF SUPERVISORS STRATEGIC INITIATIVES:

This action represents implementation of a General Plan Land Use Policy, which provides the County accountability for proper management of County land resources.

Check the related Board of Supervisors Strategic Initiatives:

- Economic Development
- Administration
- Health & Human Services
- Infrastructure
- Public Safety

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- Exhibit A Excerpts from the 2016 Monterey County Hazard Mitigation Plan
- Exhibit B State of California Sea-Level Rise Guidance 2018 Update Executive Summary
- Exhibit C Moss Landing Community Coastal Climate Change Vulnerability Report (2017)
- Exhibit D California Coastal Commission Sea Level Rise Policy Guidance, Adopted 2018, Executive Summary
- Exhibit E Central Coast Highway 1 Climate Resiliency Study, Monterey, CA, Executive Summary
- Exhibit F.1 Monterey Bay National Marine Sanctuary - Final Management Plan, (2008) Section II, Coastal Development, National Oceanic and Atmospheric Administration
- Exhibit F.2 Preparing for Rising Seas: How the State Can Help Support Local Coastal Adaptation Efforts, State of California Legislative Analyst's Office, Fact Sheet
- Exhibit F.3 Storm Water Resource Plan for the Greater Monterey County Integrated Regional Water Management Region, Coastal Conservation and Research, Inc., Introduction Chapter
- Exhibit F.4 Salinas River State Beach Dune Restoration Project Brochure. Salinas River State Beach Dune Restoration and Management Plan, January 2016, Central Coast Wetlands Group and Coastal Conservation and Research in partnership with California State Parks (Without Appendices)
- Exhibit F.5 AB 691 Sea-Level Rise Assessment, Moss Landing Harbor Sea Level Rise Vulnerability and Adaptation Strategy Report, June 2019, prepared by the Central Coast Wetlands Group for the Moss Landing Harbor District.
- Exhibit F.5a Letter from Department of Fish and Wildlife
- Exhibit F.6 High Tide Tax: The Price to Protect Coastal Communities from Rising Seas, 2019 by The Center for Climate Integrity, a project of the Institute for Governance and Sustainable Development