

**CALIFORNIA COASTAL COMMISSION**

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original staff report

# W6c

**M E M O R A N D U M**

Date: August 10, 2015

TO: Coastal Commission and Interested Parties

FROM: Charles Lester, Executive Director  
Susan M. Hansch, Chief Deputy Director  
Sea Level Rise Team

SUBJECT: Addendum for W6c Recommended Final Sea Level Rise Policy Guidance  
Hearing Date: August 12, 2015

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The purpose of this addendum is to make minor adjustments to the documents associated with the above-referenced item, including the Recommended Final Sea Level Rise Policy Guidance and Exhibit 2 in the W6c staff report.

Commission staff received four additional written comment letters (from Anthony Ciani, The Unified Port of San Diego, the County of Santa Cruz, and Friends of Oceano Dunes) after the Recommended Final Sea Level Rise Policy Guidance was released on July 31, 2015. These letters are posted on the Coastal Commission [website](#). One change was made to the Recommended Final Guidance based on these letters, as described in #2 below. The other changes described below were made to update and clarify the documents.

Modifications were made as shown below (where applicable, text in underline format indicates text to be added, and text in ~~strike through~~ format indicates text to be deleted):

## 1. Recommended Final Sea Level Rise Policy Guidance, Page 2

### SUMMARY OF DOCUMENT REVISIONS

A Draft version of this *Sea Level Rise Policy Guidance* was released for public review on October 14, 2013. The public comment period was open for 120 days, until February 14, 2014. During that time, the Commission received over 100 comment letters that broke down into over 800 distinct comments. Since the close of the public comment period, Commission staff responded to each comment and incorporated the feedback into this Revised Draft. A document containing all comments and responses is available on the Commission's website. Many alterations were made to the Draft Guidance, and the most significant include:

- A new section on using scenario-based analysis to approach sea level rise planning
- A new section on storms, extreme events, abrupt change, and sea level rise
- A new section on sea level rise adaptation planning and environmental justice
- A revised chapter on sea level rise adaptation strategies, including additional strategies
- A new chapter on the legal context of adaptation planning

These revisions were coordinated with other California state efforts related to climate change and adaptation, including the 2014 [Safeguarding California](#) document (CNRA 2014). This Revised Draft reflects the broad concepts and strategies in *Safeguarding California*—particularly the Coast and Oceans chapter—and complements it by providing information more specific to the Coastal Act, including Local Coastal Programs and Coastal Development Permits.

The Revised Draft was released on May 27, 2015. This document was presented at the June 2015 Coastal Commission hearing in Newport Beach, and another presentation focusing specifically on Chapter 7 was given at the July 2015 hearing in Ventura. Written comments were requested by July 10, 2015, and 28 comment letters were submitted. Staff responded to each comment, and these responses are posted on the Coastal Commission website. The Recommended Final Draft will be considered by the Coastal Commission in a public hearing in Summer 2015 at the August 2015 hearing in Chula Vista. The most significant revisions to the Recommended Final Draft include:

- New text in Chapter 8, the Legal Context of Adaptation Planning, expanding the discussion of seawalls in the context of existing development versus new development, and addressing the planning considerations of highly urbanized areas.

- New text clarifying the intent of this Guidance to focus on LCPs and CDPs, but that much of the content of the document is potentially applicable to other planning documents.
- Additional text clarifying the unique challenges faced by low-income communities and the need to include low-income persons and communities in planning efforts.
- Additional text recognizing the increasing demand for funding for sea level rise adaptation planning.
- Additional Adaptation Strategies.
- Additional Next Steps.

Staff is recommending that the Commission adopt the Recommended Final Draft as interpretive guidelines pursuant to Public Resources Code section 30620.

## **2. Recommended Final Sea Level Rise Policy Guidance, Page 120, paragraph 5**

However, as described in Chapters 5 and 6, all local governments and all project applicants should analyze the possible effects of sea level rise and evaluate how the strategies in this chapter, or additional supplemental strategies, could ~~can~~ be implemented in LCPs or CDPs to minimize the adverse effects of sea level rise.

## **3. Exhibit 2 of the W6c staff report: Coastal Commission Staff Response to Comments (May 27, 2015 – Present), page 5, Commission response to James Benjamin:**

Thank you for drawing our attention to this issue and for your concern with this report.

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# W6c

July 30, 2015

**TO:** Commissioners and interested parties

**FROM:** Charles Lester, Executive Director  
Susan Hansch, Chief Deputy Director  
Sea Level Rise Team

**SUBJECT:** Recommended Final Sea Level Rise Policy Guidance  
Staff recommends Commission adoption at the August 2015 Commission Meeting

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## **SUMMARY OF STAFF RECOMMENDATION**

***Adopt the Recommended Final Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits for release as the Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits.***

The Draft Guidance was released on October 14, 2013 and the Revised Draft was released on May 27, 2015. Both were followed by public comment periods and public outreach events during which the Commission received written and oral comments from the public, agency partners, Commissioners, and others. The Recommended Final Draft reflects changes resulting from both comment periods as well as updates to reflect newly developing science, tools, and resources for sea level rise adaptation planning.

Sea level rise has the potential to dramatically change the California coast over the coming decades. This Guidance has been prepared to assist planners and project applicants in understanding and preparing for some of the far-reaching implications of sea level rise. This Guidance does not change or modify the California Coastal Act and it is not, itself, a regulatory document. It does highlight the regulatory actions that may need to consider sea level rise and it offers suggestions for ways to incorporate sea level rise into planning and regulatory decisions, when needed.

Adoption of this guidance would not represent a regulatory action. Adoption would convey the Commission's recognition of sea level rise as an important consideration for compliance with the

Coastal Act in many of the Commission's and local governments' planning and permitting decisions. Sea level rise will likely change many different aspects of the coast which, in turn, can affect compliance with the Coastal Act. Much of the detail in the Guidance has been provided at the request of various planners and applicants who have asked for greater specificity in how to address sea level rise. Steps for evaluating sea level rise in planning and permitting actions are provided with the intent to assist understanding of many potential coastal changes that could result from rising sea level and to help with Coastal Act compliance.

Likewise a number of adaptation options are provided to help planners and applicants identify ways to address sea level rise in planning and permitting decisions. The steps and adaptation options lay out a suggested framework and analytic options for considering sea level rise within the context of the Coastal Act.

Adoption of this guidance would convey the need for addressing sea level rise broadly within the planning and permitting frameworks, and the importance of addressing future sea level rise through both current design and future adaptation.

## **I. Motion and Resolution**

### **Motion:**

*I move that the Commission adopt the Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits pursuant to the staff recommendation.*

Staff recommends a YES vote on the foregoing motion. Passage of this motion will result in the Commission's adoption of the Sea Level Rise Policy Guidance as interpretive guidelines.

### **Resolution:**

*The Commission hereby adopts the Sea Level Rise Policy Guidance as interpretive guidelines pursuant to Public Resources Code section 30620.*

## **II. Background**

Sea level rise has long been a concern for the Coastal Commission because the potential impacts from sea level rise hazards fall directly within the Coastal Commission's planning and regulatory responsibilities under the Coastal Act. Sea level rise increases the risk of flooding, coastal erosion, wave attack, and saltwater intrusion into freshwater supplies, which have the potential to threaten many of the resources that are integral to the California coast, including coastal development, coastal access and recreation, habitats (e.g., wetlands, coastal bluffs, dunes, and beaches), coastal agricultural lands, water quality and supply, cultural resources, community character, and scenic quality. Different responses to the effects of sea level rise can also have significant effects on coastal resources. For example, seawalls can have significant adverse effects on beaches, near shore habitat, and scenic values.

As part of its ongoing work to address these issues, the California Coastal Commission's Strategic Plan for 2013-2018 identified several actions for the Commission staff and partner organizations to take to address sea level rise and climate change. Specifically, Strategic Plan action item 3.1.1 includes the adoption of sea level rise policy guidance for use in Local Coastal Program planning and project design.

In partial fulfillment of this action item, the Sea Level Rise Policy Guidance has been released to the public and revised twice based upon the respective comments received during each of the public comment periods. The basic contents of the Revised Guidance include:

- Guiding Principles for addressing sea level rise in California's coastal zone
- A discussion of the best available science on sea level rise and its possible impacts
- Step-by-step guidance for addressing sea level rise in Local Coastal Programs and the Coastal Development Permit process
- Descriptions of a variety of possible adaptation strategies
- A discussion of the legal context of sea level rise adaptation planning
- Detailed appendices with technical information and additional resources

As interpretive guidelines, this document is intended to assist the Commission, local governments, and members of the public when evaluating how to respond to sea level rise, but it is not a regulatory document and does not contain any new regulations.

The Recommended Final Sea Level Rise Policy Guidance fits into an active state effort to address sea level rise and climate change. It was developed in close coordination with *Safeguarding California*, the statewide climate adaptation plan developed in 2014 by the California Natural Resources Agency. It reflects the broad concepts and strategies in *Safeguarding California* —particularly the Coast and Oceans chapter — and complements it by providing information more specific to the Coastal Act, including Local Coastal Programs and Coastal Development Permits. This effort also supports the *Resolution of the California Ocean Protection Council on Implementation of the Safeguarding California Plan for Reducing Climate Risks*.

The Guidance also complements recent state actions related to sea level rise adaptation. For example, Governor Brown's April 2015 Executive Order B-30-15 directs state agencies to take climate change into account in their planning and investment decisions. AB2516, authored by Assemblymember Gordon and approved in September 2014, establishes a Planning for Sea Level Rise Database that is anticipated to be available online in early 2016. The database will provide the public with an educational tool from which to learn about the actions taken by cities, counties, regions, and various public and private entities to address sea level rise.

In addition, the document implements many of the recommendations from President's State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience. For example, it provides tools and assistance to support sea level rise decision making, establishes a framework for state, local, and federal partnership and coordination on sea level rise, and provides guidance on how to improve resilience of California's coastal infrastructure, natural resources, human communities, and coastal industries. Governor Brown, Supervisor Carbajal (Santa Barbara

County), Mayor Garcetti (Los Angeles), and Mayor Johnson (Sacramento) are all members of this Task Force. Additional state and federal efforts related to sea level rise are discussed throughout the Revised Guidance, particularly in the Introduction.

The Guidance also complements other Coastal Commission programs and other state agency programs. Specifically, the Ocean Protection Council, Coastal Conservancy, and Coastal Commission have all recently administered grant programs to fund sea level rise vulnerability assessments, adaptation efforts, and LCP updates, many of which focus on updates to address sea level rise. These programs dovetail directly with the Revised Sea Level Rise Policy Guidance. Grantees have already been coordinating closely with Commission staff on these efforts, and as local governments implement the grant work programs, they will be drawing on the Guidance for direction. Once acted upon by the Coastal Commission, the Revised Guidance will continue to provide local governments with important guidance and resources with which to conduct this important work.

### **III. Document Development**

The Guidance was developed using funds from NOAA Coastal Zone Management grant award and the staff time of a NOAA Coastal Management Fellow, a Sea Grant Fellow, and a Sea Grant Extension Fellow, and a team of Commission management, technical specialists, analysts, and lawyers. The Draft Guidance was released on October 14, 2013 and the Revised Draft was released on May 27, 2015. Both releases were followed by public comment periods during which the Commission received written and oral comments from the public, agency partners, Commissioners, and others. The Recommended Final Draft reflects changes resulting from both comment periods and updates to reflect newly developing science, tools, and resources for sea level rise adaptation planning.

More specifically, the Draft Guidance was released on the Coastal Commission's website on October 14, 2013 for a 120-day public comment period, following an inter-agency review. To solicit and encourage public comment on this draft, staff conducted over 30 outreach events, including 2 public webinars, a focused webinar for local governments, meetings with agency partners, conferences presentations, and other state hearings. Commission staff also presented the content of the Draft Guidance at the December 2013 and January 2014 Coastal Commission hearings in San Francisco and San Diego, respectively. During this public comment period, the Commission received 105 public comment letters. After careful review, Commission staff broke the letters down into over 800 individual comments and responded to each. These responses are provided in table format in the [California Coastal Commission Response to Comments](#) on the October 2013 Draft Sea Level Rise Policy Guidance. This input, along with comments from other agencies, Commissioners, and Commission staff, was used to revise the document. A summary of the most substantial revisions is provided below.

Revisions and the eventual release of the Revised Draft Sea Level Rise Policy Guidance were timed to ensure that it would be in alignment with the information and key recommendations of the *Safeguarding California* plan, which was released in August 2014. To that end, the Revised Sea Level Rise Policy Guidance reflects the strategies in *Safeguarding California* —particularly

the Coast and Oceans chapter — and complements it by providing information more specific to Coastal Commission policies and procedures.

The Revised Draft Sea Level Rise Policy Guidance was then released on May 27, 2015. Following the release of the Revised Draft, Commission received 27 written comment letters, which can be viewed on the Coastal Commission’s website here: <http://www.coastal.ca.gov/climate/SLR-DRAFT-Guidance-Comments.html>. The Revised Draft was also presented at the June 2015 and July 2015 Commission hearings in Newport Beach and Ventura and at two webinars and one conference call, during which the Commission received oral comments and questions. Excerpted revisions based on this round of comments are provided in underline/strikethrough format in Exhibit 1, and the main revisions are summarized below. The Recommended Final Draft also shows the revisions in underline/strikethrough and may be viewed on the Commission’s website here: <http://www.coastal.ca.gov/climate/slrguidance.html>.

The July 30, 2015 Recommended Final Draft now includes revisions resulting from two public comment periods and extensive public participation.

#### **IV. Summary of Revisions**

Commission staff made extensive revisions to the original 2013 document based on feedback from Commissioners, local governments, agency partners, scientists, the public, and others during the public comment periods and at the June and July 2015 Commission hearings. These revisions included a variety of minor edits, organizational changes, and additional information. These main revisions resulting from each public comment period are summarized below.

##### **Public comment period #1 (October 14, 2013 – February 14, 2014).**

One hundred and five comment letters were received during this comment period. To read these public comment letters, please visit <http://www.coastal.ca.gov/climate/SLR-DRAFT-Guidance-Comments.html> and to read Commission staff responses to these comments, please visit [http://documents.coastal.ca.gov/assets/slr/guidance/Final\\_MASTERCommentResponseDoc.pdf](http://documents.coastal.ca.gov/assets/slr/guidance/Final_MASTERCommentResponseDoc.pdf). A summary of the most significant changes made to the Draft in response to these comments is provided below.

- 1. A new section on using scenario-based analysis to approach sea level rise planning.** Chapter 3 of the Revised Guidance now includes an extensive discussion of scenario-based analysis of future sea level rise impacts. It explains why the best available science on sea level rise provides projections in ranges, and how scenario-based analysis can be used to provide a robust understanding of possible future impacts to coastal resources from sea level rise and to hone in on adaptation approaches.
- 2. A new section on storms, extreme events, abrupt change, and sea level rise.** Chapter 3 of the Revised Guidance now includes a description of how storms and extreme events could impact coastal resources in California in conjunction with sea level rise.



3. **A new section on sea level rise adaptation planning and environmental justice.** Chapter 4 of the Revised Guidance describes how sea level rise, and how we respond to it, may result in significant changes in the distribution of environmental benefits, or environmental justice, in California.
4. **A revised chapter on sea level rise adaptation strategies, including additional strategies.** The Revised Guidance provides all adaptation strategies in a single chapter, Chapter 7, and organizes strategies by coastal resource and planning goal. This new organizational system, along with new strategies, should enable readers to more quickly find information useful for their particular purposes.
5. **A new chapter on the legal context of adaptation planning.** Chapter 8 now describes the legal context of adaptation planning, including discussions of seawalls and other shoreline protective devices, the public trust boundary, and potential private property takings issues.
6. **New text about recent developments in sea level rise science and state and federal actions.** The Revised Guidance includes discussions of new sea level rise-related science and state and federal actions that have occurred since the release of the first Guidance draft in October 2013. Some of these subjects include: the IPCC 5<sup>th</sup> Assessment Report, the Third National Climate Assessment, Governor Brown's Executive Order B-30-15, AB2516, and *Safeguarding California*.

#### **Public comment period #2 (May 27, 2015 – Present)**

Twenty eight public comments letters were received during the second public comment period. To read these public comment letters, please visit <http://www.coastal.ca.gov/climate/SLR-DRAFT-Guidance-Comments.html>, and to read Commission staff responses to these comments, please see Exhibit 2 or visit <http://www.coastal.ca.gov/climate/slr/comments/May2015/July2015ReponsetoComments.pdf>.

In addition to these public comment letters, the public testimony and Commission discussion of the Revised Draft at the June 2015 and July 2015 hearings was used to revise the document. At the June 2015 Commission hearing, the main topics of discussion included: the relationship between the Guidance and other planning documents; the need for ongoing public outreach; capacity and funding needs for sea level rise adaptation planning efforts; the definition of existing development; and the importance of including environmental justice concerns throughout planning processes. The main topics of discussion at the July 2015 Commission hearing included: siting of power plants; planning approaches for coastal-dependent uses in contrast to non-coastal-dependent uses; uncertainty in the best available science and possible takings issues; redevelopment; the cost of sea level rise adaptation planning; and the influence of development patterns on the selection of possible adaptation strategies.

A number of revisions were made to the document to address these discussion topics and public comments. An underline/strikethrough version of this document, illustrating the changes made since May 27, 2015, is available here: <http://www.coastal.ca.gov/climate/slrguidance.html>. A summary of the most significant changes made to the document in response to these comments include:

1. **New text in the “Seawall and Other Shoreline Protective Devices” section of Chapter 8, Legal Context of Adaptation Planning.** New text was added to this section to expand the discussion of seawalls in the context of existing development versus new development, and to address the planning considerations of highly urbanized areas.
2. **New text clarifying the intent of this Guidance to focus on LCPs and CDPs.** The Second Revised Draft includes text clarifying that while the intent of this Guidance to focus on LCPs and CDPs, much of the content of the document, including the description of best available science, the basic methodology for assessing risks from sea level rise, and possible adaptation strategies, are also applicable to and potentially useful for other planning documents. These planning documents could include Port Master Plans, Long Range Development Plans, and Public Works Plans, when the Guidance is taken in conjunction with relevant policies and legislation (e.g. Chapter 8 of the Coastal Act for Port Master Plans).
3. **Additional text clarifying the unique challenges faced by low-income communities.** Recognition that low-income communities are less equipped to prepare for and respond to the impacts of sea level rise and that low-income persons and communities should be included in planning efforts was added to Guiding Principle #9, Chapter 4, and the planning processes outlined in Chapters 5 and 6.
4. **Additional text recognizing the increasing demand for funding for sea level rise adaptation planning.** This text was added to Chapter 5, Addressing Sea Level Rise in LCPs.
5. **Additional adaptation strategies.** Strategies specific to ports were added to Chapter 7 Section A. Strategies about marine protected areas and the beneficial re-use of sediment were added to Section C. A strategy about retrofitting stormwater infrastructure was added to Section D.
6. **Additional Next Steps.** Chapter 9, Next Steps was updated to include future Commission work to enhance coordination with and assess the sea level rise impacts to low-income and underserved populations, coordination with port and harbor authorities and other relevant stakeholders to address vulnerabilities to ports and other coastal-dependent resources.

## **V. Exhibits**

1. Package of all of the excerpted pages of the Recommended Final Guidance that contain revisions shown in strikethrough and underline.
2. Coastal Commission Staff Response to Comments (May 27, 2015 – Present)

*Please note that Entire Recommended Final Guidance document is posted on the Coastal Commission Website*

# **Exhibit 1:**

## Revisions Excerpts from the Recommended Final Sea Level Rise Policy Guidance

# Executive Summary

## Pg. 13:

### **PRINCIPLES FOR ADDRESSING SEA LEVEL RISE IN THE COASTAL ZONE**

This guidance is rooted in certain fundamental guiding principles, many of which derive directly from the requirements of the Coastal Act. These Principles broadly lay out the common ideas and a framework by which sea level rise planning and permitting actions can be assessed, and as such represent the goals to which actions should aspire. Individual actions and outcomes may vary based on a variety of factors, including applicable policies and location- or project-specific factors that may affect feasibility. These Guiding Principles are summarized below and discussed in greater detail in Chapter 2.

## Pg. 15:

### **BEST AVAILABLE SCIENCE AND CONSEQUENCES OF SEA LEVEL RISE**

The Coastal Act directs the Coastal Commission and local governments to use the best available science in coastal land use planning and development. This Guidance recommends using the best available science on sea level rise projections to inform planning decisions and project design. The State of California supported the preparation of the 2012 National Research Council's Report, [Sea-Level Rise for the Coasts of California, Oregon and Washington: Past Present and Future](#), which is currently considered the best available science on sea level rise for California. The report contains sea level rise projections for three time periods over the coming century for north and south of Cape Mendocino ([Table 1](#)).<sup>1,2</sup> The Coastal Commission will re-examine best available science periodically and as needed with the release of new information.

## Chapter 1: Introduction

### Pg. 25 (incl. footnote):

The Coastal Act mandates the protection of public access and recreation along the coast, coastal habitats, and other sensitive resources, as well as providing priority visitor-serving and coastal-

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<sup>1</sup> The NRC Committee divided the Pacific coast for California, Oregon and Washington into two regions, north and south of Cape Mendocino, due to differences in tectonics that occur at this point. North of Cape Mendocino, land is rising by 1.5 to 3.0 mm/yr as ocean plates descend below the North American plate at the Cascadia Subduction Zone. South of Cape Mendocino, the coast is sinking at an average rate of about 1 mm/yr, although local rates vary widely (NRC 2012, p. 3). Humboldt Bay has not experienced the regional uplift that characterizes most of the coast north of Cape Mendocino, and instead has shown the highest subsidence recorded for the California coast. As a result, the projections for north of Cape Mendocino may not be appropriate for use in or near Humboldt Bay and the Eel River Estuary. Please see [Humboldt Bay: Sea Level Rise Hydrodynamic Modeling, and Inundation Vulnerability Mapping](#) (Northern Hydrology and Engineering 2015) for additional information on sea level rise projections for the Humboldt Bay region.

<sup>2</sup> Any future updates to the state guidance document will be available at <http://www.opc.ca.gov/2009/12/climate-change/>.

dependent or coastal-related development while simultaneously minimizing risks from coastal hazards. This guidance document has been created to help planners, project applicants, and other interested parties continue to achieve these goals in the face of sea level rise by addressing its effects in Local Coastal Programs and Coastal Development Permits. Although the focus of the Guidance is on LCPs and CDPS, much of the information contained herein can be useful for other planning documents such as Port Master Plans<sup>3</sup>, Long Range Development Plans, and Public Works Plans. For example, the science applies regardless of the planning documents, and the discussions of how to analyze sea level rise impacts as well as a number of adaptation options may be applicable. In all cases, specific analyses performed and actions implemented will vary based on relevant policies, local conditions, feasibility, and other factors as described throughout the rest of this document.

### **Pg. 26:**

The goal of updating or developing a new LCP to prepare for sea level rise is to ensure that adaptation occurs in a way that protects both coastal resources and public safety and allows for sustainable economic growth. This process includes identifying how and where to apply different adaptation mechanisms based on Coastal Act requirements, other relevant laws and policies, acceptable levels of risk, and community priorities. LCP and Coastal Act policies are also reflected in CDPs, which implement sea level rise management measures and adaptation strategies through individual development decisions. By planning ahead, communities can reduce the risk of costly damage from coastal hazards, can ensure the coastal economy continues to thrive, and can protect coastal habitats, public access and recreation, and other coastal resources for current and future generations.

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<sup>3</sup> Ports are generally subject to Chapter 8 of the Coastal Act. The policies of Chapter 8 acknowledge the special role and needs of ports and differ in significant ways from the Chapter 3 policies of the Act. Significant categories of development in ports, however, remain subject to Chapter 3, including categories of development listed as appealable pursuant to Section 30715 and development located within specified wetlands, estuaries, and recreation areas.

## Chapter 2: Principles for Addressing SLR

### Pg. 34:

This chapter summarizes the Coastal Commission’s framing principles for addressing sea level rise, many of which derive directly from the requirements of the Coastal Act. These principles broadly lay out the common ideas and a framework by which sea level rise planning and permitting actions can be assessed, and as such, represent the goals to which actions should aspire. Individual actions and outcomes may vary based on a variety of factors, including applicable policies and location- or project-specific factors that may affect feasibility. There are four categories of principles: using science to guide decisions; minimizing coastal hazards through planning and development standards; maximizing protection of public access, recreation, and sensitive coastal resources; and maximizing agency coordination and public participation. Each category groups important and related concepts that are central to addressing the challenge of rising sea levels. Building on the cumulative knowledge and experience of the Commission, subsequent chapters of this Guidance use these principles to frame practical guidance for addressing sea level rise through planning and permitting decisions in the coastal zone, consistent with the statewide policies of the California Coastal Act as well as the statewide vision of climate resilience outlined in the 2014 [Safeguarding California](#) plan.

### USE SCIENCE TO GUIDE DECISIONS [Coastal Act Sections 30006.5; 30335.5]

#### **Recognize and address sea level rise as necessary in planning and permitting decisions.**

Address sea level rise science in all applicable coastal management and decision-making processes, including Local Coastal Programs (LCPs), Port Master Plans (PMPs), Public Works Plans (PWP), Long Range Development Plans (LRDPs), Coastal Development Permits (CDPs), federal consistency reviews, and other Coastal Act decision processes. Sea level rise should be addressed in both hazard analyses and identification of adaptation strategies/alternative analyses, consistent with the ~~Chapter 3~~ policies of the Coastal Act and LCPs as applicable<sup>4</sup>.

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<sup>4</sup> This guidance document is intended to help implement the Coastal Act and LCPs in the context of sea level rise concerns. However, the standard of review for commission actions remains the California Coastal Act or applicable certified LCPs. In particular, the recommendations of this guidance do not constitute “enforceable policies” for purposes of CZMA federal consistency reviews. The enforceable policies for conducting federal consistency reviews will remain the policies of Chapter 3 of the Coastal Act. Also, for federal agency activities, the standard is consistency “to the maximum extent practicable,” with Chapter 3, *i.e.*, federal agency activities must be fully consistent unless existing law applicable to the federal agency prohibits full consistency. See 15 CFR. §§ 930.32 and 930.43(d). However, the Commission looks at sea level rise as one part of determining the coastal effects from an activity through CZMA federal consistency reviews and the use of this guidance by all parties should help determine what those coastal effects may be or how effects from sea level rise may be mitigated. Pursuant to 15 CFR § 930.11(h), implementation of this guidance would not be grounds for an objection (because it is not an “enforceable policy”) but it might be one means that “would allow the activity to be conducted consistent with the enforceable policies of the program” in order to avoid an objection.

**Pg. 37:**

9. **Account for the social and economic needs of the people of the state, including environmental justice; assure priority for coastal-dependent and coastal-related development over other development.** In planning and project development concerning sea level rise, assure that the social and economic needs of the people of the state are accounted for in accordance with Coastal Act Section 30001.5(b), with special consideration for working persons employed within the coastal zone (Coastal Act Section 30001(d)). Recognize that low-income communities are less equipped to prepare for and respond to the impacts of sea level rise and ensure that LCP and CDP decisions account for environmental justice concerns and include low-income persons and communities in planning efforts.
  
10. **Ensure that property owners understand and assume the risks, and mitigate the coastal resource impacts, of new development in hazardous areas.** Property owners should assume the risks of developing in a hazardous location (often referred to as internalizing risk). They should be responsible for modifying, relocating or removing new development if it is threatened in the future. Any actions to minimize risks to new development should not result in current and/or future encroachment onto public lands or in impacts to coastal resources inconsistent with the Coastal Act. LCPs and coastal permits should require recorded assumptions of risk, “no future seawall” conditions, and/or other appropriate mitigation measures to internalize risk decisions with the private land owner.

## Ch. 3: Sea Level Rise Science

**Pg. 51-52:**

### **Extreme Events and Storms**

There are several ways to describe extreme events, and most definitions tend to frame these events in terms of consequences or past observations. Kruk *et al.* 2013 define extreme events as “the floods that displace us from our homes, the high waves that wash out coastal roads, or the toppling of trees and power poles from a passing storm.” The IPCC defines climate extremes as “The occurrence of a value of a weather or climate variable above (or below) a threshold value near the upper (or lower) ends of the range of observed values of the variables” (IPCC 2012, p. 5). In general, extreme events, by their very nature, are those beyond the normal events that are considered in most shoreline studies. For example, for storm waves and flood conditions, an extreme event will normally be anything worse than the 100-year event.

## Ch. 4: Consequences of SLR

### Pg. 57:

Hence, everyone is entitled to participate in the management decisions that determine how the benefits and burdens of managing California's coast will be distributed. Ensuring low-income and underserved communities are included in environmental decisions is a key tenet of environmental justice and will minimize disproportionate environmental and public health impacts.

The Coastal Act's broad concern for all the people is best borne out in its public access policies, which require the maximum provision and protection of the public's rights of access to and along the shoreline (sections 30210-214). These policies reflect the judgement of the people of California in passing Proposition 20 in 1972 that public access and recreation along our coast is a fundamental environmental benefit to be protected for and enjoyed by all, not just by those with the good fortune or means to live along the shoreline. Public access to the coast is important to the health and well-being of the public, and promoting public access for all citizens provides low-cost, outdoor recreation that can improve the overall quality of life of the public, including low-income and underserved communities.

### Pg. 58-59:

The potential impacts of adaptation responses on public shoreline resources, and thus the potential environmental justice impacts of such actions, will need to be considered for all resources protected under the Coastal Act. It is also true that due to current development patterns along the coast, sea level rise hazards may affect various sections of the population differently, as could the implementation and effectiveness of various adaptation measures. The number of people living along the open coast in areas exposed to flooding from a 100-year flood would increase to 210,000 with a 4.6 ft (1.4 m) increase in sea level; approximately 27% or 56,000 of these are lower income people (those earning less than \$30,000 annually); 45,000 are renters; and 4,700 are linguistically isolated and less likely to understand flood warnings (Heberger *et al.* 2009). According to Heberger *et al.* (2009), the greatest increases in the number of people vulnerable to flooding will occur in Los Angeles, San Diego, Ventura, Humboldt, and San Luis Obispo counties. Sea level rise will likely result in the loss of key infrastructure, intrusion of saltwater into water sources, and the creation of additional coastal hazards. Hazards in these vulnerable areas will have disproportionate impacts on communities with the least capacity to adapt, which could deepen and expand existing environmental injustice if adaptation responses are not managed appropriately.

For example, lower-income communities and those who live in rental units are more likely to be displaced by flooding or related impacts as compared to property owners because they lack the funds and/or abilities to rebuild, have less control over their safety, and often have limited access to insurance. Relatedly, these same populations are less likely to be able to take proactive steps to adapt to sea level rise. Additionally, loss of local public beaches or a reduction in public access and recreation opportunities would disproportionately affect low-income communities



that have few alternative lower cost recreational opportunities. Tribal communities are also vulnerable to sea level rise because they are often tied to specific locations, and therefore can't easily relocate.

Overall, it will be important for planners and decision makers to not only consider the direct impacts and consequences of sea level rise on coastal resources, but to also consider what those consequences mean for the distribution of environmental benefits along the coast, and the communities that use and rely on those resources. Low-income and underserved communities are less equipped to prepare for and respond to sea level rise, but community engagement and social cohesion can improve coastal resilience. Planners and decision makers should consider environmental justice concerns in the analysis of alternative project designs and adaptation measures and ensure low-income and underserved communities are involved in decision-making and planning efforts. This will better ensure that adaptation efforts benefit all Californians, fairly, and that they do not increase vulnerability to sea level rise among any particular group or demographic, and do not have any unintended consequences that lead to social or environmental injustices. In particular, it will be important to consider the potential impacts of hazard mitigation actions to protect development that may only benefit a few, on the public access and shoreline resources that are available for all Californians to enjoy.

## Ch. 5: Addressing SLR in LCPs

### Pg. 67 (changes to footnote only):

The Commission recommends the following six steps to address sea level rise as part of the development of an LCP, LCP Amendment, or other plan.<sup>5</sup>

### Pg. 70:

A number of other similar planning processes, projects, and documents are listed in [Figure 10](#), and planners may be able to use these studies in the LCP planning process, or, alternatively, share analyses and information performed for LCP planning with the groups working on related projects. Additionally, the forthcoming State of California Planning for Sea Level Rise Database (established by Assembly Bill 2516 and pursuant to Public Resources Code Sections 30961-30968) may become an important tool for identifying past and/or ongoing actions that stakeholders have implemented to address sea level rise. In any case, information sharing is highly recommended to promote efficiency.

### Pg. 80 (incl. footnote):

Account for potential impacts to vulnerable, low-income communities and consider coastal development and resources, including but not limited to:

- Existing and planned development
- Coastal-dependent development and uses such as harbors, wharfs, ports, marinas, and commercial and recreational fishing areas and facilities
- Critical infrastructure<sup>6</sup> such as wastewater treatment plants, transportation infrastructure, and some power plants and energy transmission infrastructure

### Pg. 90:

**Outreach and education:** Education and outreach efforts involve formal instruction and provision of information to stakeholders, and can help generate for planning and action implementation. It is important to coordinate with partners and include all relevant stakeholders in these processes, particularly those that are typically isolated, such as low-income or underserved communities. For many people, sea level rise is a new issue. Information on sea

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<sup>5</sup> This Guidance uses the term ‘LCP process’ to refer to the LCP process, but many of the concepts included here are applicable to other planning processes, including Long Range Development Plans, Public Works Plans, and Port Master Plans. For example, recommendations for how to analyze sea level rise impacts and perform a vulnerability assessment are broadly applicable. Many adaptation strategies may also be applicable, though in all cases, individual actions taken will vary based on relevant policies, local conditions, feasibility, and other factors.

<sup>6</sup> Critical infrastructure can vary widely from community to community. For planning purposes, a jurisdiction should determine criticality based on the relative importance of its various assets for the delivery of vital services, the protection of special populations, and other important functions.

level rise science and potential consequences may motivate stakeholders to take an active role in updating the LCP for sea level rise issues, or in the vulnerability and risk assessment efforts. Additionally, education efforts regarding the risks of sea level rise as well as possible adaptation strategies may encourage people to take proactive steps to retrofit their homes to be more resilient or to choose to build in less hazardous areas.

### Pg. 91-92:

Upon certification of the updated LCP, sea level rise adaptation strategies will be implemented through the certified implementing ordinances and related processes and actions (*e.g.*, local review of CDPs, proactive action plans). Additionally, an important component of successful adaptation is to secure funds for implementation, regularly monitor progress and results, and update any policies and approaches as needed. Sea level rise projections should be re-evaluated and updated as necessary at least every five years.

- **Secure resources for implementation:** There are a number of different sources of funds available to help local governments implement adaptation strategies. For example, the Coastal Commission, the Ocean Protection Council, and the Coastal Conservancy have grant programs designed to support local adaptation efforts (see [Chapter 1](#) for additional details on each of these programs).

As described previously there may also be overlap between LCP planning and Local Hazard Mitigation planning. FEMA's Hazard Mitigation Assistance (HMA) grant programs provide significant opportunities to reduce or eliminate potential losses to State, Indian Tribal government, and local assets through hazard mitigation planning and project grant funding. Currently, there are three programs: the [Hazard Mitigation Grant Program \(HMGP\)](#); [Pre-Disaster Mitigation \(PDM\)](#); and [Flood Mitigation Assistance \(FMA\)](#)<sup>7</sup>. Cal OES administers the HMA and FMA programs. More information can be found at <http://hazardmitigation.calema.ca.gov/grants> or the FEMA HMA Web site at <https://www.fema.gov/hazard-mitigation-assistance>.

For a list compiled by Cal OES of additional funding options for hazard mitigation compiled by Cal OES, see can be found in [Appendix E](#). The Commission recognizes that funding opportunities are constantly evolving, that demand for funding is increasing, and that there is a significant need for the development of additional funding opportunities.

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<sup>7</sup> Each HMA program was authorized by separate legislative action, and as such, each program differs slightly in scope and intent.

## Ch. 7: Adaptation Strategies

### Pg. 126:

- A.2a **Site-specific evaluation of sea level rise:** Update policies, ordinances, and permit application requirements to include a required site-specific evaluation of coastal hazards due to sea level rise over the full projected life of any proposed development. Analyses should be conducted by a certified Civil Engineer or Engineering Geologist with expertise in coastal processes.

### Pg. 128:

- A.8 **Update development siting, code, and design standards to avoid, minimize, and reduce risks from coastal hazards and extreme events:** Establish and implement building codes and standards for building siting and construction that avoid or minimize risks from flooding and erosion and increase resilience to extreme events within sea level rise hazard zones. Such standards and applicable building code provisions should be included in LCPs as additional development controls in areas that are identified in the LCP as hazard areas, and applied in specific projects through a CDP.

- A.8a **Update flood protection measures to incorporate both FEMA and Coastal Act requirements:** Require new development located in areas subject to current or future flood/wave action to be sited and designed to be capable of withstanding such impacts in compliance with both FEMA and Coastal Act requirements. For example, ~~LCP provisions should~~ ensure that implementation of any adaptation measures suggested by FEMA, such as elevation of habitable areas, break-away walls, etc. will ~~not conflict~~ be consistent with both LCP and FEMA provisions designed to ~~protect public views and other coastal resources~~.

### Pg. 131-132:

- A.12 **Avoid the expansion or perpetuation of existing structures in at-risk locations:** On an eroding shoreline, the seaward portions of an existing structure may become threatened as the setback or buffer zone between the structure and the mean high tide line or bluff edge is reduced due to erosion of the beach or bluff. When the seaward portion of the structure no longer meets the standards or setback that would be required for new development, it becomes a “non-conforming” structure for purposes of redevelopment policies and regulations. The following should be considered, as consistent with the Coastal Act, FEMA policies, and other relevant standards, to address existing non-conforming development to avoid the need for shoreline or bluff protective devices and associated impacts to coastal resources.

- A.12a **Update non-conforming structure policies and definitions:** Develop policies and regulations to define non-conforming development in the area between the sea and the first coastal roadway or other known hazard zones to ~~in hazard zones~~

~~and~~ avoid perpetuating development that may become at risk and require a new protective device or extend the need for an existing protective device.

A.12b **Limit redevelopment or upgrades to existing structures in at risk locations:**

Use redevelopment policies or regulations to limit expansions, additions, or substantial renovations of existing structures in danger from erosion. Require removal of non-conforming portions of the existing structure, when possible, when a remodel or renovation is proposed.

A.12c **Limit foundation work within the geologic setback area:** ~~To facilitate removal of non-conforming portions of an existing structure, use~~ Use LCP regulations and CDPs to limit new or replacement foundations or substantial improvements, other than repair and maintenance, to the existing foundation when located seaward of the Geologic Setback line. Approve significant new foundation work only when it is located inland of the setback line for new development and when it will not interfere with coastal processes in the future.

A.12d **Limit increases to existing non-conformities:** Use LCP regulations and CDPs to allow ~~only non-exempt~~ repair and maintenance and modifications ~~that only if they~~ do not increase the size or degree of non-conformity of the existing structure. For shoreline or blufftop development, any decrease in the existing non-conforming setback would increase the degree of non-conformity.

A.12e **Limit additions to non-conforming structures:** Use LCP regulations and CDPs to ~~require~~ acknowledge that additions to ~~an~~ existing structures should be considered new development that must conform to the standards for new development including but not limited to avoiding future protective devices. Consider limitations on the size of additions unless non-conforming portions of the structure are removed.

A.12f **Address existing protection of non-conforming structures:** Use LCP regulations and CDP conditions to put current and future property owners on notice that if there is currently shoreline or bluff protection for an existing structure, the structure is likely at-risk and improvements to that structure in its current location may be limited. Also, consider acknowledging that any rights to retain the existing protective device(s) apply only to the structure that existed at the time the protective device was constructed or permitted.

A.13 **~~Clearly define “redevelopment” in the LCP~~ Redevelopment of existing structures:**

Define “redevelopment” as, at a minimum, replacement of 50% or more of an existing structure. Other options that may be used to define what constitutes redevelopment or a replacement structure could include 1) limits on the extent of replacement of major structural components such as the foundation or exterior walls, or 2) improvements costing more than 50% of the ~~assessed~~ appraised value of the existing structure. The redevelopment definition should take into consideration conditions and pattern of ~~non-conforming structures to which the regulations may apply~~ development, and potential impacts to coastal resources, and the need for bluff or shoreline protective devices ~~protection~~ if the structure remains in its current, non-conforming location.

## Pg. 135:

- A.19d **Maintenance or restoration of natural sand supply:** Adjustment of the sediment supply has been one of the ways natural systems have accommodated changes from sea level. Maintenance or restoration of sediment involves identifying natural sediment supplies and removing and/or modifying existing structures or actions that impair natural sand supply, such as dams or sand mining. LCPs could include policies and implementing standards that support nature-based responses to sea level rise by maintaining and restoring natural sand supply. Where applicable, develop policies and standards to prohibit sand mining, regulate sand replenishment, and promote removal of dams or the by-passing of sand around dams. Plans should take into consideration changes in sand supply due to sea level rise and may identify and designate high priority areas for restoring natural processes. These actions and policies can also be implemented through a Regional Sediment Management (RSM) program.
- A.19e **Beneficial reuse of sediment through dredging management:** Dredging involves the removal of sediment from harbor areas to facilitate boat and ship traffic or from wetland areas for restoration. Dredging management actions and plans may need to be updated to account for elevated water levels. Policies can be developed with an LCP and/or carried out through a CDP to facilitate delivery of clean sediment extracted from dredging to nearby beaches or wetland areas where needed. Beneficial reuse of sediment in this way can be coordinated through a Regional Sediment Management (RSM) program and/or through coordination with other jurisdictions.

## Pg. 136:

- A.22 **Conditional approval of shoreline protection structures:** Use LCP regulations and permit conditions to require monitoring of impacts to shoreline processes and beach width both at the project site and the broader area and/or littoral cell as feasible and provide for such actions as removal or modification of armoring in the future if no longer needed for protection or if site conditions change.

## Pg. 136-137:

- A.23 **Require mitigation for impacts of shoreline protective devices:** For unavoidable public resource impacts from shoreline structures permitted under the Coastal Act, require mitigation of resource impacts over the life of the structure as a condition of approval for the development permit. For example, require landowners to pay mitigation fees and/or complete other mitigation actions for the loss of sandy beach and other adverse impacts on public access and recreation due to shoreline protection devices. Importantly, mitigation measures should be planned in such a way that sea level rise will not impair their efficacy over time. Other mitigation measures could include acquisition of other shoreline property for public recreational purposes, ~~or~~ construction of public

access and recreational improvements along the shoreline, and/or utilizing easements to protect lateral access along the shoreline in areas where seawalls eliminate sandy beach.

**Pg. 140-141:**

- A.33 Incorporate sea level rise considerations into Port Master Plans and other port activities:** Ensure that ports and related infrastructure are designed to function given anticipated sea level rise. In some cases, this may mean initially designing structures to accommodate projected sea level rise impacts. Other options may include planning for and ensuring capacity for future adaptive actions.
- A.33a **Retrofit existing port infrastructure as necessary:** Given the coastal-dependent nature of many port structures, it may not be feasible to site or relocate development to avoid hazards. In these instances it may be more appropriate to include efforts to accommodate and withstand sea level rise during actions to repair or retrofit existing structures. Options may include using more robust designs or materials or elevating structures.
- A.33b **Minimize resource impacts that may result from future use of shoreline protective structures:** If existing, coastal-dependent port structures require shoreline protective structures, minimize resource impacts as feasible and consistent with Chapter 3 and/or Chapter 8 of the Coastal Act, as applicable, by encouraging inland expansion of protective devices rather than further fill of coastal waters.
- A.33c **Ensure that linkages to overland transportation networks are able to adapt to sea level rise impacts:** Coordinate with relevant stakeholders to ensure that linkages between port infrastructure and overland transportation networks will be resilient to future sea level rise impacts.
- A.33d **Ensure that lessees and other parties understand sea level rise risks and vulnerabilities:** Coordinate with lessees and other stakeholders to ensure that they understand the risks associated with development in hazard areas as well as the responsibilities that come with such development.

**Pg. 146:**

- C.3 Avoid impacts to Marine Protected Areas:** Recognize the importance of the State's network of marine protected areas (MPAs) in protecting the diversity and abundance of marine life. Understand that planning and permitting decisions made on land could have impacts on these areas, particularly as conditions change with sea level rise, and avoid disruptions to these habitats as feasible and applicable.

**Pg. 148:**

- C.6b **Identify opportunities for beneficial reuse of sediment to support wetland restoration:** Consider facilitating the delivery of clean, dredged sediment to areas where former wetlands have subsided or to areas where existing wetlands are or may become sediment-limited as sea levels rise.

**Pg. 151:**

- D.1 Identify and designate areas suitable for agricultural production to replace agricultural production areas that could be lost to sea level rise:** Identify any non-sensitive open or developed areas, both within and outside of the Coastal Zone, which could potentially be used to replace agricultural land that is lost to sea level rise. Update LCP designations and/or policies to protect these identified areas for agricultural production and, as applicable, to provide for their conversion to agricultural use. Encourage and support regional coordination as feasible and applicable.

**Pg. 155:**

- E.2c **Retrofit existing development with inadequate stormwater infrastructure:** Identify and prioritize development in low-lying or other at-risk areas with inadequate stormwater infrastructure and take steps to retrofit these systems to better accommodate sea level rise driven changes. Retrofits should incorporate the green infrastructure options detailed in strategy E.2c above as applicable.

**Pg. 157:**

- E.5a **Clearly define areas at risk:** The LCP should include an updated inventory of potential pollutant sources due to sea level rise, including toxic waste sites, ocean outfalls and wastewater treatment facilities at risk of inundation, as well as aquifers and wells at risk of saltwater intrusion. Policies may also be added to prioritize low-lying contaminated sites for remediation and restoration.



## Ch. 8: Legal Context of Adaptation Planning

Pg. 162-166 (incl. multiple footnotes):

### SEAWALLS AND OTHER SHORELINE PROTECTIVE DEVICES

Section 30235 of the Coastal Act provides that seawalls and other forms of construction that alter natural shoreline processes “shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply.” Despite other Coastal Act provisions that could often serve as the basis for denial of shoreline protective devices (for example, new development requiring shoreline protection can also conflict with Coastal Act policies requiring protection of public access and recreation, coastal waters and marine resources, natural landforms, and visual resources), the Coastal Commission has interpreted Section 30235 as a more specific overriding policy that requires the approval of Coastal Development Permits for construction intended to protect coastal dependent uses<sup>8</sup> or existing structures if the other requirements of Section 30235 are also satisfied.<sup>9</sup> The Commission thus will generally permit a shoreline protective device if (1) there is an existing structure, public beach, or coastal-dependent use that is (2) in danger from erosion; and (3) the shoreline protection is both required to address the danger (the least environmentally-damaging, feasible alternative) and (4) designed to eliminate or mitigate impacts on sand supply.

In contrast to Section 30235, Coastal Act Section 30253 requires that “new development...assure stability and structural integrity, and neither create nor contribute significantly to erosion...or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.” The Commission has long applied this policy to implement appropriate bluff-top and shoreline setbacks for new development. Such setbacks are based on an assessment of projected erosion and related hazards at the site for the life of the proposed development and help ensure that seawalls and other protective devices that could lead to adverse impacts would not be necessary in the future.

Additionally, from its earliest days, the Commission has also required that landowners “assume the risks” of developing along shoreline and coastal bluffs where risks of coastal hazards are present. Since at least the late 1990s, the Commission has approved many new developments with required deed restrictions that specifically prohibit any future construction of shoreline protection for these developments. These deed restrictions require that property owners waive any rights that may exist for a shoreline structure under Section 30235 and thus internalize the

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<sup>8</sup> Coastal-dependent uses are those that require a site on, or adjacent to, the sea to be able to function at all. (Public Resources Code, § 30101.)

<sup>9</sup> Some commenters argue that because shoreline armoring often conflicts with Coastal Act policies other than Section 30235, the Commission should evaluate proposed armoring under the conflict resolution provisions of the Act. (See Public Resources Code, § 30007.5, 30200(b).) Because the conflict resolution provisions require the Commission to resolve the conflict in a manner which on balance is the most protective of significant coastal resources, this approach could result in the more frequent denial of shoreline armoring, especially when it is intended to protect residential development or other uses that the Coastal Act does not identify as priority uses.

risks of building in an inherently hazardous location. This, in turn, will protect shoreline areas with natural resources or other access, recreational, or scenic value, including as required by Section 30253. If and when the approved development is threatened by erosion and becomes uninhabitable, these deed restrictions prevent the construction of a shoreline protective device and require property owners to remove the development, as well as clean up any debris that may result from erosion undermining the development.<sup>10</sup>

Read together, the most reasonable and straight-forward interpretation of Coastal Act Sections 30235 and 30253 is that they evince a broad legislative intent to allow shoreline protection for development that was in existence when the Coastal Act was passed, but avoid such protective structures for new development now subject to the Act. In this way, the Coastal Act's broad purpose to protect natural shoreline resources and public access and recreation would be implemented to the maximum extent when new, yet-to-be-entitled development was being considered, while shoreline development that was already entitled in 1976 would be "grandfathered" and allowed to protect itself from shoreline hazards if it otherwise met Coastal Act tests even if this resulted in adverse resource impacts. Such grandfathering of existing conditions is common when new land use and resource protection policies are put in place, and the existing development becomes "non-conforming."

Even still, in the case of Coastal Act Section 30235, existing development is only entitled to shoreline protection if it is in fact in danger, and the proposed shoreline protection is the least environmentally-damaging alternative to abate such danger. It may be that in certain circumstances existing development can be modified or feasibly relocated, or that other non-structural alternatives such as reducing blufftop irrigation or pursuing beach replenishment, may effectively address the risk to the development without the need for a shoreline protective device.

In practice, implementing Sections 30235 and 30253 has been challenging because many urban areas are made up of both developed and undeveloped lots. In addition, many developments in existence in 1976 have since been "redeveloped" through renovations, remodeling, additions, and complete demolition and rebuild. The reality of effective shoreline management is that the Coastal Act and LCPs must address and be applied to a wide variety of physical and legal circumstances that may not be addressed by a simple application of the clean Coastal Act distinction between existing development that may be entitled to shoreline protection and new development that is not. In some urban areas, for example, one may find intermingled shoreline developments that pre-date the Coastal Act, both with and without shoreline protection, post-Coastal Act developments approved by the Coastal Commission or local governments pursuant to an LCP that theoretically won't need shoreline protection (though some may have it), and developments that may have pre-dated the Coastal Act but that were redeveloped pursuant to a coastal development permit. Moreover, some of the post-Coastal Act developments may have conditions that prohibit shoreline protection while adjacent properties may be eligible for or have a protective device because they pre-date the Act.

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<sup>10</sup> This legal instrument is not an easement but it does provide for "planned retreat" into the future as a site erodes. Once a development is removed, a site may have potential for new development if it is once again set back and restricted against future shoreline protection device construction.

For purposes of implementing this Guidance, it is important that local governments, property owners, development applicants, and others take full advantage of available legal tools to mitigate hazards and protect resources, but to do so in way that considers the specific legal context and circumstances of LCP updates and individual development decisions in context and on a case-by-case basis. For example, although the Coastal Act does not explicitly define what qualifies as an “existing structure” for the purposes of Section 30235, how this term is interpreted in specific cases and through LCPs may be critical to the success of an adaptation strategy over the long-run. However, the Coastal Act as enacted in 1976 also includes Section 30253, which requires that “new development” ensure stability and structural integrity, and not in any way requires the construction of a protective device that would substantially alter natural bluff and cliff landforms. Thus, there is a clear distinction in the Coastal Act as enacted between the specific allowance for shoreline protection for *existing* structures and the prohibition on shoreline protection for *new* development if it would substantially alter natural landforms.

The Commission has relatively infrequently evaluated whether structures built after 1976 should be treated as “existing” and thus are entitled to shoreline protection pursuant to Section 30235. When it has, that shoreline protection being proposed to protect the structure has often also been required identified as necessary to protect adjacent pre-Coastal Act structures.<sup>11</sup> In a few instances, however, the Commission has treated structures built after 1976 as existing structures entitled to shoreline protection even if no adjacent pre-Coastal Act structure also needed protection. Nonetheless, going forward, the Commission recommends the rebuttable presumption that structures built after 1976 pursuant to a coastal development permit are not “existing” as that term was originally intended relative to applications for shoreline protective devices, and that the details of any prior coastal development approvals should be fully understood before concluding that a development is entitled to shoreline protection under Section 30235.

As mentioned, in order to find new development consistent with Section 30253 or related LCP requirements and to limit the potential proliferation of seawalls-armoring to protect newly approved structures, the Commission has long used setbacks, assumption of risk conditions and, over the last 15-20 years, generally required that applicants proposing new development in hazardous shoreline locations waive any rights under Section 30235 (or related LCP policies) to build shoreline protection for the proposed new development. Notably, no appellate decision addresses whether the term “existing structures” in this context includes only structures built prior to the Coastal Act or instead includes structures in existence at the time the Commission acts on an application for shoreline protection, or otherwise addresses the interplay between 30235 and 30253.

LCP updates are an opportunity to clarify how the distinction between existing and new development will be applied in specific areas, and some LCP’s have already done so. For example, Although the Coastal Act does not define “existing structure,” local governments have sometimes specified a date by which a structure must have been constructed in order to qualify as an “existing structure” for the purpose of evaluating whether it may be eligible for shoreline

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<sup>11</sup> For example, A-3-CAP-99-023-A1, Swan and Green Valley Corporation Seawall. In this situation, repairs to maintain a seawall fronting the pre-coastal Swan Residence could only be undertaken by encroachment onto the adjacent property, Green Valley Corporation; however, the Green Valley Corporation development had been approved with a condition to prohibit any future shore protection.

protection. ~~For example, the~~In Marin County, the Local Coastal Program policy that implements Section 30235 specifies that existing structures are those that existed on the date the LCP was originally adopted (May 13, 1982). LCPs can also codify the prohibition on shoreline protective devices for new development, such as the following provision from the San Luis Obispo County North Coast Area Plan standard:

*Seawall Prohibition. Shoreline and bluff protection structures shall not be permitted to protect new development. All permits for development on blufftop or shoreline lots that do not have a legally established shoreline protection structure shall be conditioned to require that prior to issuance of any grading or construction permits, the property owner record a deed restriction against the property that ensures that no shoreline protection structure shall be proposed or constructed to protect the development, and which expressly waives any future right to construct such devices that may exist pursuant to Public Resources Code Section 30235 and the San Luis Obispo County certified LCP.*<sup>12</sup>

The distinction between existing and new development inherent in the Coastal Act is often directly raised by proposals for redevelopment as well. This guidance thus deals directly with potential approaches for managing shoreline hazards and protecting coastal resources as shorelines are redeveloped (see Chapter 7, Strategy A.13). Most recently, the Commission approved a Land Use Plan for Solana Beach that includes many policies designed to address the existing residential development pattern along the high, eroding bluffs of the City. Although further elaboration is yet to come through the City's work on the Implementation Plan, the Solana Beach LUP is a good example of an effort to pragmatically address the need to mitigate the risks to residential development, provide for some redevelopment potential while moving the line of new development inland, avoid and minimize new bluff protection and seawalls, and perhaps remove protective devices in the future to minimize impacts to natural landforms and to protect the beach for long-term public use.

Local governments and other shoreline managers should also take into account that ~~In addition,~~ although a public agency may not deny a Coastal Development Permit for an eligible-shoreline protective device that meets all of the tests under Section 30235 and equivalent LCP policies, ~~this, Section 30235~~ does not limit the authority of public agencies to refuse to allow construction of shoreline protective devices pursuant to some authority other than the Coastal Act. For example, if a private property owner requests permission from a public agency to build a structure on that agency's property (such as a local or State park or public beach) to protect adjacent private property, the public agency would generally have the authority as the landowner not to agree to the encroachment. Similarly, agencies that are trustees of public trust lands (such as the State Lands Commission and Port Districts) have the authority to prohibit structures that are not consistent with public trust uses and prioritized public trust needs, values, and principles. Public trust uses include maritime commerce, navigation, fishing, boating, water-oriented recreation, and environmental preservation and restoration, but do not typically include non-water dependent uses such as residential or general commercial and office uses. Thus, trustee agencies have the authority to refuse to allow, or to require removal of, shoreline armoring

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<sup>12</sup> Community-wide standard 15C.

located on public trust lands, including if that armoring unreasonably interferes with public trust uses.

~~Although approval of a Coastal Development Permit for shoreline armoring under Section 30235 may be unavoidable in certain circumstances. Nonetheless, the construction of shoreline armoring will often cause impacts inconsistent with other Coastal Act requirements, including Section 30235's requirement that a shoreline protective device be the least-environmentally damaging, feasible alternative for addressing shoreline hazards.~~ For example, as discussed above, Section 30253(b) prohibits *new development* from in any way requiring the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. Shoreline protective devices can also adversely affect a wide range of other coastal resources and uses that the Coastal Act protects. ~~For example, they often impede or degrade public access and recreation along the shoreline by occupying beach area or tidelands, by reducing shoreline sand supply, or~~ and by fixing the back of the beach, ultimately leading to the loss of the beach. Shoreline protection structures thus raise serious concerns regarding consistency with the public access and recreation policies of the Coastal Act. ~~They also~~ Such structures can fill coastal waters or tidelands and harm marine resources and biological productivity in conflict with Sections 30230, 30231, and 30233. They often degrade the scenic qualities of coastal areas and alter natural landforms in conflict with Section 30251. Finally, by halting shoreline erosion, they can prevent the inland migration of inter-tidal habitat, salt marshes, beaches, and other low-lying habitats that rising sea levels will inundate.

Even when an agency approves a Coastal Development Permit for shoreline armoring, the agency has the authority to impose conditions to mitigate impacts on shoreline sand supply and to minimize adverse impacts on other coastal resources. (See *Ocean Harbor House Homeowners Assn. v. California Coastal Comm.* (2008) 163 Cal.App.4<sup>th</sup> 215, 242; Public Resources Code, § 30607.)<sup>13</sup> Any approved shoreline structure, therefore, must avoid or mitigate impacts that are inconsistent with Coastal Act policies.

Because of the wide range of adverse effects that shoreline protective devices typically have on coastal resources, this Guidance recommends avoidance of hard shoreline armoring whenever possible. This can entail denying development in hazardous locations, ~~or~~ allowing only development that is easily removable as the shoreline erodes, or requiring new development to be set back far enough from wave runup zones or eroding bluff edges so that the development will not need shoreline armoring during its anticipated lifetime. The Commission's practice when reviewing proposed development in shoreline locations that are potentially vulnerable to shoreline erosion, wave runup, or inundation has been to require applicants to waive rights to shoreline protective devices in the future, and, more recently, to require relocation and/or removal should such development become endangered in the future. See Chapter 7: Adaptation Strategies for further details regarding alternatives to the use hard armoring structures.

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<sup>13</sup> Indeed, as noted above, 30235 itself clarifies that even when approvable, such structures should be designed to eliminate or mitigate any adverse impacts on local shoreline sand supply.

## Ch. 9: Next Steps

### Pg. 172:

1. **Continue an active program of public outreach on sea level rise.** The Commission will strive to provide public information about sea level rise issues through public workshops, the Commission's website, meetings, outreach, and our public education program. The Commission will work to enhance efforts to coordinate with low-income and underserved populations and communities.

### Pg. 173:

4. **Enhance coordination and planning efforts related to developing adaptation strategies for critical infrastructure.** Addressing sea level rise impacts to critical infrastructure is particularly complex and will require greater amounts of planning time, stakeholder input, and funding. The Commission will support planning efforts in a number of ways including, for example:
  - a. Providing guidance or participating in working groups that examine managed retreat of critical infrastructure, including when to consider managed retreat rather than continue with repairs and maintenance in light of sea level rise.
  - b. Coordinating closely with Caltrans to address transportation issues. Planning efforts may include integrating LCP planning and regional transportation planning processes; coordinating and supporting phased approaches for realignment projects; and identifying priorities for adaption response.
  - c. Coordinating with port and harbor authorities and other relevant stakeholders to address vulnerabilities specific to ports, harbors, fisheries, and navigation, and to develop and enhance adaptation strategies that are particularly applicable for coastal-dependent infrastructure and other port needs.
  - d. Coordinating with the State and Regional Water Quality Control Boards to consider vulnerability issues related to water supply and wastewater capacity infrastructure in California.
5. **Consider producing additional guidance documents, including:**
  - a. Broader climate change guidance addressing other climate change impacts to the coastal zone.
  - b. One-page fact sheets on some adaptation measures such as green infrastructure and conservation easements.
  - c. Guidance on the use of 'living shorelines', dune management, beach nourishment, and so on for California, including an assessment of areas or coastal situations where these strategies could be effective, what they need to succeed, monitoring requirements, and maintenance.

- d. Guidance for how to address impacts to critical infrastructure, assets and resources that cross jurisdictional boundaries, and ports, harbors and other coastal-dependent resources.

**Pg. 177:**

5. **Analysis of sea level rise impacts to coastal access and recreation.** To improve public access planning efforts, more information is needed about how sea level rise could affect public access areas and recreation throughout the state, including changes to waves and surfing, and the potential economic costs of these impacts. Additional information about how these changes will affect lower-income populations and underserved communities is particularly important.

## Appendix A: SLR Science and Projections

**Pg. 208:**

Kopp *et al.* (2014) have combined detailed process modeling, community assessments and expert elicitation to assign probability distributions of local sea level rise through 2200 for identified communities around the world. Under the high concentration scenario, RCP 8.5, Kopp *et al.* find ~~a 99.9 percentile estimate of~~ estimate the “maximum physically possible rate of sea level rise” to be 8.2 ft (2.5 m) for the year 2100. This study also finds that sea level rise along the Pacific Coast of the US is close to the global average, and the likely range of sea level is 2-3.3 ft (0.6-1.0 m) by the year 2100 at San Francisco, under the high concentration scenario. In contrast, in areas of high subsidence such as Galveston, Texas, the likely range of sea level in by 2100 ranges from 3.3 to 5 ft (1.0-1.5 m). And, at many of the localities that were examined, including San Francisco, the current 1-in-10 year flooding event is likely to occur every other year by 2100 (five times more frequently) due to sea level rise; the frequency of the 1-in-100 year event is expected to double by the year 2100 with sea level rise.

## Appendix B: Developing Local Hazard Conditions

**Pg. 244:**

Coastal flooding is a significant problem now and it will increase with rising sea level. At present, about 210,000 people in California are living in areas at risk from a 100-year flood event (Heberger *et al.* 2009). A rise in sea level of 55 in (1.4 m) with no change in development patterns or growth along the coast could put 418,000 to 480,000 people at risk from a 100-year flood (Cooley *et al.* 2012). An additional fraction of the California population that relies on critical infrastructure located in potentially hazardous areas is also vulnerable and increases in storm intensity or in the density of development in flood-prone areas will increase the number of people at risk from flooding.

## Appendix F: Primary Coastal Act Policies

Pg. 287:

### Public Works Facilities

According to Coastal Act Section 30114, public works facilities include:

*(a) All production, storage, transmission, and recovery facilities for water, sewerage, telephone, and other similar utilities owned or operated by any public agency or by any utility subject to the jurisdiction of the Public Utilities Commission, except for energy facilities ~~which are regulated by the Public Utilities Commission~~.*



## **Exhibit 2**

Coastal Commission Staff Response to Comments  
(May 27, 2015 – Present)

# California Coastal Commission Response to Comments

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on the May 27, 2015 Revised Draft Sea Level Rise Policy Guidance

July, 30 2015

NAME/ AFFILIATION	SUMMARY/PARAPHRASING OF COMMENT LETTER	RESPONSE
<p>David K. Pendergrass, Mayor, City of Sand City</p>	<p>City agrees that in addressing SLR, policies and guidelines need to remain flexible and highly adaptive to each City's unique conditions, as rigid policies would be burdensome on coastal communities; range in SLR projections over time will require adaptive policies that evolve according to actual climate change impacts.</p> <p>Additionally, although it is helpful to examine worst-case scenarios, policies should not impose strict limitations reflecting these scenarios. Strictly limiting development in areas where projections have identified specific SLR hazard zones may be taxing on economic advancement.</p> <p>City urges the CCC to encourage local jurisdictions to address SLR based on individual coastline concerns rather than creating a rigid state-wide policy.</p>	<p>Thank you for your support. As stated throughout the Guidance, the information and recommendations contained within the document form the framework by which the Commission considers SLR in its planning and regulatory processes.</p> <p>The Commission recognizes that these processes will be tailored to fit individual needs of communities and projects, and that adaptation strategies should be chosen based on requirements of the Coastal Act and other relevant laws and policies with due consideration of local conditions.</p>
<p>Jim Nakagawa, Community Development Dept., City of Imperial Beach</p>	<p>It seems that a string line of discontinuous protective measures each with a different shelf life based on the priority ranking of the land use would provide weak links along this defensive line and expose priority uses to coastal hazards.</p> <p>Beach nourishment/retention of beach sand is a strategy deserving of attention as a consistent strategy along the coastline.</p> <p>There is a need for regional coordination, including with Mexico, to ensure success. There is a need for a collaborative or repository where data/info may be stored and exchanged.</p> <p>Lastly, ensure that nexus is considered when evaluating project requirements and impacts and zoning amendments in LCP would need to be consistent with the General Plan.</p>	<p>Beach nourishment is discussed in strategies A.19a, c-e. Regional coordination is discussed in multiple places throughout the document, which could include coordination with Mexico in this case. See the discussion of the AB 2516 Planning for SLR database in the Introduction and Next Steps.</p> <p>As stated throughout the document, the Coastal Act and other relevant laws and policies, including those related to nexus determinations and consistency between LCPs and General Plans, remain the standard of review for relevant planning and permitting decisions.</p>
<p>Edward Spriggs, Councilmember, City of Imperial Beach</p>	<p>CCC should utilize grant management capacity to ensure grantees of all 3 grants (CCC, OPC, SCC) are able to collaborate in a timely manner prior to completion of grant work and before policies become fixed in LCP amendments.</p> <p>There need to be opportunities to collaborate not just regionally but on topic areas/challenges (e.g. tourism, estuaries, lack of retreat options etc.). Suggest that the CCC hosts several day-long meetings in different locations w/ parallel workshops on various themes.</p>	<p>Coordination of grant recipients is outside the scope of this particular document. The Coastal Commission remains actively engaged on coordinating the variety of grants and LCP updates and will continue to pursue strategies for enhancing these efforts. After adoption of Guidance, workshops on using the Guidance will be held at different coastal locations.</p>

NAME/ AFFILIATION	SUMMARY/PARAPHRASING OF COMMENT LETTER	RESPONSE
<p>Jennifer Svec, California Association of Realtors</p>	<p>Oppose recommendation to require sellers/agents to disclose SLR vulnerabilities as it would increase seller liability and create frivolous lawsuits. States that CA Civil Code Section 1102 already requires disclosures including "all material facts affecting property's value..." such as permitting conditions, deed restrictions, and property defects.</p> <p>Disclosure is not possible without standardized predictive SLR mapping/data. Real estate transactions currently disclose hazards in the Natural Hazard Disclosure Statement, of which SLR is not one, though if predictive maps are available the CCC could consider adding it. Recommend more incentive based language such as expedited permitting, tax incentives, and removal of property reassessments for homeowners that take measures to adapt to SLR rather than bonds etc.</p>	<p>Civil Code section 1102.6a authorizes local governments to require additional disclosures that go beyond the minimum disclosure requirements of state law.</p> <p>Strategy A.16 refers to incentive programs for relocating at-risk structures. As is described throughout the document, adaptation strategies should be chosen on a case by case basis based on the requirements of the Coastal Act and other relevant laws and policies and with due consideration of local conditions.</p>
<p>John Becker, Public Citizen</p>	<p>"The document is an admirable coping with an important issue. The portions of the document I have read is a bit short of times, dates (started and finished) and costs. For example, on public access and road remediation."</p>	<p>Project specific dates and costs are outside the scope of this document, but the CCC will continue to provide Guidance on how to implement this document on both project-specific and regional planning scales.</p>
<p>John Rea, Public Citizen</p>	<p>"The policy should recite the actual scientific evidence, if any, that the ocean level is actually rising.."</p>	<p>See chapters 3 and 4 and Appendices A and B for a discussion of best available science on sea level rise.</p>
<p>Matt Brennan, ESA</p>	<p>p. 52: update extreme event definition to reflect definition on p. 242; p. 204: explain "99.9 percentile" in Kopp et al., to, e.g., "Under the high concentration scenario, RCP 8.5, Kopp et al. (2014) estimate the 'maximum physically possible rate of sea level rise' to be 8.2 ft. (2.5 m) for the year 2100."; p. 231, p. 233, and twice on p. 235 Revell (2011) should be Revell et al.; p. 240 ref to Heberger et al. should discuss more than impacts to residents in hazard zone, but also the "critical infrastructure (such as wastewater treatment plants, power plants, and roadways) which serves a larger fraction of the California population are also found in coastal flood zones".</p>	<p>Changes made as suggested</p>

NAME/ AFFILIATION	SUMMARY/PARAPHRASING OF COMMENT LETTER	RESPONSE
<p>Terry Houlihan, Public Citizen</p>	<p>Ch. 2 GPs should recognize that protecting developed structures is essential to the economic and social well-being of the people, consistent with PRC 30001(d); GPs/draft should recognize cost issues (e.g. SPD may be cheaper than green infrastructure); description of 30253 in GP 7 mischaracterizes CA language by saying "shoreline protective device" (30235 does not include the word "shoreline") and therefore extends requirement beyond bluffs/cliffs to whole coast; several adaptation strategies would constitute an "unlawful attempt to amend by county ordinance two sections of the state law limiting the coverage of one that the draftsmen don't like and expanding the reach of one that they do" -- CA does not authorize counties to amend underlying statute by imposing permit conditions that waive state statutory rights;</p> <p>GPs should discuss 30235; "The Draft should recognize 30005.5 and explain how, given it, counties would have authority to implement policies that would treat existing structures contrary to the balance struck by the legislature in sections 30235 and 30253"; "The CCC itself has in the recent past recognized that changing the balance set by the state in sections 30235 and 30253 is a state law issue, not a county ordinance issue"; draft should address cost of removal vs. armoring; draft should explain how treating remodeling as "new development" is consistent with 30001(d) and 30253; portion of GP 12 regarding not relying on SPD for redevelopment/new development is nonsensical, and the draft should describe how denying a permit in this way would not be a taking;</p> <p>Strategy A.13 is a new concept of redevelopment that would require owners to forego 30235 rights to protection -- draft should explain how a county has the power to impose such a condition.</p>	<p>Please see Chapter 8 of the Guidance for a description of the legal context of adaptation planning as well as interpretation of Coastal Act Section 30235. As Ch. 8 explains, shoreline protective devices are often inconsistent with many Coastal Act policies besides 30253 due to their impacts on public access and recreation, natural landforms, habitat, and public views.</p> <p>As is described throughout the document, adaptation strategies should be chosen on a case by case basis based on the requirements of the Coastal Act and other relevant laws and policies and with due consideration of local conditions.</p> <p>Pursuant to the Commission's regulations, many improvements and additions to structures are not exempt from coastal permit requirements. For structures located between the sea and the first coastal roadway or within 300 feet of a beach or the mean high tide line, the Commission's regulations do require keeping a track of whether cumulative improvements over time enlarge a structure by more than 10%. Disaster replacements are exempt only if the replacement structure is consistent with zoning and can be rebuilt in the same location as the destroyed structure. Where the replacement structure can't be built in the same location either because the land has eroded away or because it's inconsistent with zoning, then the exemption doesn't apply.</p> <p>Definitions of redevelopment are common in land use planning and not inconsistent with policies in the Coastal Act. The purpose for defining redevelopment is to avoid a conversion of an existing, non-conforming structure into a new, non-conforming structure through either a single renovation or through incremental changes to the structure. Revisions have been made in the Guidance to clarify the distinction between improvements to existing structures and new development.</p>

NAME/ AFFILIATION	SUMMARY/PARAPHRASING OF COMMENT LETTER	RESPONSE
<p>Dave Ward, Planning Manager, City of Ventura</p>	<p>City remains concerned with the gray areas that persist with regard to administration and evaluation of SLR in LCP amendments and CDP applications -- specifically BAS being updated every 5 years/as needed and Step 6 of LCP process stating that LCPs should be revised as needed.</p> <p>Would like an explicitly stipulated process included in LCP regulation that ensures that it will remain in effect for full 5-year period.</p>	<p>5 year time period reference has been removed in Step 6, consistent with changes made earlier to other portions of the draft. The Coastal Act, certified LCPs, and other relevant laws remain the standard of review, and Commission staff will continue to provide support to project applicants and local jurisdictions in incorporating SLR in various planning and permitting processes.</p>
<p>Glenn Russell, Planning and Development Department, County of Santa Barbara</p>	<p>County has concerns regarding the feasibility of implementing many of the adaptation strategies including uses for built out areas that become nonconforming and shortening the proposed life of a project that cannot be sited safely without shoreline protective devices. There is apprehension that the Guidance may be interpreted as a regulatory document; p. 91: suggestion to evaluate SLR projections at least every 5 years will be costly.</p> <p>Requirements for data for CDPs on impacts from SLR (Step 2) and to resources (Step 3) are costly/infeasible to collect on a case by case basis for an individual applicant.</p>	<p>5 year time period reference has been removed in Step 6, consistent with changes made earlier to other portions of the draft. As is described throughout the document, adaptation strategies should be chosen on a case by case basis in a way that fulfills the requirements of the Coastal Act and other relevant laws and policies and with due consideration of local conditions.</p> <p>The Coastal Act, certified LCPs, and other relevant laws remain the standard of review, and Commission staff will continue to provide support to project applicants and local jurisdictions in incorporating SLR in various planning and permitting processes.</p> <p>Sea level analysis is already included in many LCPs and CDPs. The main differences in the analyses outlined in Chapters 5 and 6 from what is done at present, are that sea level rise is explicitly addressed and sea level rise scenarios are suggested to address uncertainties in future hazard conditions.</p>
<p>Charles Caspary, Public Citizen</p>	<p>Guidance should recognize that some of the adaptation strategies "facilitate the conversion of private property to a 'public tideland' by erosion (managed retreat) and therefore constitute a taking"; guidelines do not recognize the ineffectiveness of soft solutions; states that it would be effective to add river type cobblestones as beach nourishment as they are erosion resistant.</p> <p>Draft should provide the actual data on amount of beach in the state that is public property or has access easements (total beach linear distance vs closed vs lateral access mileage) so that public access arguments can be placed in proper perspective.</p>	<p>A discussion of the legal context of adaptation, including a general description of takings issues, is included in Chapter 8. See Chapter 7 for a brief discussion of the pros and cons of various adaptation categories, including soft protection options.</p> <p>Specific data on the amount of public and private coastline is out of the scope of this document, but as stated in the Guiding Principles and in line with the priorities of the Coastal Act, a primary goal is to continue to maximize protection of public access and recreational opportunities.</p>



NAME/ AFFILIATION	SUMMARY/PARAPHRASING OF COMMENT LETTER	RESPONSE
NOAA Office for Coastal Management	<p>Applauds the CCC's proactive approach to achieve resilient shorelines. Thanks staff for considering and addressing their earlier comments. Finds that the doc is clear and comprehensive and that the new additions are helpful.</p>	<p>Thank you for your support.</p>
Carmen Ramirez, City Council and Mayor Pro Tempore, City of Oxnard	<p>One weakness is the lack of attention given to issues of environmental justice. Discussion is focused more on public access when other issues such as pesticide use, pollution, or placement of power plants or chemical waste facilities are also important. There should be more specific information in Chapters 5-7 on how to address EJ. Mandalay Bay NRG facility both faces SLR hazards and is an EJ threat.</p>	<p>Language has been added in a number of places throughout the document to hone in on these issues. Language has also been added to Next Steps and Additional Research Needs section related to this topic.</p> <p>The Commission recognizes that there are a number of additional concerns related to environmental justice and will continue to support efforts to address environmental justice concerns as they relate to SLR and other hazards and resource issues.</p>
Surfrider Foundation	<p>Commends the CCC for fostering an iterative and responsive development process of the guidance document. Finds that the document has become easier to navigate and manage, and makes significant strides toward incorporating a more holistic view of adaptation.</p> <p>Pleased to see the section explaining the impacts SPDs have on the coast. CCC should continue to search for and promote mechanisms that regulate SPDs and suggests three mechanisms that the CCC should consider: 1) charge occupancy fees for seawalls below mean high tide and use collected funds to improve public access; 2) protect horizontal access where seawalls eliminate the beach, for example through a future easement that may be legally exacted to permit public access when new seawall permits are issued; 3) adopt the principle of Rolling Easements.</p>	<p>Thank you for your support. Encouraging the use of easements to protect lateral access has been added to Strategy A.23.</p> <p>The Commission will continue to coordinate with other partners, including the State Lands Commission, to address topics such as these in efforts to address sea level rise.</p>
James Benjamin, Public Citizen	<p>Writing to draw attention to an error in a map contained in the 2009 Pacific Institute report that is cited throughout the document. Specifically, the Pacific Institute report includes a map that refers to the 100-year flood plain for Half Moon Bay, but the map in question is actually a Tsunami Inundation map. The difference overestimates the area that could be inundated (during a 100-year storm as compared to the displayed tsunami)</p>	<p>Thank you for drawing our attention your concern with this report.</p>

NAME/ AFFILIATION	SUMMARY/PARAPHRASING OF COMMENT LETTER	RESPONSE
<p>Jennifer Kalt, Humboldt Baykeeper</p>	<p>Recommendations for including SLR in mapped hazard zones and analyses (strategies A.1, A.1a, A.2, A.2a, A.2d) are critical for the Humboldt Bay Area.</p> <p>TDR programs (A.5b) will be critical for preventing ill-conceived development, and the receiving areas should be located outside of the coastal zone when feasible.</p> <p>Strategies to protect natural processes (A.19, A.19b) will help land managers take a big picture view, and the strategy should include designation of high priority areas to restore natural processes.</p> <p>Generally support beneficial re-use of sediment (A.19c) but it should also consider reuse of sediment for wetland restoration in areas where former wetlands have subsided.</p> <p>Should strengthen strategy E.5a by requiring prioritization of low-lying contaminated sites for remediation and restoration.</p> <p>Should add strategy to retrofit existing development in at-risk areas with inadequate stormwater infrastructure.</p> <p>Support strategy to identify areas suitable as replacement for agricultural production that could be lost elsewhere, but suggest that there may need to be a regional approach.</p> <p>Agricultural lands on diked formal tidelands should be viewed differently since they are at high risk due to SLR and may be high priority lands for restoring tidal influence.</p>	<p>Thank you for your support. Language has been added to the A19 strategies related to identifying priority areas for restoration of natural processes.</p> <p>A new strategy (C.6b) has been added related to reuse of sediment to support wetland restoration.</p> <p>Changes related to strategy E.5a and to retrofits for inadequate stormwater infrastructure were made as suggested.</p> <p>Language related to regional collaboration was added to strategy D.1.</p>



NAME/ AFFILIATION	SUMMARY/PARAPHRASING OF COMMENT LETTER	RESPONSE
<p>The Nature Conservancy, California Coastkeeper Alliance, and Heal the Bay (joint letter)</p>	<p>Guidance should outline processes for Commission decision-making on coastal power plants, desalination facilities, and other infrastructure, and should create explicit standards for consideration of sea level rise in siting decisions for those facilities. Guidance should be revised to commit the Commission to a new stronger role in power plant siting, "especially vis-a-vis the California Energy Commission" and to a more prominent role in introducing SLR vulnerability into the proceedings. An articulation of a uniform posture on SLR vulnerability in siting decisions for desalination facilities and power plants would be useful. Guidance should recognize the state's network of MPAs and discuss how coastal planning and development have an increased significance for the health of MPAs in the face of SLR. Guidance should highlight complimentary state guidance, such as the Safeguarding CA plan, on the importance of green infrastructure and wetland restoration in mitigating flooding and other SLR impacts. This revised draft still under-emphasizes the inherent value and importance of natural shoreline areas. The Guidance should particularly include Safeguarding's rec to "Achieve multiple benefits from efforts to reduce climate risks and prioritize green infrastructure solutions" and to "continue to study and support investment in cost-effective green infrastructure to reduce flood risk and stormwater runoff and to maximize co-benefits".</p> <p>The Guidance should encourage local governments to begin identifying which coastal areas and infrastructure will receive protection from SLR and should encourage state agencies to develop and implement policies for managed retreat. Guidance should encourage communities to work with the robust science that is publicly available (rather than waiting for a grant to hire a consultant) and adopt a precautionary approach with respect to areas of uncertainty. CCC should establish a process through which staff can support local planners directly as they incorporate SLR in LCPS and the Guidance should provide contact information for who can provide this support. Guidance should discuss the similarities among the NRC report, the NCA, and the IPCC 5th AR. The Guidance should explain how scenario planning within the vulnerability assessment process can translate into on-the-ground policy.</p>	<p>Pursuant to Public Resources Code 25500, 25110, and 25120, the Energy Commission has exclusive permitting jurisdiction over thermal power plants with generating capacity of 50 MW or more. Pursuant to PRC 25523 and 30413(d), the Commission submits comments to the Energy Commission regarding provisions that are necessary to bring a thermal power plant project into conformity with the Coastal Act. The Energy Commission must include those provisions unless it finds that they are infeasible or would cause greater adverse environmental impacts. The Commission will continue to coordinate in siting decisions as applicable and in line with the relevant policies and procedures.</p> <p>Strategy C.3 has been added related to recognizing the importance of MPAs. Significant efforts have been made to ensure the Guidance is in line with and supports Safeguarding California and other relevant documents. The importance of natural processes and the benefits of green infrastructure are discussed in multiple locations in the document, including in Guiding Principle 12 and the 6 strategies that fall under the goal statement to "Use soft or natural solutions as a preferred alternative for protection of existing endangered structures".</p> <p>A main theme of the Guidance document is that local governments should begin efforts to identify and respond to sea level rise impacts through a variety of means. The Coastal Commission will continue to support local jurisdictions as they begin and carry out these efforts, including supporting efforts to translate vulnerability assessment findings to policies and implementation actions. Contact information can be found on the last page of the document. Chapter 3 and Appendix A includes a discussion of the various reports on sea level rise.</p>

NAME/ AFFILIATION	SUMMARY/PARAPHRASING OF COMMENT LETTER	RESPONSE
<p>Marin County Community Development Agency</p>	<p>Adaptation strategies are largely relevant to new development on vacant land and fail to provide reasonable, implementable, and legally reliable guidance for addressing existing development. Strategies that do apply to existing development are financially infeasible or appear to conflict with existing Coastal Act provisions that specifically exempt existing development from Coastal Permit requirements.</p> <p>Guidance advises jurisdictions to define redevelopment in a way that, over time, would essentially transform all existing structures into new development, thereby represented a critical shift in approach that does not seem to be supported by Coastal Act provisions and may expose jurisdictions to extensive litigation.</p> <p>Chapter 8 sites Marin as an example of defining "existing" as from a specific point in time, but we do not feel that Marin's example justifies this interpretation, and recommend a more normal interpretation.</p> <p>Strategy for "defining redevelopment" should be revised to conform to the CA's coastal permit exemption provisions that allow improvements without reference to tracking individual components etc. Strategy A.9 should be revised to conform with CA provisions in 30610 which exempt CDP requirements for replacement of structures destroyed by natural disaster.</p> <p>Guidance discussion of "existing structures" should be revised to conform to the plain intent of CA 30235 and shed light on the legislative history of this provision, otherwise it should stay within the common meaning of "existing" as existing at the present moment. Guidance provisions related to redevelopment may create a disincentive for people to comply with FEMA BFE requirements to raise their homes.</p>	<p>The guidance contains sections (A.12 and A.13) which specifically address existing development and have been revised to clarify that non-conforming existing structures in the area between the sea and the first coastal roadway are of particular concern if they perpetuate the need for shoreline protective devices. Pursuant to the Commission's regulations, many improvements and additions to structures in this location are not exempt from coastal permit requirements. For structures located between the sea and the first coastal roadway or within 300 feet of a beach or the mean high tide line, the Commission's regulations do require keeping track of whether cumulative improvements over time enlarge a structure by more than 10%. Disaster replacements are exempt only if the replacement structure is consistent with zoning and can be rebuilt in the same location as the destroyed structure. Where the replacement structure can't be built in the same location either because the land has eroded away or because it's inconsistent with zoning, then the exemption doesn't apply.</p> <p>Definitions of redevelopment are common in land use planning and not inconsistent with policies in the Coastal Act. The purpose for defining redevelopment is to avoid a conversion of an existing, non-conforming structure into a new, non-conforming structure through either a single renovation or through incremental changes to the structure. Revisions have been made to clarify the distinction between improvements to existing structures and new development.</p> <p>The recommendation that the replacement of 50% or more of a structure constitutes new development derives from 14 Cal. Code Regs. § 13252(b), which provides that replacement of 50% or more of a structure, unless destroyed by natural disaster, constitutes new development. For existing structures located between the sea and the first coastal roadway or within 300 feet of a beach or the mean high tide line, 14 Cal. Code Regs. §§ 13250(b)(4) and 13253(b)(4) both establish the principle that separate individual improvements made over time should be considered cumulatively for the purpose of determining whether additional improvements to the structure are exempt.</p>

NAME/ AFFILIATION	SUMMARY/PARAPHRASING OF COMMENT LETTER	RESPONSE
		<p>This Guidance does not supersede exemptions established pursuant to the Coastal Act and its implementing regulations. That said, the Coastal Act does not limit the authority of local governments to establish requirements that go beyond the minimum requirements of the Coastal Act, so long as they do not conflict with the Act. (PRC 30005(a).)</p> <p>The suggestion to use a 50% valuation criterion for redevelopment is provided as an alternative to 50% of the structural elements, and ii is consistent with FEMA's definition for Substantial Improvements, 44 Code of Federal Regulations 59.1.</p> <p>As stated throughout the Guidance, the information and recommendations should be considered on a location-specific and case by case basis in a way that fulfills the requirements of the Coastal Act, certified LCPs, and other relevant laws and policies and includes consideration of local conditions.</p> <p>Recommendations within the Guidance are not meant to supersede any applicable Coastal Act policies or other laws. Language has been added to strategies A.8a and A.12 to ensure consistency with FEMA policies and practices.</p>

NAME/ AFFILIATION	SUMMARY/PARAPHRASING OF COMMENT LETTER	RESPONSE
Marin County Department of Public Works	<p>Recommend adding a GP to "provide infrastructure and services to existing coastal communities" and to discuss determination of critical from non-critical facilities and infrastructure. Guidance encourages protection of ecological resources, public access, and views but equal weight should be given to whatever areas are determined to be important. Doesn't necessarily mean every home, but some discussion of establishing critical facilities would be useful for agencies like DWP which are charged with protecting these services.</p> <p>Pg. 24: "100-year flood" should be the "100-year tide level" or "100-year coastal flood" and/or change to 1% annual exceedance probability language. Pg. 26: goals include protecting public safety and allowing for sustainable economic growth, but these two items are not really addressed in the rest of the document. Pg. 35: evaluating impacts for high levels of SLR may be appropriate, but "planning and providing adaptive capacity" may be too strict a burden as it would likely require large scale abandonment of coastal communities which would be difficult for counties to plan for and may be considered a taking. Pg. 37: "life" of structure should be clarified, especially as many structures have a long life with proper maintenance -- is this considered part of "life". Pg. 38, GP 16: Requiring mitigation for all unavoidable resource impacts could lead to unacceptably large costs for public agencies. Why should public agencies be held for mitigation for providing services to coastal communities? GP 19: consider stronger language, such as "strongly recommend" or "require" regional coordination. Pg. 38 EJ section doesn't mention impacts to low income communities from loss of road access or clean water. Pg. 91: section on funding resources exaggerates availability of funding which is instead wholly inadequate for on the ground adaptation measures. Recommend that this should be acknowledged and to add that additional funding sources should be developed. Pg. 103: list of analyses for wave runoff and impacts seems unreasonable and should be modified to reflect the state of practice for typical coastal engineering firms in California. Pg. 131: "Limit foundation work within the geologic setback area" is too restrictive. Foundations are integral parts of structures and cannot be "limited" if the structure is needed. Limiting it may result in failure and therefore lawsuits, so recommend deleting this suggestion.</p>	<p>The Guidance encourages protection of coastal resources, including development, and states that adaptation strategies should be chosen and implemented on a case by case basis in a way that fulfills the requirements of the Coastal Act and other relevant laws and policies and that considers local conditions. Change was made to the "100-year coastal flood", as suggested. Planning for and providing adaptive capacity is not meant to suggest or require wide scale retreat, but rather analyzing the potential impacts and identifying a range of potential adaptation strategies that could be utilized over time, including a possible mix of protection, accommodation, and retreat strategies. As is described in the document, applicants should identify the anticipated life of the structure, including maintenance activities, so as to analyze the full range of potential sea level rise impacts that may occur over the full time period it is in existence in a certain location so that it can be planned, sited, and designed to be safe from and/or accommodate impacts. Mitigation has been, and will continue to be required for unavoidable impacts to coastal resources in line with the requirements of the Coastal Act and other relevant laws and policies. As is described throughout the document, the Commission will encourage and support regional coordination efforts as feasible and applicable. Language has been added to page 91 supporting the creation of additional funding opportunities. The listed analyses for wave runoff and similar are commonly required for CDP applications, as applicable to the individual site and project details. As described in the document, individual adaptation strategies may not be applicable to all projects but should instead be chosen on a location specific and case by case basis in a way that fulfills the requirements of the Coastal Act and that considers local conditions.</p>



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Center for Ocean Solutions	<p>Commend Commission's inclusion and prioritization of green infrastructure and "soft" alternatives to hard armoring, recommendations to encourage retreat, and the extended discussion of the legal context of shoreline protective devices.</p> <p>This discussion could be strengthened by providing specific recommendations to help limit availability of armoring to cases of true emergencies (for example limiting type of emergency structure that is allowed to temporary solutions/structures and requiring removal of emergency armoring within a fixed time, such as at the end of the rainy season, prior to consideration of any permanent protection) and providing specific recs to ensure armoring impacts to neighboring properties are appropriately monitored and mitigated (for example, ensuring the environmental impact analysis adequately analyzes impacts beyond the project site, including neighboring sites and the broader littoral cell; using LCP regulations and CDP conditions to require long-term monitoring of impacts to neighboring properties; and including impacts to neighboring properties when calculating mitigation measures).</p> <p>Suggest adding the note that the CCC will re-evaluate BAS as necessary to the Exec Summary; mentioning the forthcoming SLR Planning Database on Pg. 69 in discussion of other planning-related documents; add "See Chapter 7: Adaptation Strategies for further details regarding alternatives to hard armoring structures" to end of paragraph that begins with "Because of the wide range..." on pg. 162.</p>	<p>Thank you for your support. Additional language related to monitoring of impacts to neighboring sites and/or the broader littoral cell was added to strategy A.22. Changes related to review of best available science, the Planning for SLR Database, and cross-referencing between Ch. 8 and 7 were made as suggested. The Commission will continue to support efforts to further address impacts from shoreline protective devices particularly in response to sea level rise driven changes in shoreline conditions.</p>
City of Dana Point	<p>Ask how the Guidance references the CCAMP study by FEMA and UC Irvine coastal studies, and whether using a study other than the 2012 NRC report would require an LCP action. Since the loss of coastal access and recreation could be devastating for local communities, ask whether a streamlined process for local government projects to mitigate those effects. Ask whether accelerated sea level rise would be grounds for an emergency permit.</p>	<p>In line with guidance from the Ocean Protection Council, the Guidance currently recommends using the 2012 NRC report as the best available science pertaining to sea level rise on the California coast. FEMA's CCAMP study is included in the Guidance as a resource, but with a note that this study does not account for sea level rise. Local jurisdictions are encouraged to work with the Coastal Commission to identify studies that are locally relevant in their particular geographic range. Projects will continue to be reviewed on a case by case basis and in line with the requirements of the Coastal Act. The Commission remains committed to working closely with local jurisdictions on these efforts.</p>

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<p>City of Newport Beach, Community Development Department</p>	<p>Estimate that over 4000 properties along with shoreline communities, visitor-serving industry, harbor, and natural habitats could be subject to SLR impacts, and because of this the city has been working to prepare for SLR and will continue to study and implement policies and regulations to address long term SLR. However, concern that the Guidance may result in a delay to the certification of the City's IP (which is following the 2010 update of the Zoning Code). This effort has followed a number of workshops and coordination with CCC district staff, but the procedures described in the Guidance would require an immediate halt to the certification effort as data collection, analysis, and risk assessment would take years.</p>	<p>LCP updates will continue to be reviewed on a case by case basis and in line with the requirements of the Coastal Act. The Commission remains committed to working closely with local jurisdictions on these efforts.</p>
<p>Joyce Dillard, Public Citizen</p>	<p>Guidance needs to tie into regulatory issues to be effective, and should consider financial and practical realities. In order to be dynamic, the guidance needs to include accurate info and data and be current. LCP updates and CDP decisions need to be based on plans that are current. CDP decisions need to be based on environmental analyses, but legal requirements are easily bypassed. OPR should be brought in when General Plans lag. State coastal areas need to be divided and recognized for impacts. Should include the Santa Monica Bay Restoration Commission as an agency involved on the coast. Adaptation should be applied based on facts not policy. There is no science to justify storm water capture as a water quality compliance mechanism. Floodplain Management Plans should be reviewed for accuracy and current status. Soils and Geology Reports as well as Hydrology and Water Quality reports are crucial for the coast. Few realize that LCPs exist unless they live in the vicinity of an approved plan.</p>	<p>The information and recommendations in the Guidance derive from the requirements of the Coastal Act. As stated throughout the document, planning and permitting decisions should be made on a case by case basis in a way that fulfills the requirements of the Coastal Act and other relevant laws and policies and with consideration of local conditions. The Commission will continue to coordinate with state and local partners on issues related to sea level rise.</p>

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<p>Valerie Winn, Chief, State Agency Relations, Pacific Gas and Electric Company</p>	<p>PG&amp;E supports the Commission's assertion that the NRC report is the best available science for California, but believes the 2050 estimates should be used as the planning standard rather than the 2100 estimates as it is not typical for business and investments to plan for an 85-year time period. Benchmarking and historical evaluation of extreme weather events should be initial steps and become starting points for SLR evaluations of critical infrastructure. Critical that SLR be addressed in a consistent and uniform approach with parties utilizing the same data and predictive models. Recommend that a greater priority be placed on protection and modification of infrastructure rather than relocations. PG&amp;E would like the opportunity to work with the Commission and coastal cities/counties in SLR planning and development of policies that protect vital infrastructure. Commission's assessment of SLR impacts on low-income communities appears to focus exclusively on coastal communities and recreational uses and did not address analysis of how SLR and salt water intrusion will impact low income communities in the Bay Delta region.</p> <p>[PLEASE SEE FULL LETTER FOR ADDITIONAL DETAILS]</p> <ol style="list-style-type: none"> <li>1) Revised Policy Guidance is too centric on LCPs to be useful to the District.</li> <li>2) District requests that the Guidance exclude port master plans, and, as part of the next steps, requests that the Commission and port stakeholders collaborate on further developing port-specific Guidance. As an alternative and at a minimum, the document should reflect the need for additional port-specific guidance and make appropriate reference to the current version while acknowledging subsequent specific guidance for ports may be created</li> <li>3) Clarify how the document will address the urban character of District tidelands. There is no guidance addressing urbanized areas and how property rights may be affected in these areas.</li> <li>4) The Guidance recognizes ports as a coastal resource yet fails to provide any port-specific guidance. Requests that the Commission draft separate guidance for ports given their distinct statutory context, or, at a minimum, reflecting the need for additional port-specific guidance in the current version.</li> <li>5) AB 691 requires the District to make an assessment of SLR on</li> </ol> <p>Unified Port of San Diego</p>	<p>Guidance does not put forth any "planning standards", but rather suggests that project applicants should analyze the potential SLR impacts over the anticipated life of a project, rather than over a budget planning cycle, to ensure that it is sited and designed to avoid or minimize hazards and resource impacts. The Guidance identifies the NRC 2012 report as the best available science and encourages regional coordination when analyzing SLR impacts. A number of strategies refer to retrofits and accommodation options for critical infrastructure, not solely relocation. The Bay Delta region is outside of the Coastal Commission's jurisdiction, but the Commission will continue to coordinate with the SF Bay Conservation and Development Commission and the Delta Council on relevant topic areas including sea level rise as applicable. The need to work with utilities on sea level rise issues specific to coastal infrastructure is included in Next Steps</p> <p>A number of changes have been made to better highlight the unique challenges and particular policies and regulations relevant to ports. Some of these changes include additional language in the introduction and guiding principles about information that may be relevant to other planning documents, including PMPs, as consistent with the Coastal Act. Several strategies related to ports have also been added, and language related to coordination and additional guidance has been added to the Next Steps chapter. In general, as is stated throughout the document, the Guidance is meant to provide a general framework for how to consider and address sea level rise in a variety of planning and project-specific cases. For example, the steps to identify a range of sea level rise projections, analyze the physical impacts from sea level rise, analyze possible impacts to resources, and then identify and develop possible strategies to avoid, reduce, and/or mitigate impacts are the common steps of any vulnerability analysis. However, the level of detail, the required analyses, and the eventual adaptation strategies chosen will vary significantly depending on the goals and intent of the planning effort or the individual project. This Guidance is not meant to be a substitute for the planning work required for addressing sea level rise in</p>

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	<p>granted public trust lands, but the CCC's Guidance severely limits the District's ability to do so by not including port-specific guidance. Similarly, CCC comments on the Port of LA's recent amendments suggest the need to include sea level rise policies. These expectations reinforce the need for port-specific Guidance that includes a description of the authority to require such SLR policies. District requests, therefore, that the current Guidance not apply to PMPs and that port-specific guidance is separately developed. District also requests that adaptation strategies specific to ports be presented to avoid conflicts with the Port Act and Coastal Act Ch. 8 policies that promote modernization of ports, development of harbors and supporting facilities, and commercial fishing.</p> <p>6) Allow for collaboration to distribute risks associated with SLR rather than the recommendation to "ensure that current and future risks are assumed by the property owner" (pg. 127). The Guidance should encourage public trust grantees and the District to solve issues collaboratively with tenants, agencies, and stakeholders rather than unilaterally as a landowner. If this policy is not specific to ports, language should be added to state so.</p>	<p>LCPs, PMPs, CDPs, consistency determinations, and so on, and it cannot feasibly include the level of specificity that would be necessary to do so. Instead it provides a broad range of information, recommendations, and goals that should be considered in these planning activities as relevant and applicable to the individual effort. As is explained throughout the Guidance, the Coastal Act, certified LCPs, and other relevant laws and policies remain the standard of review, and the recommended actions and adaptation strategies should be implemented on a case by case basis in a way the fulfills the requirements of the Coastal Act and other relevant laws and that gives consideration to local conditions. The Commission acknowledges that ports are subject to Chapter 8 of the Coastal Act. The policies of Chapter 8 apply to significant categories of port-related development and differ in some significant ways from the Chapter 3 policies of the Coastal Act. Other significant categories of development with ports, however, are subject to Chapter 3, specifically those categories of development listed as appealable in PRC 30715 or that are located within specified wetlands, estuaries, or recreation areas. The focus of this Guidance is implementation of Chapter 3 policies, but many principles are relevant to evaluation of sea level rise in the context of Chapter 8, too. The Commission will continue to work with ports to implement the applicable policies of Chapters 3 and 8 of the Coastal Act, and continues to recognize both the importance of ports and the coastal-dependent related uses typically found in ports, as well as the sometimes unique planning and development challenges presented by urbanized port areas.</p> <p>Additional information relevant to the District's more specific concerns is highlighted below.</p> <p>6) As explained above and throughout the document, adaptation strategies should be implemented on a case by case basis and may not be applicable in all circumstances. In relation to strategy A.10, the important message is that property owners (and related) should understand sea level risk risks and vulnerabilities and ensure that the public does not have to bear the burden of detrimental impacts to resources. This is particularly the case for</p>



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	<p>private property owners where actions may adversely affect public interests. Ports have public trust responsibilities and thus are inherently balancing public interest. The Commission agrees that Ports should use a variety of means, including collaborating with lessees and other parties, to highlight the risks associated with development in hazardous areas and the responsibilities that come with such development.</p> <p>7) Clarify how the document will be used as an interface between the Coastal Act and CEQA. Clarification should be provided that the Guidance is not intended to be used for establishment of significance thresholds under CEQA, does not constitute a binding plan/policy in the context of consistency analyses, and strategies do not represent mandated mitigation measures.</p> <p>8) Revise Step 3 of the CDP process as it requires an understanding of the secondary impacts to evolving resources resulting from SLR and implies that the applicant is responsible for future impacts to coastal resources.</p> <p>9) Recommend adding "updates to building codes" as an adaptation strategy.</p> <p>10) Allow for greater flexibility in adaptation responses for coastal dependent infrastructure, particularly in strategy A.27 which directs critical infrastructure to plan for the worst case scenario.</p>	<p>7) The Guidance does not alter CEQA or the Coastal Act or change the relationship between the two. It does not formally establish significance thresholds for the purpose of CEQA review. As noted in the document, the Guidance does not establish mandatory requirements. It instead identifies a menu of options to address sea level rise in a manner consistent with the Coastal Act. Depending on the circumstances of a particular project, agencies responsible for implementing the Coastal Act may impose measures identified in the Guidance as mandatory mitigation measures for that project.</p> <p>8) The level of detail and the specific analyses required will vary depending on the scope and intent of individual projects. Sea Level changes are expected to be factored into project analysis to ensure the project is properly sited and designed to be safe and to adequately evaluate potential impacts that might be expected on coastal resources from the development. If such impacts cannot be avoided, mitigation may be appropriate. The Guidance does not call for mitigating impacts that are unrelated to the project.</p> <p>9) Change made as suggested</p> <p>10) As explained in the document, adaptation strategies should be chosen and implemented on a case by case basis in a way that fulfills the requirements of the Coastal Act and other relevant laws and policies. Chapter 3 of the Coastal Act requires development to be safe from hazards, and, as suggested in the strategy, there are a number of ways to ensure safety including initial siting and design, retrofits to existing structures, and utilizing other strategies in the future as necessary and applicable. The strategy does not suggest a requirement to implement infeasible improvements.</p>

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	<p>11) Clarify the intent of "incremental" implementation of adaptation strategies.</p> <p>12) Distinguish between coastal-dependent and non-coastal-dependent uses when describing restrictions on new development or existing structures, particularly as it relates to shoreline protective devices. District is still concerned that the Revised Policy Guidance will limit or prohibit shoreline protection despite the Coastal Act's allowance of such, and is unsure of where the authority to do so would originate if this is the case. Request that the Guidance include a statement that it is intended to allow for exploration of adaptation measures but not to limit or prohibit application of 30235.</p> <p>13) Clarify the definition of "at-risk" as it relates to location and/or inadequate building standards. Re: Principle 8, pg. 36, District is unclear how the Coastal Act prohibits CDPs for repair and maintenance of at-risk structures when they are consistent with the PMP.</p> <p>14) Clarify definition and intent of "acceptable levels of risk" and "community priorities" (see pg. 26) and add consideration of other enabling legislation and grants (etc.) to the referenced sentence. Even with this change, though, the District still requests that the Guidance be inapplicable to ports and the specific guidance is developed instead.</p> <p>15) Clarify whether "expected life" of projects is a standard for permit authorization. District request instead that CDPs should not be limited to the "expected life" of the structure, and that applicants be required, if necessary to demonstrate mitigation at reasonable intervals.</p>	<p>11) Chapter 3 of the Coastal Act requires development to be safe from hazards. As explained, there are a number of ways of ensuring safety, and it may make sense in some cases to provide for a phased approach for different adaptation responses over time or if conditions change. It is expected that different strategies will be evaluated and implemented on a case by case basis.</p> <p>12) As stated throughout the document, this Guidance does not in any way change the policies of the Coastal Act. The Coastal Act remains the standard of review for planning and permitting decisions. As described, adaptation strategies should be chosen based on the specific risk and vulnerabilities, applicable Coastal Act and other legal requirements, and with consideration of local conditions. The options described in the document are meant to provide guidance for potential strategies.</p> <p>13) Principle 8 does not prohibit CDPs but rather states that at-risk structures should be brought into conformance with current standards, as applicable and consistent with the Coastal Act. "At-risk" generally refers to a structure's location, as described in section 30253 of the Coastal Act, and there are a number of ways to ensure safety, including initial siting and design or future adaptive strategies and retrofits as necessary and applicable.</p> <p>14) This sentence explains, similar to other language throughout the document, that planning efforts and decisions will vary based on identified vulnerabilities and local needs and goals. As stated in the document, actions should be implemented on a case by case basis in a way that fulfills the requirements of the Coastal Act and other laws and policies. Language regarding other relevant laws and policies has been added to the specified sentence.</p> <p>15) As is explained in the document, steps related to identifying the expected life of the project are not meant to limit a CDP to that time period, but rather to identify the general amount of time over which the project will be in existence so that hazard analyses performed in subsequent steps will adequately consider the impacts that may occur over the period of time the project is in</p>

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	<p>16) Allow for further consideration of the economic and financial constraints of implementing SLR policies for ports. For example, many Guiding Principles use such language as “providing maximum protection”, “providing adaptive capacity for highest amounts”, etc., and the District requests that such qualifiers as “as feasible” or “when practical” be added to these statements.</p> <p>17) Clarify how rolling easements would work in relation to port lands.</p>	<p>place.</p> <p>16) This Guidance is grounded in the requirements of the Coastal Act, and the Guiding Principles and other recommendations represent goals to which planning and permitting actions should aspire as applicable and feasible. Nothing in the document is meant to supersede existing legal authorities or the standard of review for planning or decisions.</p> <p>17) As stated in the document, not all adaptation strategies will be applicable in all cases, but should instead be evaluated and implemented based on the individual circumstances in a way that fulfills the requirements of the Coastal Act.</p> <p><b>State Lands Commission Executive Staff supplied the following additional responses:</b></p> <p><i>“It is important to clarify that acquiring a rolling easement as an adaptation strategy is a completely different concept from how sea level rise may affect the boundary between public tidelands and uplands. As stated in Chapter 8, the landward location and extent of the State’s sovereign fee ownership of these public trust lands are generally defined by reference to the ordinary high water mark (Civil Code §670), as measured by the mean high tide line (Borax Consolidated v. City of Los Angeles (1935) 210 U.S. 10). Boundaries determined by tidal patterns are, by their nature, ambulatory. The mean high tide line is the intersection of a calculated elevation/plane of the ocean, based on a tidal epoch of 18.6 years, with the surface of the beach. This line necessarily moves as the beach gradually builds up and erodes, thus changing the legal boundary between the properties (Lechuza Villas West v. California Coastal Commission (1997) 60 Cal.App.4<sup>th</sup> 218 at 235). This boundary, therefore, moves as the sand moves and changes (Id. At 238).</i></p> <p><i>More specifically, in areas unaffected by fill or artificial accretion, the ordinary high water mark and the mean high tide line will generally be the same. In areas where there has been fill or artificial accretion, the ordinary high water mark (and the state’s public trust ownership) is generally defined as the location of the mean high tide line just prior to the fill or artificial influence. While</i></p>

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		<p><i>each of the 70+ legislative grants of public trust lands to local jurisdictions are unique, where the grant description calls to the ordinary high water mark or mean high tide line as the landward extent of the legislative grant, the above explanation of the boundary between public trust lands and uplands equally applies to these grants.</i></p> <p><i>Except where the boundary between public trust lands and uplands have been fixed by a court decision or an agreement between the state or its trustee and the upland owner, and also in areas unaffected by fill or artificial accretion, the boundary between public trust lands and uplands is measured by the ambulatory mean high tide line. This boundary ambulates as the intersection of mean high water and land moves with the processes of erosion and natural accretion. Under the Common Law and California law, this means that uplands that are lost or submerged due to gradual and imperceptible changes to the shoreline through action by the ocean inure to the benefit of the State, just as lands added to the uplands by natural accretion inure to the owner of the upland.</i></p> <p><i>The Port's letter references the law of avulsion. Avulsion is the sudden and perceptible loss of land along a body of water caused by action of water, such as a flood causing a sudden change in the location of the bed or course of a river or stream. The law of avulsion does not apply to the gradual and imperceptible changes to the shoreline caused by sea level rise. Ocean boundaries are typically eroding and accreting on a daily basis by the movement of sand along the shoreline. It is not uncommon for the intersection of mean high tide with the beach to move dozens of feet or more over a relatively short period of time due to wave action. This is a natural phenomenon that the Common Law has dealt with for centuries. It is the basis for the legal concept of the ordinary high water mark. The slow and imperceptible changes due to sea level rise are not sudden and perceptible changes resulting in avulsion to the shoreline.</i></p> <p><i>It is important to note that a significant portion of the boundaries between public trust tidelands and uplands within the Port of San Diego's jurisdiction have been fixed by mutual agreement or court</i></p>

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	<p>18) District has concern regarding the following phrases and inconsistencies and requests clarifications [see letter for additional details]</p> <ul style="list-style-type: none"> <li>• Principles 2 and 4, best available science vs precautionary approach (believe these conflict with each other)</li> <li>• Principle 4, providing adaptive capacity for highest possible SLR projections not feasible</li> <li>• Principle 7, minimizing hazards over life is challenging and will vary, especially when adaptation may limit or lessen life expectancy</li> <li>• Principle 8, minimize hazard risks and resource impacts – how does this apply to ports</li> <li>• Principle 11, provide for maximum protection of coastal resources, is infeasible and conflicts with CEQA, Ch. 8 of the Coastal Act, and the Port Act</li> <li>• Principle 12, maximize natural shoreline values, avoid expansion of shoreline armoring – how does this affect ports and coastal-dependent uses? Does this limit living shorelines?</li> <li>• Principle 13, ...shoreline protective devices should not result in loss of public trust lands – unclear on this statement, wouldn't SPDs preserve public trust lands?</li> <li>• Principle 15, address cumulative impacts – this sounds like CEQA compliance and we prefer it to be addressed as such</li> </ul>	<p><i>decision. Additionally, State Lands Commission expanding due to changes in the boundary due to sea level rise."</i></p> <p>18) In general, Guiding Principles are derived from the Coastal Act represent the goals to which planning and decisions should aspire, though individual actions and outcomes may vary based on applicable policies and feasibility.</p> <ul style="list-style-type: none"> <li>• Precautionary approach recognizes and addresses the uncertainty in the Best Available Science</li> <li>• See additional principle #4 description in main document, explaining designing vs. planning for worst-case</li> <li>• Section 30253 requires development to minimize hazard risks</li> <li>• Ports should minimize risks and hazards as consistent with applicable Ch. 3 and 8 and other relevant policies</li> <li>• Language is drawn from intent of Coastal Act to protect, maintain, enhance, and restore coastal zone resources and to maximize public access and recreational opportunities</li> <li>• Document does not make any changes to existing Coastal Act policies related to shoreline protective devices; principle specifically allows and encourages living shorelines</li> <li>• There are instances in urbanized working waterfronts where existing shoreline protection may currently protect filled public trust lands that are improved with coastal-dependent facilities. However, this particular principle refers to situation whereby shoreline protective structures result in the loss of unfilled public trust sandy beaches and other habitats, including access to these lands and resources, by preventing the landward migration of the mean high tide line.</li> <li>• The consideration of cumulative impacts applies to both the Coastal Act and CEQA review</li> </ul>



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	<ul style="list-style-type: none"> <li>• Principle 16, require mitigation of unavoidable impacts, is in conflict with CEQA and Ch. 8 requirements to minimize not eliminate adverse impacts</li> <li>• Graphic for Addressing SLR in CDPs states to modify project if impacts cannot be avoided, which indicates full mitigation which is again inconsistent with CEQA</li> <li>• Principle 8 phrase on pg. 36 “encourage...at-risk structures to be brought into conformance with current standards when redeveloped. Improvements to existing at-risk structures should be limited...” should exclude coastal dependent uses, existing structures, and port-specific obligations</li> <li>• Principle 10 phrase “actions to minimize risks to new development should not result in current and/or future encroachment...or in impacts inconsistent with the Coastal Act” should be caveated to as feasible</li> <li>• Principle 10 phrase “...internalize risk decisions with private landowner” should be revised to include a collaborative process and indicate seawalls require a CDP on a case by case basis</li> <li>• Principle 11 phrase “...avoid or minimize impacts to coastal resources” should be revised to clarify that ports are coastal resources, or guidance should not apply to ports</li> <li>• Pg. 109 phrase “if it is not feasible to site or design a structure to <b>completely avoid</b> sea level rise impacts, the applicant may need to modify or relocate the development to prevent risks...[other options] may be useful as <b>adaptive strategies that can be used after the initial project completion</b>” – bold phrases conflict with each other and “completely avoid” is not a Coastal Act requirement</li> <li>• Strategy A.2a, suggest that “...Civil Engineer ‘or equivalent’ be added”</li> <li>• Strategy A.8, change to “avoid, minimize, OR reduce”</li> </ul>	<ul style="list-style-type: none"> <li>• Reference to “full” has been removed; principle does not require elimination of impacts, but rather states that mitigation should be provided for unavoidable impacts</li> <li>• Refer to the full text of the section that this graphic is summarizing for a discussion of options for minimizing risks, including modifications to avoid impacts as feasible</li> <li>• Refer to item 13 above</li> <li>• See above statement regarding Guiding Principles as goals to which actions and decisions should aspire</li> <li>• See item 6 above. All CDPs are reviewed on a case by case basis.</li> <li>• Ports are resources, but may in and of themselves have impacts on other resources. Impacts should be minimized in line with applicable requirements of Ch. 3 and 8 of the Coastal Act</li> <li>• Full statement explains that that in cases in which impacts cannot be avoided; other strategies may be used to minimize impacts, and therefore specifically states that complete avoidance is not required in all cases. Bold phrases do not conflict, but rather allow for flexibility.</li> <li>• “...or Engineering Geologist” added to allow for additional flexibility</li> <li>• Change made as suggested</li> </ul>

NAME/ AFFILIATION	SUMMARY/PARAPHRASING OF COMMENT LETTER	RESPONSE
	<ul style="list-style-type: none"> <li>Strategy A.13, Clarify that certain redevelopment projects such as remodeling, painting, etc. are not considered “redevelopment” as the phrase is being used</li> </ul> <p>19) Request the development of port and port master plan guidance as part of the Next Steps</p> <p>20) The Guidance should be processed and reviewed under the APA before being applied to ports.</p> <p>21) Concerned that analyzing issues on a case-by-case basis with little direction will result in legal and takings issues as well as increased costs and inconsistencies for applicants.</p>	<ul style="list-style-type: none"> <li>Strategy allows for more detailed definitions of “redevelopment” that would address the question</li> </ul> <p>19) Continued coordination and development of additional Guidance has been added to the Next Steps.</p> <p>20) This document is intended to function as interpretive guidance pursuant to PRC 30620 for effective implementation of the Coastal Act in light of sea level rise and does not contain any new regulations or amend or supersede any existing statutory or regulatory requirements. The adoption of interpretive guidelines pursuant to PRC 30620 is exempt from the Administrative Procedures Act. (PRC 30333(b); <i>California Coastal Commission v. Office of Administrative Law</i> (1989) 210 Cal.App.3d 758, 762.)</p> <p>21) This Guidance is meant to provide a general framework for how to consider and address sea level rise in a variety of planning and project-specific cases. Planning and permitting decisions have been and will continue to be reviewed on a case by case basis.</p>
California Association of Port Authorities	California’s public ports serve a unique role in California, and as such are uniquely recognized in the Coastal Act. [We] remain concerned that inadequate guidance in the document is focused on the rights, obligations, and authorities entrusted to ports in Chapter 8 of the Coastal Act. Request consideration of attached comments from the Port of San Diego.	Thank you for your comments, and please see discussion above regarding concerns voiced by the Port of San Diego. The document has been revised to more clearly describe how the Guidance applies to ports and describes Chapter 8 of the Coastal Act.

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City of Encinitas	<p>Additional public hearings throughout the state should be held prior to adoption to ensure adequate public comment opportunities, and staff should focus on outreach efforts for disadvantaged communities. Greater clarity is needed with respect to the scope of the Guidance's regulatory intent (e.g. will ALL LCP actions be required to go through the process laid out in the document), as well as the expected timeframe for LCP revisions. The Guidance should provide a simple set of parameters for when agencies should allow exceptions vs. when more detailed information is needed.</p> <p>Document should provide proven examples of the recommended adaptation policies necessary to make local adoption of the policies feasible. The Guidance appears to be advancing a set of requirements with no financing to support them, which will be difficult for small communities like Encinitas. Concerned with the fiscal implications of the LCP and CDP processes and the amount of analysis required for even small projects. This amount of analysis may also delay recovery after a natural disaster.</p> <p>The requirement to immediately update and LCP should be re-evaluated if there is a desire to encourage regional coordination. Would be helpful to develop an MOU among relevant agencies (e.g. FEMA) for how to build/replace public infrastructure. Recommend a regional monitoring strategy.</p> <p>Statements regarding "no future seawall conditions" should be carefully vetted as the Coastal Act does not generally forbid armoring. Document should make reference to how SLR may impact property ownership with regard to insurance, mortgage loans, resale values etc., particularly as it relates to strategies encouraging retreat and no future seawall conditions. Strategies related to removal of SPDs and retreat may create public safety issues along eroding bluffs, so the Guidance should discuss liabilities, immunity, and other risk and safety issues. Note that retreat may not be an option for critical infrastructure. Models should be run including adaptation strategies to demonstrate effectiveness of different options.</p>	<p>As stated in the Guidance, this document is meant to provide a framework and recommendations for how to approach sea level rise planning in line with the requirements of the Coastal Act and does not constitute new regulations. Sea level analysis is already included in many LCPs and CDPs. The main differences in the analyses outlined in Chapters 5 and 6 from what is done at present, are that sea level rise is explicitly addressed and sea level rise scenarios are suggested to address uncertainties in future hazard conditions. The Commission recognizes that this is a complex topic and that additional efforts and information on a number of topics, including additional examples of implemented adaptation strategies, will be necessary. The Commission will continue to support efforts to address SLR, including supporting regional coordination and working with local governments and agency partners. As stated throughout the Guidance, the information and recommendations should be considered on a location-specific and case by case basis in a way that fulfills the requirements of the Coastal Act, certified LCPs, and other relevant laws and policies, and that gives consideration to local conditions.</p>



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<p>Anthony Ciani, Public Citizens</p>	<p>“How does the CCC and Legislature expect to manage the coastal zone when the water of the ocean and/or bays breach the currently established inland boundary lines? An example currently exists in Pacific Grove where the inland boundary line of coastal zone is aligned with the inland edge of the nearest coastal road paralleling the sea; Ocean View Boulevard, between Asilomar and Sea Palm... [where flooding] extends inland beyond the current CZ boundary line. In fact, during winter storms the wave run up and beach rocks, help etc., wash over the road with the local police or California Highway Patrol closing the road. Currently the CZ boundary is as close as 54 feet from the top edge of a severely eroded bluff that is undercut threatened the road and trail...Clearly, the Coastal Commission cannot adequately regulate or plan in the areas the ocean already extends inland beyond its jurisdiction! Sound planning principles must be used to correct this problem now and in the future at all such locations on the California Coast.”</p>	<p>The coastal zone boundary is defined by statute, and the Commission has only limited authority to make minor changes to the boundary in specified circumstances. See PRC 30103(b). The Commission recognizes that planning for sea level rise is a complex topic and additional efforts and coordination among partners will be necessary.</p>
<p>California Energy Commission</p>	<p>Document is of particular interest to the Siting, Transmission, and Environmental Protection Division. Have concerns related to identifying power plants as critical infrastructure and therefore warranting special considerations such as a 500-year event design standard (pg. 80), assuming highest SLR projections, and protection from worst-case future impacts (pg. 138). Worried that identifying all power plants as critical facilities will lead the public and other parties to apply the special considerations/strategies described above to all plants, without question, rather than analyzing them on a case by case basis. Recommend that power plants be removed from 3rd bullet on pg. 80 and/or adding a footnote such as “The lists of critical infrastructure can vary widely from community to community. For planning purposes, a jurisdiction should determine criticality based on the relative importance of its various assets for the delivery of vital services, the protection of special populations, and other important functions.” Edit to pg. 283, change "...50 megawatts or greater [which are regulated by the Public Utilities Commission]" to "California Energy Commission".</p>	<p>A footnote has been added to page 80, and edits made to page 283. The need to work with utilities on sea level rise issues specific to coastal infrastructure is included in Next Steps As stated throughout the Guidance, the information and recommendations contained within the document should be considered on a location-specific and case by case basis in a way that fulfills the requirements of the Coastal Act, certified LCPs, and other relevant laws and policies and that gives consideration to local conditions.</p>