



July 10, 2015

California Coastal Commission
c/o Sea Level Rise Working Group
45 Fremont Street, Suite 2000
San Francisco, CA 94105
Email: SLRGuidanceDocument@coastal.ca.gov

Re: California Coastal Commission 2015 Draft Sea Level Rise Policy Guidance

Dear Coastal Commission Staff,

The Center for Ocean Solutions appreciates the opportunity to submit comments and present feedback concerning the *2015 Draft Sea Level Rise Policy Guidance* (“Guidance”) dated May 27, 2015. We thank the Coastal Commission staff for its robust effort in recognizing and integrating the public comments received regarding the *California Coastal Commission Draft Sea-Level Rise Policy Guidance* (2013 “Draft”) released October 14, 2013.

In balancing priorities between public lands and resources and protecting private property, the Coastal Commission has provided a comprehensive guidance document to help protect public trust resources and facilitate state-wide responses to the challenges posed by rising sea levels. We commend the Commission for its consideration of the full range of regulatory actions and adaptation strategies available to better prepare California’s coastal communities and ecological systems for the impacts and consequences to sea level rise.

A. Shoreline Protection Strategies

The 2015 Guidance document provides an in-depth analysis of shoreline armoring, recognizing that “hard” armoring such as concrete seawalls and rock revetments can significantly impact coastal resources by impeding public access, reducing shoreline sand supply, and ultimately causing the loss of the beach and public trust resources. Through the added sections of this Draft – including the new chapters on adaptation strategies and the legal context of adaptation planning – the Commission has provided significant guidance to local governments and agencies to discourage poorly-planned coastal development and the proliferation of hard armoring structures.

In particular, we commend the Commission’s inclusion and prioritization of green infrastructure and “soft” alternatives to hard armoring, the Commission’s specific policy recommendations to encourage planned and managed retreat, and the extended discussion of the legal context and authority the Commission and local governments have to deny a Coastal Development Permit for a shoreline protective device. However, we believe that the Commission’s efforts to reduce reliance on hard armoring could be strengthened by:

1. Providing specific recommendations to help limit the availability of emergency armoring to cases of true emergencies; and
2. Providing specific recommendations to ensure that armoring impacts to neighboring properties are appropriately monitored and mitigated.

Issue #1: Emergency Armoring Structures

Emergency armoring structures are often installed in the face of an imminent emergency, leaving little time to substantively analyze the armoring structure’s impacts on public resources or alternative strategies for preventing harm to people or property. While emergency approval of armoring structures does not create a vested right for permanent authorization by the Coastal Commission,¹ it may be politically or technically difficult to deny permanent authorization or require removal of the armoring structure post-emergency. With potentially increasing number and severity of storms and rising sea levels, the Commission and local governments should consider limiting the availability of emergency seawall permits to situations in which there is a legitimate “sudden unexpected emergency”² and improve mechanisms to force removal of emergency armoring structures in the absence of longer-term authorization.

We encourage the Commission to consider adding the following recommendations³ to Chapter 7(A) to achieve these goals:

- Limit the type of emergency structure that is allowed to temporary solutions or structures.
- Require the removal of emergency armoring within a fixed time (e.g., require removal at the end of the rainy season) prior to consideration of any permanent protection.

¹ *Barrie v. Cal. Coastal Comm’n*, 196 Cal. App. 3d 8 at 17-118 (1987).

² See Cal. Code Regs. tit. 14 § 13009.

³ Many of these recommendations are taken directly from a recent expert-driven report on coastal armoring in California by Stanford Law School entitled *Managing Coastal Armoring and Climate Change Adaptation in the 21st Century*. See Molly Loughney Melius & Margaret R. Caldwell, *California Coastal Armoring Report: Managing Coastal Armoring and Climate Change Adaptation in the 21st Century* (Stanford Law School Environment and Natural Resources Law & Policy Program, Working Paper, 2015).

Issue #2: Monitoring and Mitigating Armoring Impacts to Neighboring Property

Wave action diffracting around the edges of seawalls during high tides or storms increases erosion at the ends of armored structures.⁴ These “end effects” increase the vulnerability of neighboring properties, potentially harming those properties and stimulating the need for more armoring on both the existing and neighboring shorelines. In addition, armoring structures may affect neighboring properties by decreasing sand supply to the littoral cell,⁵ leading to increased rates of erosion on downdrift properties.

We encourage the Commission to add the following recommendations to Chapter 7(A) to ensure that these potential impacts to neighboring properties are appropriately analyzed, monitored, and mitigated in the coastal development permit application process:

- Ensure that the environmental impact analysis – required under the California Environmental Quality Act and the Coastal Act as part of an application for a coastal development permit – adequately analyzes impacts beyond the project site, including impacts to neighboring properties and potentially the broader littoral cell.
- Use Local Coastal Plan regulations and special coastal development permit conditions to require long-term monitoring of impacts to neighboring properties.
- When calculating mitigation measures, include impacts to neighboring and other downdrift properties to better account for the full value of the impacts caused by armoring.

B. Further suggestions to improve the functionality of the final Guidance document:

- (1) **Suggestion One:** One strength of this Guidance document is the incorporation of the best available science on sea level rise for California and the Commission’s commitment to revisit this topic as new information becomes available. We suggest noting in the Executive Summary that the Commission intends to re-examine the best available science periodically.

This may be best incorporated in the Executive Summary under BEST AVAILABLE SCIENCE AND CONSEQUENCES OF SEA LEVEL RISE. Suggested language (from p.35 of the Guidance document) is included below in **bold underline**:

“The Coastal Act directs the Coastal Commission and local governments to use the best

⁴ See Omar Defeo et al., *Threats to Sandy Beach Ecosystems: A Review*, 81 Estuarine, Coastal, and Shelf Science 1-12 (2009); Nicholas C. Kraus, *The Effects of Seawalls on the Beach: An Extended Literature Review*, Journal of Coastal Research 1-28 (1988). Increased monitoring of armoring impacts would also help to determine the significance of the active erosive impacts of wave reflection and scour.

⁵ *Id.* Beach sand that would have eroded from the beach or bluff is impounded behind the structure and is not available to the littoral cell.

available science in coastal land use planning and development. This Guidance recommends 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 Cape Mendocino (Table 1).² **The Commission will re-examine the best available science periodically and as needed with the release of new information on sea level rise.**³” (p. 15)

- (2) **Suggestion Two:** Relieve the burden on local planners and incorporate the forthcoming Sea Level Rise Adaptation Database. As stated on page 69 of the current Guidance:

“Sea level rise is addressed in many other planning-related documents and by many other agencies and organizations. Planners should be aware of these documents and the on-going work of state and federal agencies and make an effort to share information in cases where analyses required for some of these documents may overlap with the studies appropriate for sea level rise planning in LCPs.” (p. 69)

The Commission can assist planners by archiving these documents and on-going work of state and federal agencies in the forthcoming Sea Level Rise Database (required by AB 2516). Future versions of the Guidance should include a link once the database is publically accessible. The Commission may also consider working with the California Ocean Protection Council to include these resources on its Climate Change webpage: <http://www.opc.ca.gov/2009/12/climate-change/>.

- (3) **Suggestion Three:** Reference and include a hyperlink to Chapter 7: Adaptation Strategies at the top of page 162 to improve readers’ use of the Guidance document. Suggested language is included below in **bold underline**:

“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 far back enough from wave runup zones or eroding bluff edges so that the development will not need shoreline armoring during its anticipated lifetime. **See Chapter 7: Adaptation Strategies for further details regarding alternatives to hard armoring structures.**” (p. 162)

We appreciate the Commission's commitment to providing new resources for sea level rise adaptation by updating this Guidance as a "living document." Thank you for the opportunity to submit these comments on the *2015 Draft Sea Level Rise Policy Guidance*. Please do not hesitate to contact us with any questions, concerns, or for further clarification. We look forward to engaging with the Commission in the future to support California's state-wide and locally-driven adaptation efforts to sea level rise.

Sincerely,



Ashley Erickson, J.D.
Assistant Director for Law & Policy
Center for Ocean Solutions



Molly Loughney Melius, J.D.
Early Career Law and Policy Fellow
Center for Ocean Solutions

cc: Kaitlyn Kalua, J.D. Candidate, U.C. Davis School of Law
Eric Hartge, Senior Research Analyst, Center for Ocean Solutions