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Via email: SLRGuidanceDocument@coastal.ca.gov

California Coastal Commission
Executive Division
45 Fremont Street, Suite 2000
San Francisco, CA 94105

RE: Draft Sea Level Rise Guidance Document

Dear Dr. Lester and Honorable Coastal Commissioners:

On behalf of Surfrider Foundation's 20 local Chapters throughout California and our 250,000 supporters, activists and members worldwide, we submit the following comments for the Draft Sea Level Rise Guidance Document (Document). The Surfrider Foundation (Surfrider) is a non-profit grassroots organization dedicated to the protection and enjoyment of our world's oceans, waves and beaches. Surfrider now maintains over 90 chapters worldwide and is fueled by a powerful network of activists.

FORWARD

As climate change and Sea Level Rise (SLR) bear down on the future of our coastlines, it is imperative that California stays ahead of the curve by proactively planning for changes at the local level. Surfrider applauds the California Coastal Commission (CCC), for providing guidance to local governments during this pivotal time of SLR adaptation planning. In general, we are supportive of the SLR guidance provided within the Document and we understand the guidance will continue to evolve upon further drafts. Therefore, this comment letter will provide a range of recommendations that we hope will help improve the Document during its iterative process.

Surfrider focuses our recommendations, additions, and clarifications on the following topics:

- General Observations of Document—Need for Holistic View of Adaptability
- Seawall Policy Recommendation to Properly Address SLR
- Beach Fill/Replenishment Implications
- Marine Resources and Marine Protected Areas
- Analysis of Local Applicability—Engagement of Local Planners, etc.

GENERAL OBSERVATIONS ABOUT SLR GUIDANCE DOCUMENT

As Surfrider read through the Document, we were struck by the need to simplify the overall guidance for *local* communities. Of course, it is imperative that the CCC provides substantive direction (which is already robustly contained within Document). However, Surfrider believes the CCC should encourage local planners/communities to “take a step back”, and start with a global view of approaching SLR before delving into specific guidance.

Again, we are very supportive of the substantive guidance within the Document and believe it includes the best available science, policy recommendations and concrete information for current SLR planning techniques. However, we believe the Document could be improved if the CCC stresses to local governments that they must first start from a broad, theoretical perspective in order to truly plan for SLR, *and ensure planners are not getting bogged down by tedious details.*

For example, we encourage the CCC to hold a webinar that broadly focuses on how governments *analyze* SLR. It is incumbent upon the CCC, and other organizations involved with SLR planning, to reiterate the severity of climate change and work to combat the “battle of ideologies” about how to respond to SLR—**with the ultimate focus on striking a balance between public and private interests.**

This brief webinar could prompt local planners to think philosophically about SLR before planning concrete strategies. It is imperative that local governments not only understand the importance of planning, but they also realize that without proper planning, taxpayers will assume an inordinate bill. According to a study published in the Proceedings of the National Academy of Sciences, global average storm surge damages could increase from about \$10-\$40 billion per year today to up to \$100,000 billion per year by the end of century, if no adaptation action is taken.¹

Once local governments begin from a philosophical place and understand long-term financial implications, they can begin the hard work of planning the details. The Georgetown Climate Center’s Adaptation Tool Kit simply breaks down the initial steps of “thinking about SLR adaptation” and provides a 60,000-foot level of how governments approach SLR, which can be categorized in two ways²:

- (1) Reactive or proactive responses and
- (2) Structural or non-structural responses.

Reactive responses frequently utilize structural solutions such as sea walls and armoring. However, decision makers are increasingly recognizing the limitations and impacts of armored solutions. We strongly urge the CCC to work with planners to shift away from a mindset that armoring as the end-all-be-all. Local communities must accept the reality that armoring is costly to build/maintain and can increase flooding and erosion of neighboring properties; and seawalls often increase risks from catastrophic failure because it facilitates development in vulnerable areas.

¹ “Study predicts \$100 trillion a year in damage due to storm surges” http://www.enn.com/top_stories/article/46987

² George Town SLR Tool Kit <http://www.georgetownclimate.org/adaptation-tool-kit-sea-level-rise-and-coastal-land-use>

Alternatively, a proactive response involves advanced planning and implementation of measures that are designed to preemptively mitigate the negative consequences from natural hazards and human responses to those hazards. By engaging in proactive planning, governments can facilitate the use of non-structural solutions to protect against risks.

Proactive non-structural solutions are often more cost effective over the long term and less environmentally damaging than reactive responses. **Although implementing proactive non-structural measures may cost more in the short term, over the long term, as impacts increase, proactive adaptation can yield significant cost savings.**

On the other hand, there are also valid political, fiscal, and legal reasons for governments to take adaptation actions. Governments that fail to require adaptation will be requiring the community as a whole to pay for the costs of protecting some coastal properties. *Taxpayer money will need to be used to provide emergency response to flooded communities and to rebuild flooded infrastructure.*

Thus, adapting to climate change calls for a new paradigm that takes into account a range of possible future climate conditions and associated changes in human and natural systems instead of managing our resources based on previous experience and the historical range of climate.

The below recommendations reiterate some of the most important prescriptions within the SLR Document. We hope our reiteration and elaboration of recommendations *encourage Local Governments to take a step back and incorporate the following:*

1. **LCPs Update:** As mentioned in the Document and illustrated by current CCC action, it is imperative the CCC continue to work with local governments to update LCPs in order to fully analyze and plan for community impacts from sea level rise, erosion and coastal flooding. *These analyses must stress the need to include both public and private infrastructure* and determine true risks and costs associated with changing ocean levels for the foreseeable future.
2. **Encourage Establishment of Baselines, Identify thresholds, and Monitor for changes:** While we believe the Document did a good job of describing how to prepare for the planning stage of SLR adaptation, we encourage the CCC to work with local governments to *understand* where thresholds have been exceeded in the past, and where they may be exceeded in the future. While this is overly simplistic, Surfrider believes local planners must establish current baseline conditions, model a range of possible climate change impacts and system responses, monitor actions to detect changes in baseline conditions and determine efficacy of adaptive measures. *This initial step must be completed at a broad level, yet specific enough, in order to prepare planners to analyze the brass tax of implementing SLR adaptation.*
3. **Zoning and Overlay Zones:** The SLR Document rightfully provides guidance for analyzing zoning, however we believe in order to properly zone for SLR, local governments must first understand the legal framework that governs the

use and development of land within a community. Surfrider is also providing an additional comment letter containing specific legal framework recommendations.

4. **Explicitly Evaluate Setbacks and Buffers:** The Document would greatly benefit from further analysis of calculating and requiring setbacks (we provide more recommendations in our seawall analysis section below). Local governments must understand how setbacks are a critical component to SLR planning. Surfrider believes local government should be required to leave open space that support natural and beneficial functions (such as wetlands that prevent runoff and flooding). Governments should increase mandatory setbacks from the coast, establish setbacks based upon projected shoreline position using calculations of increased flood and/or erosion rates, or create a tiered setback system permitting smaller structures with less of a setback and requiring greater setbacks for larger development. Governments could require that development adjacent to the shore leave buffers to provide natural protection to development while allowing for upland migration of beaches and wetlands.
5. **Rebuilding Restrictions:** Surfrider supports local governments limiting a property owner's ability to rebuild structures destroyed by natural hazards, such as flooding. Governments can limit when and how structures are rebuilt by prohibiting reconstruction, or conditioning redevelopment on a landowner's agreement not to armor in the future.
6. **Living and soft structures:** We were pleased to see recommendations for "living shorelines". Surfrider believes governments could create permitting programs to require the use of soft-structure techniques where feasible in order to lessen environmental impacts of shoreline armoring. Living shorelines, restoration projects (i.e. kelp, wetlands, etc) vegetative plantings/ organic materials (e.g., biologs, matting, oysters beds), are all valid ways to keep sediment in place and reduce wave energy.

Evolving Seawall Policy to Meet SLR Adaptation Expectations

Based on a narrow review of seawall permitting over that past several decades, it appears the application of seawall policy is variable and unclear. While Surfrider understands the importance of permitting based on local context and site-specific conditions, we believe there should be cohesion and extensive clarification of definitions in order to increase the methodical application of seawall policy, especially in the future when SLR is a stark reality.

The inconsistency of seawall policy application has become remarkably clear in the past year, as there have been two major cases in which seawall policy changed. For example (again, based on a narrow review of seawall permitting), it appears that the conditions for seawall review vary greatly. In most cases, the question of "lifetime of structure" creates varying timeframes. For example, a seawall can remain in place for as long as the structure it protects needs protection. In some cases CCC Staff have recommended that a permanent hardened structure be permitted for what could be 75 years or more into the future based on the average lifespan of a home. In other situations, lifespan of structure has been defined as 50 years.

Prior to 2010, the application of lifespan was seemingly all over the map. It was in 2010 when Staff began recommending a 20-year review process for seawalls. The 20-year permit date was not arbitrary and was originally suggested during the decade long Solana Beach LUP process when engineers for two specific seawalls claimed that the seawalls were designed with a product life of 22 years. At this point and time, **Surfrider was pleased that the CCC was incrementally reviewing seawalls to ensure proper mitigation, impacts of sand supply and public access/recreation.** It seemed logical that if a seawall lasts a mere 22 years, it is prudent for the Commission to not allow a seawall to be permitted for a longer time period than the functional life of the seawall.

However, this relatively defined review process changed in 2013. Below we will briefly cover two cases in which we believe the removal of a 20-year sunset caused angst amongst coastal advocates and required much work on the part of the CCC to ensure review of seawalls will comply with the Coastal Act and **especially policies of access and recreation.** We believe these two cases illustrate how gutting the incremental review clause lead to an evolution of improved seawall policy, but only after extensive debate and thought by a hand full of Commissioners who are deeply concerned about public access and mitigation of seawalls.

In August 2013 the CCC heard the Land's End/Pacifica case in which the Commission separated the permit from the life of the seawall—meaning the life of the seawall would be tied to the life of the structure. During deliberations, certain Commissioners wanted to ensure that mitigation for both sand replenishment and public access/recreation was the largest driving factor—requiring ambulatory access at the top of the bluff and prohibiting any expansion of that structure (which could extend the life of the structure, and thus the life of the seawall possibly infringing on access, etc). What was important in Pacifica is that even though the Commission separated the permit from the life of the seawall, they ensured protection of the public's right to access the beach.

In January 2014, the Commission Staff took a similar approach in Solana Beach where Staff also wanted to remove the 20-year sunset provision and tie the life of the seawall to the life of the structure it was protecting. While Solana Beach and Land's End are similar in the removal of the sunset clause, the cases are “apples and oranges” considering that all the sand and bluffs are owned by the public in Solana Beach—thus increasing the importance of preserving public access and recreation. With the 20 year provision removed, coastal advocates were concerned that impacts from seawalls to public access, recreation, and sand supply would not be thoroughly analyzed or appropriately mitigated in response to changing conditions such as sea-level rise. After extensive debate, the Commission agreed on clarifications to language concluding that **any** improvement or **any** additional square footage to the bluff top structure would trigger a new review of the seawall and require suitable mitigation; and also included the all relevant policies under the Coastal Act that protected public access. **The clarification of language was critical because without the sunset provision, some of these seawalls would lack a “trigger” for review/removal.**

The bottom line for Surfrider is that we believe all seawalls **must** have a trigger built into the permit so that seawalls are not “conditioned” to live in perpetuity. While we were pleased progress was made in Solana Beach to define a trigger, we strongly believe current seawall policies needs major improvement and **seawall policy must be inextricably tied to impacts on access and recreation**. For example, in addition to the trigger of “additional square footage, and significant improvements”, Surfrider believes the life should be removed if impacts to public access/recreation are immitigable and if the structure and/or the design life of the seawall are no longer needed.

Before we delve into our seawall policy suggestions (some recommendations are specific to the Document, and some to improve overall process), we will briefly highlight areas of the Document that we agree with and then will follow up with a section by providing specific recommendations for seawall permitting, in the face of SLR.

Highlights of Document Relating to Seawall Policy:

- “Require shoreline protection to be removed, or considered for removal if the structure for which it was installed no longer exists or needs protection”.
- “CDPs should require that hard protection be monitored for damage from sea-level rise hazards, that permits **be re-opened after some time period to assess effectiveness in light of sea-level rise, and that removal options be incorporated into the design**, in the event the structure may no longer be useful or appropriate in the future.”
- “LCPs can specify priority areas where shoreline protection structures should be removed, including areas where structures threaten the survival of wetlands and other habitat, or beaches, trails, and other recreational areas... Conditions can also be added to CDPs that require **removal** of shoreline protection structures after certain thresholds are passed”.
- “As part of a CDP, require property owners waive the right to future shoreline protective devices. The waiver specifies that no bluff or shoreline protective device is allowed to protect the development if it is threatened by natural hazards in the future. Instead, development will be removed or relocated if threatened by natural hazards”.
- “The permit for new development should require it to be **removed** or relocated if it becomes threatened in the future”.

Areas of Improvement for Seawall Policy within Document.

- The Document includes vague language about setbacks. *“Require new structures to be set back a sufficient distance landward... For blufftop development, ensure development is set back from the bluff edge far enough that it will not be endangered by erosion, including sea-level rise over the life of the structure, without the use of any shoreline protective device, to the maximum extent feasible”.*

Surfrider agrees with the last part of the sentence, but we believe the suggestion for “sufficient distance” is too arbitrary. Seawall and bluff top **set**

back must address specific requirements that are taken in context with SLR.

Surfrider looked long and hard to analyze how set backs are currently analyzed. We obtained a memo from CCC Staff in 2003 that says:

“Although the short-term erosion rate for each time interval between data points provides valuable information regarding the nature of bluff retreat at the site, the long-term erosion rate should be determined from the extreme end-points of the time series examined. This time series should exceed 50 years in length, and should include both relatively quiet periods, such as the 1950's-1960's; and the more erosive subsequent time periods (especially the 1982-1983 and 1997-1998 El Niño winters)”.³

While this seems useful, Surfrider believes that policy needs to be teased out for the SLR Document, and we urge CCC Staff to clarify how set backs are calculated and provide clear guidance to local planner in light of SLR.

- Another example of language that needs clarity is: *“Add conditions to shoreline protective devices that limit authorization of the device to the life of the existing development being protected”*. As mentioned in the above section, Surfrider fundamentally believes that seawalls **MUST** have clear triggers for review/removal.

Surfrider Recommendations for Seawall Policy in Light of SLR

- Make sure that potential access, recreation, shoreline sand supply, and habitat impacts are evaluated and adequately mitigated. When the “real” and “complete” costs of mitigation are calculated appropriately, it may have a deterrent effect upon prospective armoring projects, as the costs will begin to outweigh the benefits to the property owner. If implemented effectively and consistently, this may act to reduce the number of armoring projects that even make it before the Commission.
- Each seawall permit should analyze the "cost of removal of seawall" **and** managed retreat of existing structures.
- If seawall is on public land and blocks sand and recreation, State Lands should require some type of lease **and** mitigation for use of the public trust.
- Incorporate other means to combat erosion instead of blanket seawalls, based on some of the examples listed above about living shorelines and soft structures.
- Make sure that any armoring has a clear definition of substantial redevelopment of the existing structure (i.e. clear triggers).
- Make sure there are armoring removal provisions and/or an identified financial mechanism (i.e. seawall removal bond) to finance the armoring removal upon expiration of the armoring permit.
- Work to establish some kind of impact threshold for impacts to access, recreation, and habitat which, when the thresholds are exceeded, it triggers

³ Memo from CCC Coastal Geologist in 2003. <http://www.coastal.ca.gov/W-11.5-2mm3.pdf>

expiration of permit.

BEACH FILL/NOURISHMENT

Beach fill projects are continuously evaluated on a case-by-case basis, though many of their impacts are similar, justifying the need for guidance. As experienced during the recent SANDAG project review CCC staff had unintentionally left out monitoring and protection of surfing resources from their analysis and recommendations. Standardized guidance for determining and minimizing potential surfing impacts from placed sand along beaches with both sandy and rocky nearshore environments should be established. Working with the surfing community, CCC should develop standard programs for monitoring impacts, similar to those utilized by Surfrider Foundation at the SANDAG project, and monitoring should be required of project applicants to ensure that all projects do not have unintentional negative repercussions.

Beach fill has several potential ecosystem impacts: burying existing habitat, changing the sand composition of the beach and clouding nearshore waters as the beach fill settles, to name a few. By placing new fill material on the beach, beach fill buries existing ecosystems on the beach and in nearshore areas. This can disturb both the sand-based ecological communities on the beach and the ecosystems immediately offshore, such as eel and surf grass and hardbottom reefs.

Several researchers have evaluated the short- and long-term impacts of beach fill projects on sandy shore and intertidal habitat, yet project reviews almost never include references to these studies or discussion of their implications. In particular there is no standard for evaluating cumulative impacts to determine how repeated and widespread nourishments are altering natural systems.

Further, watershed mis-management impacts the coast and ocean from both increases in negative constituents (urban runoff, non-point pollutants, etc) and in reduction of positive constituents (sediment for beaches, etc.) Ironically, even sediment runoff can be listed as a pollutant if it is not properly managed.

Restoration of watershed ecosystem services through Integrated Water Management practices promote the resumption of natural sediment transport to the coast, and should be included or referenced in the SLR Document. In addition, policies that reduce further impacts to sediment supply can be utilized. For example, the removal of dams in coastal watersheds that have starved our beaches of sand to the point where the reservoir no longer serves an important part of our water supply portfolio, will dramatically improve natural beach replenishment. Further, “managed retreat” will allow a more natural cycle of beach erosion and replenishment.

MARINE RESOURCES AND MARINE PROTECTED AREAS

It has taken the State over ten years to establish a network of Marine Protected Areas (MPAs). These MPAs are often exposed to threats from distinct projects that directly impact the efficacy of MPAs (sonar/seismic testing, fracking, oil drilling, etc). Surfrider believes that the SLR Document is a great place to incorporate

policy guidance to addresses projects that may impact marine life or habitat in MPAs and other special marine areas.

Development of guidance will help incorporate MPAs into the decision making process to realize the full potential MPAs and help the CCC's mandate to safeguard coast and ocean resources. The Coastal Commission could include language into the Document that identifies MPAs, and other marine areas with protective designations, as sensitive areas meriting special protection under the Coastal Act. Section 30230 states that "[s]pecial protection should be given to areas and species of special biological or economic significance."

Concluding MPAs are areas of special biological or economic significance via Section 30230, will overlap with the goals of the MLPA to protect ocean ecosystems. Surfrider urges the Commission to establish criteria that must be met when considering projects that could have adverse impacts on MPAs and other sensitive marine areas. Once CCC develops criteria, these we urge the CCC to work with local governments to update LCPs. The guidance should identify information that a project permits must be included (i.e. the location and purpose of MPAs and other special marine areas that could be affected by a proposed project).

APPLICABILITY OF THE DOCUMENT TO LOCAL PLANNERS

In order to make this document truly applicable at the local level, Surfrider suggests the Commission directly work with local communities and planners to identify practical areas of implementation and areas that require further policy analysis.

As mentioned earlier, Surfrider suggests holding a webinar to help local governments to look at SLR in a broad, 60,000-foot level. Upon completion of the webinar, Surfrider suggests the CCC hold symposiums with local communities and planners. This could easily be accomplished by convening communities that received grants to update their LCPs for SLR. Attendees of the symposium should include local planners, coastal engineers, biologists, CCC Staff, and other experts to clearly identify practical ways to implement the policies recommendations.

By conducting symposiums for grantees first, the CCC can glean lessons from cities updating SLR plans—and by the time other communities update **LCPs, the CCC will have a better understanding of “what this document actually looks like on the ground”**.

Surfrider also suggests conducting another specific workshop that bring together all agencies who are will be responsible for implementing statewide SLR guidance. During these workshops, all statewide guidance documents can be linked together and agency roles and responsibilities should be fleshed out.

CONCLUSION

Surfrider applauds the CCC for undertaking some of the most important work Californians will see in our lifetime. The Document does a great job of being

substantive and providing key areas of guidance. As mentioned, we believe the severity of climate change must “sink in” with local governmental at both philosophical and financial levels before communities can work out the exact details of planning. Conducting webinars and workshops are good initial steps to ensure all local governments are on the same page with the CCC when creating SLR adaptation policies. Our recommendations for seawall policy merely scratch the surface of a much larger question that must be addressed at the CCC to ensure consistency and proper mitigation of coastal armoring.

We want to assure the CCC that we are committed to assisting you in achieving the goals set out in the SLR Document, and look forward to cooperating on actions that will collectively result in progressive planning to combat SLR and climate change impacts.

Sincerely,

A solid black rectangular redaction box covering the signature of the sender.

Surfrider Foundation
California Policy Manager