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June 23, 2017

California Natural Resources Agency  
1416 Ninth St, Suite 1311  
Sacramento, CA 95814

**Re: Draft Report: Safeguarding California Plan: 2017 Update**

Dear California Natural Resources Agency:

Heal the Ocean (HTO), a Santa Barbara based citizens' action group focused on stopping sources of ocean pollution, appreciates this opportunity to offer input on the updated Safeguarding California Plan, which follows up on our input to the previous (2013) draft. We have focused on Sea Level Rise (SLR) and the urgent need for identifying infrastructure - wastewater and water - that will be needing concrete plans, along with funding, because of coastal flooding.

**General Comment**

Heal the Ocean (HTO) commends the California Natural Resources Agency on its commitment to preparing for future challenges posed by climate change. As the report notes, statewide action is critical to not only reducing greenhouse gas emissions, but also to preparing for the inevitable impacts of climate change on coastal infrastructure. Even with an immediate cessation of all emissions, California will still face further impacts from a warming climate far into the future, and will be well served to prepare adequately.

Climate change and climate-induced sea level rise needs immediate attention, which is why the Safeguarding California Plan must be as specific as possible. The effects of climate change are already being felt statewide, from drought to heavy storm systems to rising seas - and in Santa Barbara County, one wastewater treatment plant is preparing for relocation of significant parts of its infrastructure now being threatened by high waves.

For this reason, we ask that the California Natural Resource Agency focus on incorporating concrete timelines into its Recommendations and Next Steps section of the Plan. We understand that this requires collaboration across different agencies, but set dates for goals and strong timelines must begin now. a

## Specific Comments

With our above request in mind, we submit these brief comments on the Recommendations:

### **Recommendation O-1: Leverage Regulatory, Permitting, and Planning Authority to Preserve Coastal Communities and Resources by Adapting Infrastructure and Other Development to be More Resilient to Sea Level Rise and Extreme Events (p. 103)**

**-O1.7-** Use regulatory authority to reduce risk to existing property impacted by sea level rise.

**-O1.7a** Begin planning to adapt state-owned existing critical infrastructure at risk from sea level rise such as highways, **wastewater treatment plants**, airports, ports, pipelines, and transmission lines. Provide guidance and technical assistance to assist non-state entities to begin planning to address critical infrastructure at risk from sea level rise.

**-O1.7b** When feasible, use phased retreat, or buyout of vulnerable property.

**-O1.7c** Prioritize the remediation of hazardous material cleanup sites on the coast and in high flood risk areas so that they do not spread contamination later due to flooding

HTO concurs with these recommendations (O1.7 a through c), and emphasizes that wastewater treatment plants (WWTPs) should actively engage in the planning process immediately, and submit their own sub-recommendations due to their importance to California cities and the unique challenges associated with protecting WWTP infrastructure. Coastal WWTPs are among the most susceptible facilities to sea level rise, and their infrastructure, such as vaults and pump stations, are already being threatened in some areas. The estimated 67% chance of increase in sea level of 1.0 to 3.4 feet by 2100 in the San Francisco Bay Area<sup>1</sup> illustrates the enormous threat to wastewater infrastructure not only in the Bay Area, but in other coastal areas that will be affected by associated high-wave erosion and climate-driven storm events.

As WWTPs represent such a critical aspect of coastal infrastructure, specific planning and recommendations should be made for their protection from the threats of SLR. These “next-steps” should include:

1. Engineering and cost feasibility studies for movement of all vulnerable infrastructure that can be relocated to a higher or more protected area.
2. Reinforcement of non-movable infrastructure for not only sea level rise, but for storm surges due to climate change-driven storm systems.
3. Regular monitoring of all at-risk coastal infrastructure.

### **Recommendation O-2: Support natural infrastructure, living shorelines, and other adaptations that protect and rehabilitate coastal and marine ecosystems and beaches.**

Recommendation O-2 draws attention to the importance of natural coastal systems adapting to sea level rise and maintaining healthy ecosystems. While “next steps” O-2.1-O-2.6 mention advancing, promoting, and supporting programs and projects for natural infrastructure and coastal health, there needs to be far more consideration of protecting existing systems.

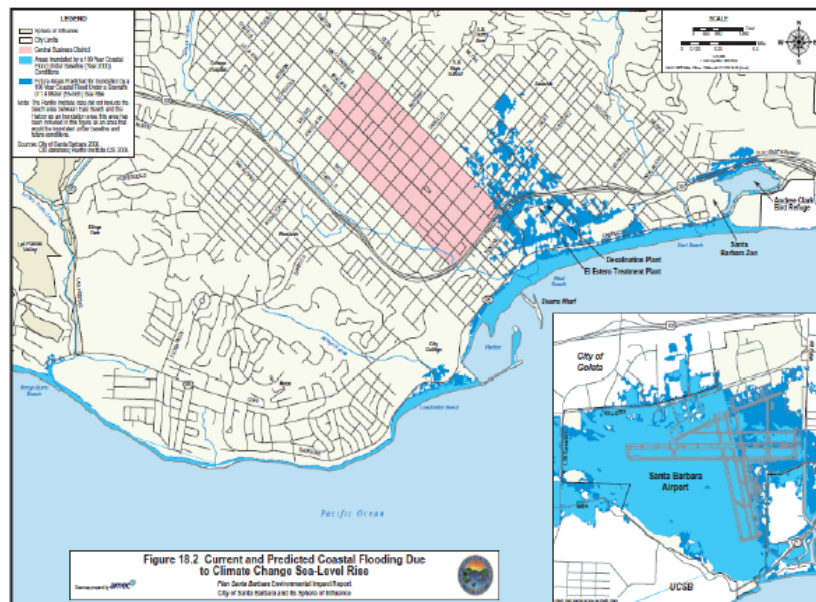
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<sup>1</sup> Griggs, G, Arvai, J, Cayan, D, Deconto, R, Fox, J, Fricker, HA, Kopp, RE, Tebaldi, C, Whiteman, EA (California Ocean Protection Council Science Advisory Team Working Group). *Rising Seas in California: An Update on Sea-Level Rise Science*. California Ocean Science Trust, April 2017.

Recommendation O-2 and its next steps should include a discussion of protecting existing coastal systems from development or change, as well as removing sea walls, and other armoring structures. There should be a recommendation for prevention of installation of new structures in threatened coastal zones.

In the case of armoring structures, the report notes that these “prevent coastal ecosystems from migrating inward, prevent the shoreline from carrying out natural processes...and will eventually cause the beach to narrow and disappear.”<sup>2</sup> Given these findings, specific attention should be given to preventing new structures from being installed, and removing the structures that are already there. Natural infrastructure systems will only flourish when barriers to their growth and creation are removed.

Protecting existing natural coastal ecosystems will be far more effective in than establishing new systems or restoring damaged ecosystems. A “next-step” should describe the prevention of development on sensitive or potentially sensitive coastal systems, with special attention being given to historical or current wetlands or sloughs. The City of Santa Barbara built its airport in a slough area, and today this expensive and important infrastructure is now prone to flooding and at high risk of damage due to sea level rise, and also the natural functioning of the slough.



**Figure 18.2** from Chapter 18 of Plan Santa Barbara, illustrating potential flooding of the Airport<sup>3</sup>

### **Recommendation W-1: Vigorously prepare California for flooding.**

Specific attention must be described for low-lying or at-risk infrastructure by the state of California Department of Water Resources (DWR), particularly wastewater systems. Wastewater

<sup>2</sup> California Natural Resources Agency. *Draft Report, Safeguarding California Plan:2017 Update*. May 2017.

<sup>3</sup> City of Santa Barbara. Certified Final Program Environmental Impact Report for the *Plan Santa Barbara* General Plan Update – Volume I. AMEC Earth & Environmental, Inc., Sept. 2010, p. 18-11

infrastructure can be far more susceptible to flooding events than other common city infrastructure, and failures in wastewater systems can be incredibly costly and dangerous to human health.

In addition to city-operated wastewater infrastructure, private-home septic systems are at high risk during flooding events. Septic system failures can lead to bacterial contamination of surface water as well as groundwater, along with nitrate contamination of groundwater aquifers.<sup>4</sup> A Next Step or Recommendation focusing on removal of septic systems in medium or high-risk areas for both flooding and/or groundwater contamination would be an important step in protecting coastal groundwater systems.

**Recommendation W-3: Diversify local supplies and increase water use efficiency.**

**-W-3.7.** The (State) Water Board will work to address knowledge gaps and conduct additional research related to the protection of public health and direct potable reuse of recycled water, and to draft regulations for direct potable reuse of recycled water.

The technology for potable reuse of recycled water is rapidly evolving, along with terminology to more accurately describe the process to the public. The Safeguarding California Plan would be well-served by amending the language to reflect this. California AB 574, introduced in February 2017 by Assembly Member Bill Quirk, makes provisions for removing references to “direct potable reuse,” and replaces current potable reuse terminology with more modern, appropriate terms<sup>5</sup>.

The four proposed categories of potable reuse, “groundwater augmentation,” “reservoir augmentation,” raw water augmentation,” and “treated drinking water augmentation,” are already in use in proposed potable reuse projects. These terms should be used within this Recommendation in the Safeguarding California Plan. This bill also requires the State Water Board to adopt uniform criteria for potable reuse through raw water augmentation by the end of 2021, ensuring that California’s need for local, diversified water portfolio’s are met in a timely manner. Whether or not the Quirk bill moves forward, the concepts should be included in the plan, and the technical details within the legislation should be used.

We thank you for the opportunity to comment on the Safeguarding California Plan update.  
Sincerely,



Hillary Hauser, Executive Director



Alex Bennett, Policy Analyst

<sup>4</sup> Scandura J.E. Sobsey M.D. *Viral and Bacterial Contamination of Groundwater from On-Site Sewage Treatment Systems*. Water Science and Technology. Volume 35(12). 1997

<sup>5</sup> Assembly Bill 574 (Quirk). California State Assembly. 2017.

[https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\\_id=201720180AB574](https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB574)