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California Ocean Protection Council
California Resources Agency
1416 9th Street, Suite 1311
Sacramento, CA 95814

Subject: **Ocean Protection Council Science Advisory Team Working Group Report on Sea Level Rise Science, *"Rising Seas in California"***

Dear Secretary Laird and Members of the Ocean Protection Council:

Coastal Commission staff would like to express our appreciation for the work that the Ocean Protection Council (OPC) is leading to advance California's understanding of science related to sea level rise. Commission staff commends the OPC's Science Advisory Team Working Group (Working Group) on bringing forward the very latest research and analysis on sea level rise, particularly with regard to potential contributions from ice-sheet loss. The *Rising Seas in California* Report (April 2017) is an important step in moving our state forward as a leader on this issue in not only the nation, but the world.

As a key state agency with responsibilities including regulation, planning and management of the state's coast for present and future generations, the Coastal Commission is working extensively with local governments, State agencies, and other stakeholders, including staff of OPC, the State Coastal Conservancy, the Bay Conservation and Development Commission, Caltrans, and the State Lands Commission, to plan and prepare for future sea level rise using the latest science. Commission staff is currently working with more than 30 different local governments on sea level rise vulnerability assessments and adaptation policies for their local coastal programs (LCPs). Staff is also working on reviewing numerous infrastructure project proposals, including for highways, wastewater treatment plants, power plants, and desalination plants, that are located in areas that will likely be impacted by future sea level rise. Consistent with the existing State of California Sea Level Rise Guidance Document (March 2013), the majority of these local governments and project proponents are mapping sea level rise hazard areas and designing projects based on the projections of between 3 feet and 5.5 feet of sea level rise by 2100.

The new *Rising Seas in California* report has the potential to move California forward in addressing sea level rise, including by identifying the grave threat of ice-sheet loss. However, Commission staff is concerned that the sea level rise probability information, as currently presented in the report, could have the unintended consequence of reducing or reversing the progress that is being made in planning for sea level rise. We would like to suggest some clarifications to ensure that California's communities maintain and enhance their efforts in preparing for this significant threat. As such, Commission staff has the following three recommendations:

(1) Future documents should clarify that the probabilities shown in the tables do not fully account for ice sheet loss

Commission staff understands that the full potential contribution of ice-sheet loss to sea level rise was not included in the model's probability distribution that informed Tables 1 through 5. As the report explains in detail, ice-sheet loss will have significant impacts on sea level rise globally and in California, but it is not possible at this time to attach probabilities to its contributions to sea level rise with full confidence. By excluding the full potential for ice-sheet loss, the probabilities show sea level rise amounts resulting from only a subset of drivers of sea level rise, thus underrepresenting the total amount of sea level rise that California should be preparing for. Although this point is acknowledged in the body of the report, the tables themselves do not clearly state that the full potential contribution of ice-sheet loss is excluded in the analysis to determine probabilities. This omission will likely lead some stakeholders to select sea level rise projections that are lower than what is recommended by the current State of California Sea Level Rise Guidance Document. Therefore, Commission staff suggests that future documents clearly explain the extent to which ice sheet loss was incorporated into the methodologies used to produce each of the tables.

(2) The H++ projection should be removed from Tables 1 and 2, and presented as a separate projection

Commission staff understands that the science informing the report's H++ projection, which does reflect the full potential for ice-sheet loss, is not advanced enough to allow the Working Group to generate a probability associated with the likelihood of occurrence. Staff agrees with the report's conclusion that even though the timing and magnitude of ice-sheet loss is somewhat uncertain, given current trends and projections related to increased air and sea temperatures, ice-sheet loss is something that we must prepare for, especially when planning large investments in public infrastructure. Staff is concerned that users will be confused by the placement of the H++ projection on Tables 1 and 2, even though no probabilities have been assigned to it, and may conclude that the H++ projection has the same probability of occurring as the 10 foot amounts shown on Tables 3, 4 and 5. Instead, the H++ projection should be presented separate from the probability tables. Additionally, the treatment of ice sheet loss in the H++ methodology should be clearly distinguished from that of the other key results of the report.

(3) The OPC should continue to support the need to consider a scenario of 5.5 feet of sea level rise by 2100

Commission staff is working on sea level rise planning efforts with over 30 different local governments throughout the coast, as well as with proponents of numerous infrastructure projects, and the majority of the planning that has occurred so far has addressed up to 5.5 feet of sea level rise by 2100, as called for in the current State of California Sea Level Rise Guidance Document. This planning work has been supported by significant public investments, including over $5 million awarded from the Coastal Commission's LCP Grant Program and the OPC's LCP Grant Program. Commission staff believes that the entire body of literature on sea level rise projections, including the California 4th Climate Assessment, continues to support the importance of considering the 5.5 foot projection. This projection is a logical midpoint between the projections that have a relatively high probability of occurring even without full consideration of

ice-sheet loss (i.e. ~3 feet), and the higher H++ projection of ~10 feet. Although it may be appropriate in some cases to design for more or less sea level rise depending on the specific characteristics of a project, continuing to include the projection of 5.5. feet of sea level rise by 2100 should be a priority.

Thank you again for your leadership with regard to sea level rise. We look forward to working closely with the OPC and other key agencies and stakeholders during the development of the updated Sea Level Rise Guidance for California.

Sincerely,

John Ainsworth
Executive Director