A.WRITTEN COMMENTS AND RESPONSES TO WRITTEN COMMENTS

TENTATIVE RESOLUTION NO. R9-2018-0051

This document contains both copies of written comments received and responses thereto. The responses are provided first, followed by copies of comments in the same order. Written comments were solicited between March 21 and April 12, 2018.

A. List of Comments Received

1. Climate Action Campaign
2. Mr. Barry Pulver
3. San Diego Coastkeeper
4. San Diego County Water Authority
5. Unified Port of San Diego
6. Surfrider, San Diego Chapter
7. California Coastal Commission

B. Responses to Comments

Comments received were broadly consistent with comments received on tentative Resolution No. R9-2017-0035 (Supporting Document No. 4 in the agenda package). Commenters in general were supportive of the tentative Resolution's goals to address climate change using sound science and community collaboration. Some comments cautioned against imposing new requirements without providing clarity to permit applicants. Other comments seek to retain flexibility to deal with uncertainty, for instance when prioritizing the use of natural infrastructure with project applicants who seek to balance various competing needs.

Several minor revisions have been made to the tentative Resolution in response to comments.

Responses begin on the next page. In most cases the comment is paraphrased for simplicity. The full comments are provided in Section C of this document.

Resolution Section	Comment Summary	Response	Change Made to Tentative Resolution
COMMENTER: CLIMATE ACTION CAMPAIGN			
various	We support each recommendation listed on the resolution and believe recommendations 5, 6, 13, and 17 should be prioritized.		None
13.B	we recommend that equity be part of the recommendations and not simply an acknowledgement. Doing this will ensure all of our communities benefit from collective actions to address the impacts of climate change on our water resources.	The finding simply identifies the principles listed in the resolution are taken from Safeguarding California.	None
COMMENTER: MR. BARRY PULVER			
whereas no. 1	Editorial changes "ground waters" to "groundwater."	This is a good suggestion.	Suggested edit will be made

Resolution Section	Comment Summary	Response	Change Made to Tentative Resolution
whereas no. 2	Methane should be specifically identified because methane absorbs much more energy than carbon dioxide and has the USEPA has assigned a methane Greenhouse Warming Potential (GWP) ranging between 28 to 36 over a 100 year time span compared to the carbon dioxide GWP of 1. Additionally, the discharge of methane from landfills is regulated through the San Diego Water Board's Land Discharge Program, which means that the Land Discharge Program has the regulatory authority to address those emissions. Also, clarifying changes to discussion of causes of global climate change and addition of statement with respect to local sources of greenhouse gases and adverse effects of urban sprawl.	Methane is a potent greenhouse gas, and landfills can be a significant source of methane gas. The Water Board does require that landfill gases within the waste pile be monitored and ventilated to prevent gas constituents from leaching into groundwater and to prevent the landfill from igniting. Historically, landfills collected and commonly burned the gas with combustion products released to the atmosphere. More recently some of those landfills have redirected their Landfill Gas into turbines that generate electricity. However, regulation of landfill methane gas emissions falls under the purview of the California Air Resources Board (CARB). CARB, in partnership with local, State and federal entities is working to address methane and related emissions through implementation of various programs such as the Landfill Methane Rule, Short-Lived Climate Pollutant Strategy, and in the 2017 Climate Change Scoping Plan Update. For more information, please see https://www.arb.ca.gov/cc/landfills/landfills.htm When cross-media issues arise that suggest regulated air emissions are polluting water resources, the Water Board can inform and advocate to CARB and engage CalEPA with our concerns. At this point, however, we do not have reason or data to conclude that the Air Board's landfill gas emissions steps are insufficient to protect water quality.	None
whereas no. 3	Add "effects on existing wetlands" to examples of current challenges that are exacerbated by climate change because climate change will affect the conditions of wetlands and associated beneficial uses and compensatory mitigation efforts.	This suggestion is not necessary. Whereas No. 4 identifies that climate change can affect our ability to restore wetlands and riparian zones.	None

Resolution Section	Comment Summary	Response	Change Made to Tentative Resolution
whereas no. 9	Suggests adding that waste water management also requires significant electricity; and that a sustainable water supply does not adversely impact local water quality or the biological integrity of water bodies.	The intent of this finding is to recognize that the beneficial use of water supply requires significant energy, and that an energy efficient water supply, along with local sources, is consistent with the Water Board's Strategy for Achieving a Local Sustainable Water Supply, Practical Vision Chapter 5.	None
whereas no.16.a	Asked what actions will be taken to ensure that staff has a strong understanding of climate change stressors and impacts.	Our internal implementation plan includes several training actions.	None
whereas no.16.f	Asked whether climate change will result in water bodies no longer being able to support existing beneficial uses, and if so, how would the Water Board address that.	Part of the Water Board's efforts to prioritize actions related to climate change included consideration of the ability of the Water Board to influence the outcome of events. While it is conceivable that climate change could reduce or eliminate certain existing or potential beneficial uses or portions thereof in some water bodies as a result of hydrological or sea level changes, the Water Board will focus attention on ensuring that actions by regulated parties do not unreasonably affect beneficial uses of water bodies with their climate change adaptation strategies.	None
directive no. 1	Revise the Board's direction to staff regarding climate change from "consider" to "implement actions to counter the effect of."	This is a reasonable suggestion consistent with the intent of the Resolution and the specific directive. Will also add language clarifying that actions must be authorized by law.	Will make the change, and will add "where appropriate and authorized by law" to the end of the opening sentence.
directive no. 5	Revise direction to staff from "maintain low greenhouse gas emissions" to "reduce staff greenhouse emissions" with goals to reduce staff vehicle usage, increase staff use of public transit, and increase staff use of alternate work schedules.	The stronger suggested language is not necessary. While this directive identifies the Board's intent for staff to recognize and limit operational contributions to greenhouse gas from work activities where practical, it is also written with the understanding that staff already take steps to do so.	None

Resolution Section	Comment Summary	Response	Change Made to Tentative Resolution
directive no. 6	Clarify whether a climate change work plan is already developed, and if not revise the Directive to require it be prepared. Also, the work plan should be prepared with involvement from parties in the Region, particularly ones that have adopted their own Climate Action Plans.	The Work Plan referenced in this Directive is an internal plan to align staff effort to the identified priorities. Steps to achieve the goals will necessarily involve many considerations, including communication and collaboration as described in Directive No. 17. Development of the recommended priorities did include some outreach with local parties, such as the San Diego Regional Climate Collaborative, the Climate Science Alliance, and others.	None
directive no. 7	Add that staff training is necessary to translate science into decision-making. And, add clarity for the desired outcomes of staff actions.	These revisions are not necessary. The purpose of this Directive is to ensure that staff develop means for staying up to date with climate change science. Collaborating is an efficient way to do so. And, the Work Plan will include steps targeted at our climate change priorities.	None
directive no. 15	Clarify that compensatory mitigation should protect beneficial uses and public health, rather than just withstand hydrologic and temperature effects of climate change.	This revision would add some clarification.	Will clarify as suggested
directive no. 17	Specify that collaboration would include parties working on climate action issues, and suggests three specific non-governmental agencies to collaborate with.	This revision is not necessary to clarify that the Board welcomes the opportunity to collaborate with any relevant party. Additionally, specifying certain NGOs could be misinterpreted as intention to prioritize them at the potential expense of the other numerous other parties in the Region.	None
directive no. 20	Specify that the Executive Officer provide the Board twice yearly, rather than periodic, updates on climate change efforts.	The Executive Officer will give the Board timely updates on important climate change issues as is the current practice.	None
COMMENTER: SAN DIEGO COASTKEEPER			
whereas no. 10	Rewrite to remove ambiguity and to clarify its intent to explicitly prioritize mitigating global climate change rather than merely adapting to it impacts.	Finding 10 serves to acknowledge the Board's importance in offsetting the impacts of global climate change on local water resources. The Resolution does, however, intentionally focus on climate change adaptation. As a member of State Government and the regional communities, the Board's greatest impact will be on helping ensure the resiliency of waters to support beneficial uses.	None

Resolution Section	Comment Summary	Response	Change Made to Tentative Resolution
whereas no. 9	Coastkeeper also strongly supports the inclusion of a water supply prioritization preference (a "loading order") in the Tentative Resolution... We feel that the second sentence is conclusory insofar as it defines a "sustainable local water supply" without any reference to the relative GHG impacts of the various water supply sources. While we acknowledge and support the inclusion that a sustainable local water supply is one that, "optimiz[es] the reuse of water," we are concerned that reference to "decreas[ing] reliance on imported water" could serve to prioritize highly energy- and carbon-intensive locally desalinated water over imported water with a lower GHG profile. Inclusion of a loading order would help alleviate the possibility that carbon-intense sources such as desal would take preference over strategies with greater potential for climate change mitigation such as conservation, capture, and reuse.	The Board does not intend to prioritize projects based on a loading order. The San Diego Water Board, like the State Water Board, prioritizes safe access to water. The State Water Board did not prescribe a loading order when considering and adopting its Climate Change resolution in 2017. The State Water Board's perspective on the water supply-energy nexus is that the first priority is on a safe and affordable water supply as reflected in its "Human Right to Water" program. The idea of energy use is embedded as a second-tier priority with conservation and efficiency for water use. Through its grants/loans, for example, the State Water Board incentivizes projects to consider, recognize, and plan for climate change, but applicants are not rejected based on energy use. Typical projects regarding the development of water supply are considered by the San Diego Water Board in NPDES and WDR permits for recycling water and desalination of ocean and brackish groundwater. The Board may also consider such projects in its financial assistance function, such as consideration of supplemental environmental projects, disbursement of cleanup account funds, and other grants. The Board does support and will advocate for water supply alternatives that help achieve the State's greenhouse gas reduction goals. The Board's primary responsibility, however, with respect to project proposals is to focus on preventing and mitigating adverse effects to beneficial uses of water. In doing so, it is generally prudent to defer certain issues to other State agencies or processes. That is currently the case for GHG emissions and energy use because other State agencies have the expertise and more precise regulatory direction to more efficiently create incentives for development of low-emission water supply projects.	None

Resolution Section	Comment Summary	Response	Change Made to Tentative Resolution
COMMENTER: SAN DIEGO COUNTY WATER AUTHORITY			
whereas no. 15, priority table 1	The climate change goal of capturing storm water should include protection of water quality to meet the Safe to Drink beneficial use…Efforts to increase storm water capture should occur in parallel with greater emphasis on pollution control through watershed management to protect drinking water supply.	The goal stated in the tentative Resolution to "capture storm water without harming stream ecosystems" is predicated upon (1) existing Water Board storm water management requirements do ensure protection of drinking water supply; and (2) in-stream storm water capture is an approach already under consideration in parts of the Region for increasing water supplies.	None
COMMENTER: UNIFIED PORT OF SAN DIEGO			
general	With the many statewide efforts to address climate change already moving forward and the possibility of conflicting guidance, the District believes that, where applicable, the Regional Board's Tentative Resolution should ensure consistency with the aforementioned guidance [Ocean Protection Council Sea-level Rise Guidance; Natural Resources Agency, Safeguarding California Plan; Coastal Commission Sea Level Rise Policy Guidance) along with other California climate-related initiatives.	The Resolution is intended to be consistent with climate change guidance and policies of other State agencies and the legislature. By expressing the Water Board's interests, the Resolution should help regulated and potentially regulated parties identify climate adaptation measures that meet guidance from State agencies and protect beneficial uses of State waters.	None

Resolution Section	Comment Summary	Response	Change Made to Tentative Resolution
directive no. 10	Specify the terms and details of proposed permit language prior to the adoption of the Tentative Resolution. Further specify the details of what potential permit language might be and the extent of requirements for applicants.	One purpose of the tentative Resolution is to communicate the Water Board's intention of ensuring waste discharge requirements (WDRs) account for climate change, particularly as related to its top climate change goals and key beneficial uses. As noted in Directive No. 9, the Water Board will work with dischargers and stakeholders to assess how climate change could affect a project's relationship to beneficial uses. It is reasonable and practical for specific permit language to be developed appropriate for the circumstances of proposed discharges or general categories of discharges. The tentative Resolution does identify categories relevant for permit considerations (see Directives No. 10, 13, 15).	None
directive no. 11	Consider flexible approaches for solutions that protect beneficial uses in bays and harbors. Add a fourth item to Directive 11 that states: "*Where relocation of water-dependent infrastructure cannot be avoided, encourage the development and incorporation of innovative design elements that minimize ecological impacts while providing protection from coastal flooding*." The District is concerned that prioritizing the relocation of vulnerable infrastructure over in-place adaptation measures will have implications to existing infrastructure from coastal flooding. Managed retreat, relocation, and other space-dependent strategies are not always feasible nor prudent. And, other State guidance includes specific adaptation strategies and solutions that recognize the need for flexible approaches to safeguard harbors, ports, and Public Trust uses.	The tentative Resolution is consistent with State guidance on Sea Level Rise and adaptation. It states the Water Board's preferences (i.e., priorities) within the flexibility of the such guidance. Although the suggested language does seem consistent with the Board's intention in cases where the Board's preferred approach(es) are infeasible, no changes are recommended to the tentative Resolution because the focus is on what the Board intends to prioritize.	None

Resolution Section	Comment Summary	Response	Change Made to Tentative Resolution
COMMENTER: SURFRIDER, SAN DIEGO CHAPTER			
whereas no. 9	we appreciate the comments on page 3, number 9 regarding a sustainable local water supply which optimizes the reuse of water.	Comment noted	None
whereas no. 12a and 12b	Another major area of interest for Surfrider San Diego is to minimize coastal armoring (seawalls, riprap) and hydromodification of stream channels...We advocate for softer, natural solutions which include relocation of infrastructure away from the coast and out of floodplains and the utilization of dunes and wetlands.	Comment noted, and please understand that the Water Board recognizes that in some cases coastal or streamside infrastructure may not be feasibly relocated in the short or mid-term.	None
whereas no. 13.f	Add non-governmental organizations to the list of potential partners.	The Water Board intends to work with local NGOs (see Directive No. 17), but the finding simply identifies the principles listed in the resolution are taken from Safeguarding California.	None
whereas no. 15, Table 1	Under Safe to Swim, clarify that the Ocean and Bays are two distinct use areas.	Thank you for the suggestion.	The change will be made
directive no. 11a, b, c	Surfrider San Diego strongly agrees with the Regional Water Board about the need to prioritize natural infrastructure solutions; water capture, recharge, and reuse solutions; and relocation of vulnerable infrastructure to protect beneficial uses from the effects of climate change.	Comment noted	None
Directive no. 16	Agrees that incentivizing and prioritizing “coastal and inland shoreline protection techniques that protect, preserve, enhance, or restore beneficial uses” is a key strategy for addressing threats to beneficial uses from climate change.	Comment noted	None

Resolution Section	Comment Summary	Response	Change Made to Tentative Resolution
COMMENTER: CALIFORNIA COASTAL COMMISSION			
whereas No. 15, Table 1	Delete the word "harmful" from Table 1 in reference to the Safe to Swim Goal to "Protect beaches from harmful shoreline hardening" because all shoreline armoring will ultimately cause harmful beach losses due to erosion that will occur when the hardened shoreline is met by rising seas. Urges the Water Board to include measures in Tentative Resolution that reduce the need for emergency-based armoring of existing development in favor of solutions that rely on climate change/sea level rise adaptation measures that ensure resilience of infrastructure and are protective of coastal resources and environmentally sustainable over the long-term.	The Water Board is prioritizing this as a climate change issue because shoreline hardening threatens the ability of beaches to support certain recreational uses, such as swimming, and owners and operators of shoreline property are expected to increasingly look to shoreline hardening as a way to protect property as sea levels and storm surges rise in response to climate change. Rather than prohibit such practices, the Water Board intends to review proposals consistent with the statewide Ocean Plan, the regional Basin Plan and the Water Code to ensure discharges associated with waste (including fill material) protect beneficial uses. For instance, the Water Board recognizes that pursuant to Water Code section 13263(g), no discharge to waters of the State shall create a vested right to continue the discharge. As such, it is reasonable and practical for the Water Board to indeed favor climate change adaptation solutions that ensure resilience and are protective of coastal resources in the long-term. The Water Board also recognizes that in some cases proposals for seawall repair or construction may not be subject to Water Board regulation, whereas in others they may be subject to regulation under Water Code sections 13260 (waste discharge requirements), 13304 (cleanup and abatement of unauthorized discharges), and/or 13376 (state certification for federally-permitted discharges of fill).	none
whereas No. 13	Add language to subsections 'b' and 'e' regarding shoreline armoring and planning for infrastructure relocation.	The finding simply identifies the principles listed in Safeguarding California.	none

Resolution Section	Comment Summary	Response	Change Made to Tentative Resolution
whereas No. 15, Table 1	Add a goal under Safe to Drink to monitor seawater intrusion into coastal groundwater supplies and to limit development that would increase such intrusion into coastal aquifers.	The Board developed its climate change priorities based on a combination of the potential harm to a key beneficial use, the ability of the Water Board to influence the outcome, and the foreseeable resources available. Seawater intrusion is, and has been, a fairly high threat to coastal aquifers, though one the Board considers to have relatively small influence over because the driver is primarily sea level rise.	none
general	Suggests adding links to new CCC Sea Level Rise Policy Guidance and other resources.	In drafting the Resolution, we chose not to list the all the available guidance and policies from State agencies. We will provide links to the most relevant ones, like the Sea Level Rise Policy Guidance, on our web page, and we will ensure staff uses the guidance as a resource.	none

C. Comments Received

Comments received begin on the next page

April 12, 2018

California Regional Water Quality Control Board, San Diego Region
Attention: Executive Officer David W. Gibson
2375 Northside Drive, Suite 100
San Diego, CA 92108
Via Email: sandiego@waterboards.ca.gov

RE: Tentative Resolution No. R9-2018-0051; Addressing Threats to Beneficial Uses from Climate Change

Dear Executive Officer Gibson:

Climate Action Campaign (CAC) is a San Diego-based nonprofit organization with a simple mission: to stop climate change through local, regional and state policy action. We are pleased to provide this letter of support for Tentative Resolution No. R9-2018-0051, Addressing Threats to Beneficial Uses from Climate Change.

As mentioned with our previous comments on tentative resolution no. R9-2017-0035, water is a limited resource and we face increasing threats to our water quality and water supply as temperatures continue to rise in California and beyond. Given this urgent threat, we stress the need to act now so we may prevent the worst impacts of climate change and ensure our future generations enjoy the water resources we still have today.

We support each recommendation listed on the resolution and believe recommendations 5, 6, 13, and 17 should be prioritized.

Moreover, while we are encouraged by the inclusion of equity language found on section 13.B, page 4 “partner with California’s most vulnerable populations to increase equity and resilience through investments, planning, research, and education,” we recommend that equity be part of the recommendations and not simply an acknowledgement. Doing this will ensure all of our communities benefit from collective actions to address the impacts of climate change on our water resources.

In conclusion, we support the Regional Board’s tentative resolution in adapting to climate change and reducing the risk associated with the unpredictable and existential nature of these threats while also urging action on the resolution sooner rather than later.

Thank you for the opportunity to provide comment on this very important issue.

Sincerely,

CLIMATE ACTION
CAMPAIGN

Nicole Capretz
Executive Director

April 12, 2018

San Diego Regional Water Quality Control Board
2375 Northside Drive, Suite 100
San Diego, California 92108-2700

Subject: **Comments on Tentative Resolution No. R9-2018-0051 Addressing Threats to Beneficial Uses from Climate Change**

Adoption of Tentative Resolution No. R9-2018-0051, Addressing Threats to Beneficial Uses from Climate Change (Tentative Resolution) will dramatically demonstrate to the People of California that the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) intends on taking a leadership role to address the negative impacts of climate change on the Region's water resources. President Obama said at the September 23, 2014 United Nations Climate Change Summit, that "there's one issue that will define the contours of this century more dramatically than any other, and that is the urgent and growing threat of a changing climate." Adoption of this Tentative Resolution, and more importantly the actions that will follow, will answer President Obama's call for action. The importance of the Tentative Resolution is not its adoption. The threat to the beneficial uses in the San Diego Region will not be addressed by a piece of paper signed by the Executive Officer. Those beneficial uses will be protected by the actions that the San Diego Water Board's staff will take to address those threats.

According to the Notice of Opportunity for Public Comment, Tentative Resolution No. R9-2018-0051, *Addressing Threats to Beneficial Uses from Climate Change,* dated March 16, 2018, "the Tentative Resolution is a policy statement intended to (1) inform the public of the San Diego Water Board's intentions; (2) provide guidance to staff; and (3) respond to climate change related directives of the Governor and Legislature". The following suggested changes (in redline/~~strikeout~~) provides the specificity and clarifications needed to better meet intent of the policy statement listed above.

Adoption of the Tentative Resolution and the actions to follow will a bold step needed to address the impacts to the beneficial uses of our Region's water resources.

Regards,

Barry S. Pulver

CALIFORNIA REIGONAL WATER QUALITY CONTROL BOARD

SAN DIEGO REGION

Tentative RESOLUTION NO. R9-2018-0051

ADDRESSING THREATS TO BENEFICIAL USES FROM CLIMATE CHANGE

WHEREAS:

1. The most basic goal of the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) is to preserve and enhance the quality of water resources in the San Diego Region for the benefit of present and future generations. Pursuant to the federal Clean Water Act and the California Porter-Cologne Water Quality Control Act, the San Diego Water Board designates beneficial uses of the Region's surface water and groundwater ~~ground waters~~ and establishes water quality objectives for the reasonable protection of those uses. Beneficial uses are the uses of water necessary for the survival or well-being of humans, plants and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals of humankind.

   Reason for suggested change: Common usage is groundwater as a single word (see United States Geologic Survey Office of Groundwater Technical Memorandum 2009.03)

2. Global climate change is happening. Air and ocean temperatures are rising, precipitation patterns are shifting, the frequency and magnitude of more extreme climate events are happening, sea levels are rising, and the ocean pH levels are falling. Scientists are highly confident that, although natural factors have caused the climate to change during previous periods of the Earth's history, the overarching driver for these changes is ~~rising~~ the increasing concentrations of ~~levels of~~ carbon dioxide, methane, and other greenhouse gases in the atmosphere from human activity, primarily the burning of fossil fuel. Major sources of greenhouse gases in the region are from on-road transportation and electrical generation. Continued urban sprawl will increase the amount of on-road transportation and the emission of greenhouse gases.

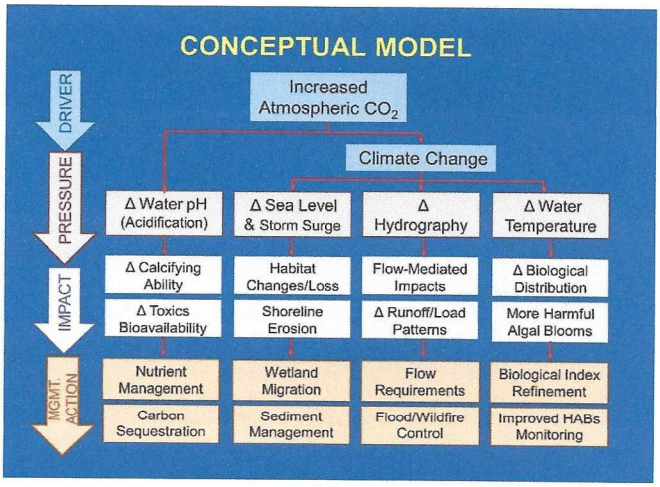
   Reason for suggested changes: (1) Adding the phrase "frequency and magnitude" better describes the concerns associated with extreme climate events. (2) Increasing concentrations is a more appropriate term then rising levels. (3) Methane should be specifically identified because methane absorb much more energy than carbon dioxide and has the USEPA has assigned a methane Greenhouse Warming Potential (GWP) ranging between 28 to 36 over a 100 year time span compared to the carbon dioxide GWP of 1. Additionally, the discharge of methane is from landfills is regulated through the San Diego Water Board's Land Discharge Program, which means that the Land Discharge Program has the regulatory authority to address those emissions. 4) Adding the information on the sources of greenhouse gases increases the public's confidence that the San Diego Water Board understands the causative factors of global climate change and with that knowledge will be successful in addressing the impacts to beneficial uses.

3. Although climate change is a global phenomenon in scale and scope, it will trigger a wide range of increasingly severe physical, chemical and biological effects to water resources in the San Diego Region. Climate change exacerbates some challenges, like droughts and coastal erosion, effects on existing wetlands, and creates new ones like those associated with sea level rise and ocean acidification. The direct and indirect effects of climate change

have broad-reaching implications for the San Diego Water Board's mission to protect and restore uses of water for people and ecosystems.

Reason for suggested change: Any change to the existing climate will affect the conditions of streams and wetlands. This must be considered in the implementation of the Board's intent because mitigation efforts constructed in areas that currently supports wetlands may no longer be capable of doing so. Mitigation efforts should only be conducted in areas that are projected to be capable of supporting a healthy wetland. Additionally, if the changes in climate results in warmer surface water temperatures then the COLD beneficial use designation may no longer be appropriate for specific stream reaches.

4. Some threats to waters in the San Diego Region are summarized in a climate change impact report (2009) by the California Climate Change Center. Threats to San Diego Region riparian and freshwater ecosystems are summarized in a report from the Climate Science Alliance (2018). Research from the Scripps Institution of Oceanography, for example, demonstrates shifts in precipitation regimes driven by climate change are already increasing the influence of atmospheric rivers on our regional stream systems, which increases the vulnerability of ecosystems and infrastructure along riparian floodplain corridors. The Southern California Coastal Research Project (SCCWRP), of which the San Diego Water Board is a member agency, is working to understand the ecosystem impacts of a changing environment and how the water-quality management community can effectively respond (Figure 1).



5. Climate change can affect our ability to meet strategic objectives outlined in our Practical Vision (Resolution No. R9-2013-0153), including protecting key beneficial uses and areas; producing and relying on meaningful assessment data; restoring wetland and riparian zones; and achieving a sustainable local water supply.

6. Executive Order S-03-05 required the California State agencies to produce periodic scientific assessments on the potential impacts of climate change in California and reports potential adaptation responses. These assessments found that very significant economic impacts are expected from climate change, and that impacts may be reduced with appropriate measures to reduce risk. Assessments also explored local and statewide vulnerabilities to climate change, highlighting opportunities for taking concrete actions to reduce climate-change impacts. The fourth climate change assessment will provide additional information to support decisions that will safeguard the people, economy, and resources of California.

7. Climate change increases the risk of public health threats that affect beneficial uses of waters, such as those from harmful algal blooms in drinking water reservoirs and swimming areas, pathogens in fish or shellfish, and sewage contamination of swimming areas.

8. Some projected climate change impacts may disproportionately affect those who are socially or economically disadvantaged, and hence represent environmental justice concerns.

9. The production, storage, transport and delivery of water for agricultural, residential, and commercial needs, and the collection, treatment, and disposal of waste water from these activities, requires significant energy, primarily in the form of electricity. The U.S. EPA estimates that 29% of the United States greenhouse gas production in 2015 originated from electrical generation. ~~Energy production and greenhouse gas implications.~~ A sustainable local water supply is one that decreases reliance on imported water, does not adversely impact local water quality or the biological integrity of the waterbodies, and efficiently uses energy to produce and transport water suitable for municipal, agricultural, industrial and other human uses while also optimizing the reuse of water.

   Reason for suggested change: Additional details and clarification.

10. Mitigating climate change effects relies on actions at the local level, and there are many current efforts in the San Diego Region to reduce greenhouse emissions, assess climate change risks, and plan for adaptation actions. The San Diego Water Board must play a strong role with other stakeholders in developing long-term strategies for monitoring, mitigating, and offsetting the local water resource impacts of global climate change.

11. Wetlands provide resilience for both human and ecosystem beneficial uses of water threatened by climate change. Restoration of aquatic resources, including wetlands, can play crucial roles in reducing risks from climate change by improving water quality, protecting water resources, mitigating GHG emissions, and enhancing habitat. In Resolution No. R9-2015-0041,2 the San Diego Water Board recognized threats of climate change to aquatic ecosystems and directed staff to promote and advance aquatic ecosystem restoration. Subsequent law (e.g., Assembly Bill 1482) requires State agencies to promote the use of natural systems and infrastructure, such as wetlands, in climate change adaptation plans.

12. Governments, utilities, non-governmental organizations, and industries in the San Diego Region need to make a variety of difficult decisions regarding potential climate change impacts to their interests; and those decisions could affect beneficial uses. For example:

    a. Accommodating higher tidal surges by armoring coastlines that would restrict recreational uses of beaches and bays and prevent inland migration of intertidal habitat and species.

    b. Managing larger volumes of storm water by modifying stream channels that would disrupt ecosystem uses of streams, wetlands, and associated floodplains.

    c. Relying on natural attenuation of soil contamination that would result in hazardous releases if the area becomes inundated due to sea level rise and/or rising groundwater.

13. The San Diego Water Board supports and has important roles to play in the State of California efforts to prepare for and adapt to a changing climate. Safeguarding California, the State's adaptation strategy, provides a roadmap for State government action to build climate change resiliency. It identifies seven overarching principles that represent foundational objectives for California's approach to climate change adaptation:

a. Consider climate change in all functions of government.

b. Partner with California's most vulnerable populations to increase equity and resilience through investments, planning, research, and education.

c. Support continued climate research and data tools.

d. Identify significant and sustainable funding sources to reduce climate risks, harm to people, and disaster spending.

e. Prioritize natural infrastructure solutions that build climate preparedness, reduce greenhouse gas emissions, and produce other multiple benefits.

f. Promote collaborative adaptation processes with federal, local, tribal, and regional government partners.

g. Increase investment in climate change vulnerability assessments of critical built infrastructure systems.

14. The San Diego Water Board and staff have begun to participate in regional and statewide climate change initiatives and to incorporate climate change considerations into decision-making for projects including but not limited to water recycling and conservation, existing and proposed ocean discharges, and coastal zone site cleanup plans.

15. In August 2015, the San Diego Water Board held a public informational item on climate change considerations in the Region. In February 2017, the Board accepted public comments on tentative Resolution No. R9-2017-0035, Addressing Threats to Beneficial Uses from Climate Change. As part of the 2017 Operational Plan, staff developed the following climate change goals to protect key beneficial uses (Table 1).

Key Beneficial Use	Key Areas for the Use*	Top Goals Related to Climate Change
Safe to Drink	1st Rank: Drinking water supply reservoirs 2nd Rank: Groundwater	• Increase local water supply via water recycling • Capture storm water without harming in-stream ecosystems
Safe to Eat	1st: Ocean 2nd: Bays 3rd: Harbor, lagoons, estuaries	• Address bioaccumulation and toxin threats • Protect and increase refuges for intertidal ecosystems
Safe to Swim	1st: Ocean Bays 2nd: Harbors 3rd: Lagoons, estuaries, streams, stream mouths	• Protect beaches from harmful shoreline hardening • Identify and remedy vulnerable wastewater infrastructure
Healthy Ecosystems	1st: Ocean, bays, lagoons, estuaries, streams 2nd: Stream mouths 3rd: Ponds, harbors	• Protect and increase intertidal ecosystems • Protect and restore natural flow regimes

Table 1: Top climate change readiness recommendations for Key Beneficial Uses and Areas.
* Key areas are identified in "*Key Beneficial Uses and Key Areas: Focusing on What is Most Important*" adopted by Resolution R9-2017-0030.

16. Challenges affecting the San Diego Water Board's ability to implement key actions for addressing climate change threats to beneficial uses include:

a. Ensuring staff have a strong understanding of the key stressors induced by climate change and the impacts of these stressors. (Comment: What actions will be taken to ensure that staff has a strong understanding?)

b. Improving staff and stakeholder understanding of the scope, timing, cost, feasibility, consequences, and effectiveness of various management options to address climate change risks.

c. Accessing and assimilating relevant data for decision-making.

d. Collaborating and communicating with external parties to influence their waste discharge plans.

e. Integrating climate change considerations into program work plans and statewide performance measures.

f. Ensuring short-term and long-term water resource and planning needs are met without sacrificing long-term beneficial uses. (Comment: Will climate change result in waterbodies not being able to support the existing beneficial uses, and if so, how with the San Diego Water Board address this?)

17. The uncertainties of climate change that affect human and ecosystem beneficial uses, such as extent and timing of sea level rise or frequency of high intensity storms, can be mitigated by an adaptive approach rooted in our Practical Vision.

***THEREFORE BE IT RESOLVED THAT* it is the intent of the San Diego Water Board to:**

1. Direct the San Diego Water Board staff to implement actions to counter the effect of ~~consider~~ climate change and its potential effects on beneficial uses in water quality control planning, permitting, site remediation, monitoring, financial assistance, education, and enforcement actions. This resolution does not change or expand the San Diego Water Board's authority and obligations under applicable law, or impose new requirements on the regulated community.

   Reason for suggested change: Taking actions is stronger than considering. Considering means thinking about something before making a decision, but it does not mean that any action will occur.

2. Incorporate Safeguarding California strategies and scientific findings from California Climate Change Assessments to strengthen the ability of water resources to sustain strong and diverse local economies and ecosystems resilient to adverse impacts of global climate change.

3. Proactively and effectively use San Diego Water Board resources, expertise, and authorities under applicable law to ensure its actions are preserving, enhancing, and restoring water quality for all beneficial uses for future generations that will live with likely climate change effects.

4. Address climate change threats with the principles, core values, and desired outcomes identified in our Practical Vision.

5. Reduce ~~Maintain low~~ staff greenhouse gas emissions by ~~via~~ increasing the number of employees who have alternate work schedules, reducing vehicle usage and increasing the use of public transit, procurement, meeting technology, and other means consistent with operational needs.

   Reason for suggested change: 1) To demonstrate leadership the goal should be to reduce greenhouse gas emissions rather than maintain them at current levels. I am sure that if you

review Climate Actions Plans prepared by municipalities and special districts within the San Diego Region, you will not find one that proposes to maintain current greenhouse gas emissions. 2) For clarity, goal should be to reduce vehicle mile usage.

6. Develop and implement ~~Implement~~ a Climate Change Readiness Work Plan in accordance with the 2018 Operational Plan adopted by the Board in February 2018 (Resolution No. R9-2018-0013) that outlines courses of action to achieve the goals in Table 1 of Finding 15 of this Resolution, incorporates public participation where warranted, establishes short and long term goals, and identifies challenges to reduce water quality threats from climate change.

   Reason for suggested change: It is not clear that the Climate Change Readiness Work Plan (Work Plan) has been prepared, and even though the Board adopted the Resolution requiring its preparation, it should be clear that it will be prepared. The preparation of the Climate Change Readiness Work Plan should be developed in an open and transparent manner. Parties involved in the development should include representatives of municipalities and special districts within the Region that have adopted their Climate Action Plans so that the Work Plan aligns itself with those plans and does not include any contradictory actions; representations from non-governmental organizations (NGOs) working on climate change actions. These NGOs include the Cleveland National Forest Association, the San Diego Climate Action Network, and the North County Climate Change Alliance; Discharges who will be affected by the actions; and representatives from the public.

7. Ensure staff is able to translate the best available climate science into appropriate regulatory decision-making by hiring and/or collaborating with scientists with backgrounds in relevant fields, and by conducting training for all staff so they have the information needed to implement actions to counter the effect of climate change and its potential effects on beneficial uses in water quality control planning, permitting, site remediation, monitoring, financial assistance, education, and enforcement actions.

   Reason for suggested change: The suggested change creates the nexus on how the benefit of hiring a climate change scientist and the collaboration with scientists will be available to staff as they implement actions to counter the effect on climate change and its potential effect on beneficial uses.

8. Work with scientists from SCCWRP, Scripps Institution of Oceanography, and other organizations to understand the state of climate change science and to identify climate change-based research needs that support the Practical Vision and the Climate Change Readiness Work Plan.

9. Encourage and ensure activities regulated, endorsed, funded, or otherwise subject to Water Board review, are compatible with plausible beneficial use scenarios based on reasonable climate change models and predictions. Therefore, we will work with dischargers and stakeholders on project applications and proposals to assess how reasonably foreseeable climate change scenarios could affect the project's relationship to beneficial uses. Certain projects may need effective long-term strategies for monitoring, mitigating, and offsetting impacts related to discharges or potential discharges of waste and fill material affected by climate change.

10. Propose permit language that includes monitoring, adaptive management, and funding/financing provisions, for reducing vulnerability of regulated facilities to sea level rise or flooding due to climate change.

11. Advocate for solutions that protect beneficial uses from direct and indirect effects of climate change, including but not limited to prioritizing:
    a. Natural infrastructure solutions, including emphasizing the restoration, enhancement, and creation of wetlands, both submerged and terrestrial, over hardscape infrastructure in climate adaptation plans.
    b. Water capture, recharge, and reuse solutions over increased effluent discharges.
    c. Relocation of vulnerable infrastructure over in-place adaptation measures that impair the resilience of water resources to support beneficial uses.
12. Facilitate monitoring, assessment, and research conducted, supported, or required by the Board to improve management options through review and revision of existing discharger monitoring and assessment requirements and staff activities in consideration of projections for effects of climate change such as sea level rise, storm intensity, and ocean acidification.
13. Consider the ability of proposed remedial actions in enforcement cases to use green cleanup methods and technology; be resilient to climate change effects such as increased storm surges, more intense storm water discharges, and changes in groundwater levels and recharge rates; to implement local climate change adaptation plans; and to verify resilience via surveillance and monitoring plans.
14. Encourage, promote, and facilitate development of new and diverse sustainable local water supplies without restricting existing and potential beneficial uses of water or exacerbating existing water body impairments.
15. Ensure compensatory wetland and stream channel mitigation, such as required in Clean Water Act section 401 Water Quality Certifications, will withstand and protect beneficial uses and public health from the most likely hydrological and temperature effects from climate change.
16. Incentivize and prioritize coastal and inland shoreline protection techniques that protect, preserve, enhance, or restore beneficial uses.
17. Collaborate with public agencies and nongovernmental organizations working on climate action issues (including the Cleveland National Forest Association, the San Diego Climate Action Network, and the North County Climate Change Alliance) in the region to leverage resources around common climate change priorities and to identify and reduce conflicting priorities.

    Reason for suggested change: By identifying several NGOs the Board demonstrates to the public its knowledge of the parties working on climate change and its commitment to reach out to those, and other, NGOs.
18. Identify and inform the State Water Resources Control Board by December 2018 which San Diego Water Board climate change priorities are best suited to statewide guidance or direction.
19. Identify and inform the State Water Board by February 2019 of specific instances in which statewide Orders support, impede, or conflict with regional climate change priorities.
20. Receive ~~periodic~~ twice yearly updates (one in June and one in December) from the Executive Officer on progress of implementation actions and key challenges relative to climate change.

    Reason for suggested change: Adding specific performance standards for the updates provides clear direction to the Executive Officer and provides the public the assurance that

the updates will occur. This should be expanded to give the Executive Officer with the specific information the Board Members needs to hear to provide them with the information needed to determine if the Board's intent is being implemented.

SAN DIEGO COASTKEEPER

March 28, 2018

David Gibson, Executive Officer
San Diego Regional Water Quality Control Board
2375 Northside Drive
San Diego, CA 92108
sandiego@waterboards.ca.gov

Sent via email

Re: Comment – Tentative Resolution No. R9-2018-0051, Addressing Threats to Beneficial Uses from Climate Change

Dear Mr. Gibson:

Thank you for the opportunity to comment on Tentative Resolution No. R9-2018-0051, Addressing Threats to Beneficial Uses from Climate Change. San Diego Coastkeeper (Coastkeeper) is a non-profit organization working to protect and restore the San Diego region's bays, beaches, watersheds, and ocean.

According to the California Energy Commission, water and energy resources are "inextricably connected," and the "transportation and treatment of water, treatment and disposal of wastewater, and the energy used to heat and consume water account for nearly 20 percent of the total electricity and 30 percent of non-power plant related natural gas consumed in California."[1] Given this significant "water-energy nexus," it is essential that any discussion of climate change include consideration of the energy and greenhouse gas (GHG) impacts of water production, transportation, treatment, and disposal.

Coastkeeper is generally supportive of the Tentative Resolution; however, we respectfully recommend a few edits and additions. First, Coastkeeper recommends that the Regional Board rewrite finding number 10 in the "Whereas" section as follows to remove ambiguity and to clarify its intent to explicitly prioritize mitigating global climate change rather than merely adapting to it impacts. In its customary usage in reference to climate change, "mitigation" usually refers to strategies that lower and offset GHG emissions, while "adaptation" is the term used for strategies that address the present and future impacts of climate change:

> 10. Mitigating global climate change relies on actions at all levels to reduce GHG emissions. Adapting to the impacts of climate change relies on efforts at the local level to improve resiliency. There are many current efforts in the San Diego Region to reduce greenhouse emissions, assess climate change risks, and plan for adaptation actions. The San Diego Water Board must play a strong role with other stakeholders in developing long-term strategies for reducing and offsetting local water resource GHG emissions and monitoring and adapting to the impacts

[1] Water-Energy Nexus, http://www.energy.ca.gov/research/iaw/water.html

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of global climate change on local water resources. At present, no accurate GHG assessment has ever quantified the variable energy intensities of different water supply sources and their disparate contributions to climate change. In particular, no assessment has accurately considered the full GHG impacts of water transport and desalination. In order to most effectively develop and implement GHG reduction strategies, it is essential that the Regional Board play a strong role with other stakeholders in accurately assessing and quantifying the GHG profiles of various water supply sources.

Coastkeeper also strongly supports the inclusion of a water supply prioritization preference (a "loading order") in the Tentative Resolution. Such a statement would clearly and unambiguously lay out the Regional Board's commitment to mitigating the impacts of climate change by prioritizing water supply sources with lower GHG profiles before resorting to more carbon-intensive sources of water. It would thus prioritize conservation first and foremost, followed by potable reuse, stormwater capture, imported water, and finally desalination, the most energy-intensive water supply source.

Coastkeeper strongly supports the first sentence of finding number 9 in the "Whereas" section, which states that, "The production, storage, transport and delivery of water for agricultural, residential, and commercial needs have significant energy and greenhouse gas implications." However, we feel that the second sentence is conclusory insofar as it defines a "sustainable local water supply" without any reference to the relative GHG impacts of the various water supply sources. While we acknowledge and support the inclusion that a sustainable local water supply is one that, "optimiz[es] the reuse of water," we are concerned that reference to "decreas[ing] reliance on imported water" could serve to prioritize highly energy- and carbon-intensive locally desalinated water over imported water with a lower GHG profile. Inclusion of a loading order would help alleviate the possibility that carbon-intense sources such as desal would take preference over strategies with greater potential for climate change mitigation such as conservation, capture, and reuse.

Coastkeeper in particular has been, and continues to be, a partner with regional stakeholders in climate change mitigation and adaptation training and policy development. We look forward to continuing this work and to working more closely with the Regional Board as it addresses climate change in our region.

Thank you for the opportunity to comment on the Tentative Resolution. Please feel free to contact me with any questions or for additional feedback. We look forward to working with the Regional Board and other stakeholders toward development and implementation of a meaningful and effective approach towards addressing threats to beneficial uses from climate change.

Sincerely,

Josh Brooks
Staff Attorney

San Diego County Water Authority
4677 Overland Avenue • San Diego, California 92123-1233
(858) 522-6600 FAX (858) 522-6568 www.sdcwa.org

April 10, 2018

David Gibson, Executive Officer
San Diego Regional Water Quality Control Board
2375 Northside Drive, Suite 100
San Diego, CA 92108-2700

Subject: Comment – Tentative Resolution No. R9-2018-0051

Dear Mr. Gibson,

The San Diego County Water Authority appreciates the opportunity to comment on the San Diego Regional Water Quality Control Board's Tentative Resolution No. R9-2018-0051 on climate change (Resolution), which will be considered for adoption at your May 9, 2018, Board Meeting. We also want to thank the San Diego Water Board staff for considering our February 23, 2017, written comments on an earlier version of the Resolution, Tentative Resolution No. R9-2017-0035.

The Water Authority recognizes the challenges and potential impacts that climate change may have on water resources, and supports the San Diego Water Board's efforts to address potential threats to the region's water supply resources. The Resolution incorporates strategies identified in the Safeguarding California Plan, the State's climate adaptation strategy. Strategies to ensure a reliable water supply include increased regional self-reliance, local water supply diversification, and water use efficiency, all of which are important components of the Water Authority's diversification strategy. Safeguarding California emphasizes that these strategies must be implemented by local and regional water management agencies, such as the Water Authority and its member agencies.

An important strategy to minimize impacts to water supplies from climate change is to increase local water supply through water recycling. Therefore, we support this addition to the Resolution's Key Beneficial Use Table as a Top Goal. We also recommend the following edits to the table shown as underlined:

Key Beneficial Use	Key Areas for the Use*	Top Goals Related to Climate Change
Safe to Drink	1st Rank: Drinking water supply reservoirs 2nd Rank: Groundwater	• Increase local water supply via water recycling • Capture storm water where cost effective without harming in-stream ecosystems and while protecting water quality

The climate change goal of capturing storm water should include protection of water quality to meet the Safe to Drink beneficial use. Climate change has the potential to alter the timing and concentrations of pollutants in storm water, which can further exacerbate adverse impacts to surface water and groundwater quality, including from nutrients, pesticides, harmful algal blooms, and metals. Efforts to increase storm water capture should occur in parallel with greater emphasis on pollution control through watershed management to protect drinking water quality.

We look forward to collaborating with the San Diego Water Board and our member agencies to protect and enhance the region's water resources to maintain safe and reliable water supplies while adapting to climate change. Thank you for the opportunity to comment on the Tentative Resolution No. R9-2018-0051. Please contact Goldy Herbon with any questions at (858) 522-6767.

Sincerely,

Toby Roy
Water Resources Manager

Submitted electronically to sandiego@waterboards.ca.gov

PORT of SAN DIEGO
Waterfront of Opportunity

VIA EMAIL

April 12, 2018

California Water Quality Control Board – San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108-2700
Attention: Jeremy Haas
Email: sandiego@waterboards.ca.gov

Subject: Comment – Tentative Resolution No. R9-2018-0051

Dear Mr. Haas:

The San Diego Unified Port District (District) appreciates the opportunity to provide comments in response to Tentative Resolution No. R9-2018-0051 Addressing Threats to Beneficial Uses from Climate Change (Tentative Resolution). The District is entrusted to protect the Public Trust resources of San Diego Bay, which include water-dependent commerce, navigation, fishing, recreation, and conservation. As the public trustee of the San Diego Bay tidelands, the District shares a common interest with the San Diego Regional Water Quality Control Board (Regional Board) in ensuring the protection of the Bay's beneficial uses. The Public Trust uses and the Regional Board's beneficial uses are not mutually exclusive. The District believes our goals are aligned.

With the adoption of a Climate Action Plan in 2013, the District became one of the first ports in the United States to establish goals to reduce greenhouse gas emissions and to adapt to the impacts of climate change. Impacts such as sea level rise pose a threat to the Public Trust uses that the District is entrusted to protect. The District is currently conducting a sea level rise vulnerability assessment and developing proposed adaptation strategies to mitigate the effects of coastal flooding and inundation.

The District submitted comments on the Regional Board's previous draft of the Tentative Resolution (R9-2017-0035) and appreciates the Regional Board's responses thus far (see Attachment A for the District's letter to the 2017 Tentative Resolution, and Attachment B for the Regional Board's response to comments). The District respectfully submits the following expanded comments on the 2018 Tentative Resolution:

1. **Ensure consistency with California guidance concerning climate change in regards to harbors, ports, and Public Trust uses.**

   The District appreciates the Regional Board's initial response to this section in our initial letter (Attachment B), and we would like to take this opportunity to further expand on our comments. The state of California has been progressively

researching and providing guidance to local governments regarding climate change and its impacts. A number of State agencies have released planning documents and guidelines to address specific components of climate change. Since San Diego Bay and its tidelands contain a variety of uses supporting water-dependent infrastructure and activities, the District has been an active participant in the development of State guidance documents to ensure that they recognize the unique characteristics of harbors and ports and the breadth of Public Trust uses.

Recent State guidance which has incorporated policies pertaining to the impacts of climate change that may affect harbors, ports, and Public Trust uses include:

(1) Coastal Commission, Sea Level Rise Policy Guidance: *Interpretative Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits*. The Coastal Commission's Guidance was adopted in August 2015 and is intended to help coastal jurisdictions evaluate sea level rise and select adaptation strategies in Local Coastal Programs and Coastal Development Permits. The Coastal Commission's guidance incorporates adaptation strategies specifically for ports, stating, "*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.*" The Guidance includes additional strategies and states, " *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*"[1];

(2) The Natural Resources Agency, Safeguarding California Plan (Plan): *2018 Update*. The Plan was approved in January 2018 and provides a roadmap for state government to respond to climate change. The Plan includes policies which acknowledge the unique nature of ports and the constraints in which they exist, "*Where expanded or new water-dependent infrastructure (e.g., at ports and harbors) cannot be avoided, encourage the development and incorporation of innovative design elements that minimize ecological impacts*

[1] California Coastal Commission. "California Coastal Commission Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits" (2015), p. 142.
https://documents.coastal.ca.gov/assets/slr/guidance/August2015/0_Full_Adopted_Sea_Level_Rise_Policy_Guidance.pdf

while providing sea level rise protection… reinforce non-moveable infrastructure at risk of sea level rise and storm surge"[2] and;

(3) The Ocean Protection Council, State of California Sea-Level Rise Guidance *2018 Update (OPC Guidance)*. The purpose of the OPC Guidance, approved in March 2018, is to assist decision-makers in planning for and making decisions about sea level rise and coastal hazards. The OPC Guidance provides a recommendation for sea level rise planning and adaptation focusing on ports and Public Trust uses: "*Adaptation strategies should consider the unique characteristics, constraints and values of existing water-dependent infrastructure, ports and Public Trust uses.*"[3] The guidance recognizes that ports are often located in densely developed coastal areas and will require site specific adaptation strategies to protect Public Trust uses.

With the many statewide efforts to address climate change already moving forward and the possibility of conflicting guidance, the District believes that, where applicable, the Regional Board's Tentative Resolution should ensure consistency with the aforementioned guidance along with other California climate-related initiatives.

2. Specify the terms and details of proposed permit language.

Item 10 (p. 7) in the Tentative Resolution states that the Regional Board will "propose permit language that includes monitoring, adaptive management, and funding/financing provisions, for reducing vulnerability of regulated facilities to sea level rise or flooding due to climate change." The proposed text in Item 10 is ambiguous. Prior to adoption of the Tentative Resolution, the District would like clarification as to the proposed permit language and its implications on future permit applications. We suggest further specifying the details of what this potential permit language might be and the extent of requirements for applicants. These comments are consistent with the City of San Diego's and the California Department of Transportation's comments on Tentative Resolution 2017-0035 (Attachment B).

3. Consider flexible approaches for solutions that protect beneficial uses in bays and harbors.

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[2] California Natural Resources Agency. "Safeguarding California Plan: 2018 Update" (2018), p. 172-173. http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf
[3] Ocean Protection Council. "State of California Sea-Level Rise Guidance 2018 Update" (2018), p. 31. http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf

The District appreciates and acknowledges the Regional Board's initial response to our comments on the previous Tentative Resolution (R9-2017-0035) (Attachment B), and we would like to take this opportunity to further clarify and expand on them. Item 11 (p. 7) of the Tentative Resolution (R9-2018-0051) indicates that the Regional Board will prioritize natural infrastructure solutions over hardscape infrastructure. Natural infrastructure is an important adaptation strategy in bays and harbors, and the District is actively pursuing opportunities to implement nature-based solutions around San Diego Bay. For example, in partnership with the California State Coastal Conservancy, the District recently submitted a grant proposal to fund a Living Shorelines project in South San Diego Bay. The project will create a biologically rich native oyster reef which restores an ecological niche that was historically present in San Diego Bay while providing shoreline stabilization. This type of adaptation strategy, however, may not be appropriate in other areas of San Diego Bay, which is already armored with bulkheads and revetment to protect urban and industrial areas from erosion or coastal flooding, and may undermine infrastructure and pose a risk to public safety. Current hardscaped shorelines are appropriate to maintain coastal uses and provide public access to the San Diego Bay.

Further, part (c) of item 11 in the Tentative Resolution advocates for "relocation of vulnerable infrastructure over in-place adaptation measures" as a solution to be prioritized. The District is concerned that this solution will have implications to existing infrastructure from coastal flooding, resulting from storms and/or sea level rise, with this solution. The District, along with other port and harbors along the coast, has unique characteristics and constraints for sea level rise adaptation. Since the District's jurisdiction is located in a densely developed and populated coastal area, managed retreat, relocation, and other space-dependent strategies are not always feasible nor prudent. Additionally, other State guidance regarding sea level rise, as mentioned above, have included specific adaptation strategies and solutions which recognize the need for flexible approaches to safeguard harbors, ports, and Public Trusts uses.

The District recommends that the Regional Board revise Item 11 in the Tentative Resolution to be consistent with other State guidance in California. The District proposes the following text:

> *11. Advocate for solutions that protect beneficial uses from direct and indirect effects of climate change, including but not limited to:*
>
> > *a. Natural infrastructure solutions, including emphasizing the restoration, enhancement, and creation of wetlands, both submerged and terrestrial, where appropriate, in climate adaptation plans.*

b. Water capture, recharge and reuse solutions over increased effluent discharges.
c. Relocation of vulnerable infrastructure over in-place adaptation measures that impair the resilience of water resources to support beneficial uses.
d. Where relocation of water-dependent infrastructure cannot be avoided, encourage the development and incorporation of innovative design elements that minimize ecological impacts while providing protection from coastal flooding.

The above comments offered by the District are to assist the Regional Board in effectively implement the Tentative Resolution. As previously stated, the District has been a champion of several important initiatives to plan for the effects of climate change. Regarding sea level rise and coastal resiliency, the District is currently assessing vulnerability and impacts pursuant to Assembly Bill 691, and as part of the Port Master Plan Update. The District believes that our resiliency initiatives will be able to support long-term sustainability of San Diego Bay and protect beneficial uses.

To meet our objectives when addressing effects of climate change, we have coordinated and collaborated with others to ensure consistency with approaches, and the District is committed to continued collaboration with the Reginal Board to address impacts to beneficial uses from climate change.

If you have any questions or would like additional information related to the comments submitted herein, please contact Philip Gibbons at (619) 725-6037 or via email at pgibbons@portofsandiego.org.

Sincerely,

Karen Holman
Director,
Environmental Protection

cc: Jason Giffen, Assistant Vice President, Planning & Green Port
John Carter, Deputy General Counsel IV, Office of the General Counsel

Attachment A: Port of San Diego Comments on Tentative Resolution No. R9-2017-0035 (January 23, 2017)
Attachment B: Regional Board Written Comments and Responses to Written Comments to Tentative resolution No. R9-2017-0035 (August 9, 2017)

Unified Port of San Diego

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VIA EMAIL

February 23, 2017

California Water Quality Control Board – San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108-2700
Attention: Jeremy Haas
Email: sandiego@waterboards.ca.gov

Subject: Comment – Tentative Resolution No. R9-2017-0035

Dear Mr. Haas:

The San Diego Unified Port District (District) appreciates the opportunity to provide comments in response to Tentative Resolution No. R9-2017-0035 Addressing Threats to Beneficial Uses from Climate Change (Tentative Resolution). As the public trustee of the tidelands of San Diego Bay (Bay), the District shares a common interest with the San Diego Regional Water Quality Control Board (Regional Board) in ensuring the protection of the Bay's beneficial uses. The District respectfully submits the following comments on the Tentative Resolution.

1. **Support for the Regional Board's efforts to address threats to beneficial uses from climate change.**

   With the adoption of the District's Climate Action Plan in 2013, the District became one of the first ports in the United States to establish goals and measures to reduce greenhouse gas emissions and ensure a sustainable long-term vision for the Bay and surrounding tidelands. The first step to address climate change is to mitigate greenhouse gas (GHG) emissions from activities, which in turn provides co-benefits such as air quality improvements, resource conservation, water quality improvement, and natural habitat protection. The District's Climate Action Plan contains 75 measures to reduce emissions and promote co-benefits including conservation of open spaces and the restoration of aquatic resources, which are in accordance with the Tentative Resolution. As such, the District supports the Regional Board's efforts to preserve the beneficial uses of the Bay from the impacts of climate change and remains committed to working collaboratively with the Regional Board to fulfill our agencies' shared goals.

Port of San Diego Comments
Attachment A

2. **Ensure consistency with California initiatives regarding climate change.**

   California has been progressively researching and providing guidance to local governments regarding climate change and its impacts. A number of state agencies have released planning documents and guidelines to address specific components of climate change such as the Coastal Commission's Sea Level Rise Policy Guidance, which provides strategies assessing and adapting to sea level rise when updating Local Coastal Programs and issuing Coastal Development Permits. In addition, California is conducting the Fourth Climate Change Assessment which will update past scientific assessments of climate change and may refine previous results. Meanwhile, the California Office of Planning and Research is amending the General Plan Guidelines to include climate change in planning process. With so many statewide programs to address climate change and the possibility of conflicting guidance, the District believes that, where applicable, the Regional Board's Tentative Resolution should ensure consistency with other California climate-related initiatives.

3. **Consider flexible approaches for shoreline infrastructure to protect beneficial uses in bays and harbors.**

   The Tentative Resolution indicates that the Regional Board may prioritize natural infrastructure solutions over hardscape infrastructure. While natural infrastructure is an important adaptation strategy along natural habitat areas such as wetlands or along parks and other open spaces in bays and harbors, they may not be appropriate in other areas. Much of San Diego Bay is already armored with bulkheads and revetment to protect urban areas from erosion or coastal flooding, which may undermine infrastructure and pose a risk to public safety. Current hardscaped shorelines are appropriate to maintain the presence of coastal uses and provide public access to the waterfront. Moreover, an important beneficial use designation for San Diego Bay includes Navigation to accommodate commercial as well as military shipping. Shoreline infrastructure to support the berthing of vessels must be designed to protect commerce and promote maritime navigation in the San Diego Region. Therefore, the District requests that the Tentative Resolution acknowledge that strategies may vary depending on the beneficial uses which need to be protected.

4. **Provide clarification on the temporal scale and the scientific foundation for which Regional Board will consider climate change impacts to beneficial uses in planning, permitting, site remediation, monitoring, and enforcement.**

While some impacts of climate change have begun to occur, there is still great uncertainty in the science as to the frequency and magnitude of specific climate-related events. For example, the National Research Council of the National Academy of Sciences conducted an analysis of current and future sea level rise along the west coast of the United States in 2012[1]. The study includes a range of sea level rise projections for different time periods through 2100. The NRC's report acknowledges great uncertainty in the long-term due to the ambiguity of land and sea based ice-sheet melting, which may increase sea level rise. As a result, when considering climate change and its effects on beneficial uses in planning, permitting, site remediation, monitoring, and enforcement, it is important for the Regional Board to clearly identify the best available science and long-term expectancy of actions. For instance, if mitigation to plant eelgrass is a requirement of a project, the location and specifications for restoration should be aligned with best available science to ensure the longevity of the mitigation measure.

5. **Consider climate change when setting remedial cleanup actions.**

   The District supports the concept of using green cleanup methods and technologies during remedial cleanup actions. Several areas within San Diego Bay are being investigated with potential clean up actions likely forthcoming. Effects from climate change have the potential to impact several uses of the bay especially sensitive shallow water habitats, shorelines, navigation corridors and berthing areas due to sediment transport and erosion. Developing appropriate cleanup strategies that are resilient to climate change effects is paramount for the long-term success of such remedies. As such, the District encourages the Regional Board to consider likely impacts of increased storm surge, increased upstream runoff, and storm intensity when evaluating capping, sediment cover, or natural attenuation as remedial actions.

6. **Collaborate with state and local agencies and academia to develop monitoring methods and metrics for climate change.**

   As climate change is an evolving science, there is little guidance on monitoring techniques or metrics to evaluate the impact to beneficial uses. The District encourages the Regional Board to collaborate with state and local agencies as well as academia to determine efficient methods to assess climate change and develop metrics to measure changes. Standardized methods will be important

[1] National Research Council. 2012. Sea Level Rise for the Coasts of California, Oregon, and Washington: Past Present, and Future.

Port of San Diego Comments
Attachment A

for comparison across California. The District is eager to work with the Regional Board to develop and evaluate these methods.

The above comments offered by the District are suggestions to assist the Regional Board in effectively implementing the Tentative Resolution. The District is committed to continued collaboration with the Reginal Board to address impacts to beneficial uses from climate change.

If you have any questions or would like additional information related to the comments submitted herein, please contact Philip Gibbons at (619) 725-6037 or via email at pgibbons@portofsandiego.org.

Sincerely,

Karen Holman
Principal,
Planning & Green Port

cc: Jason Giffen, Assistant Vice President, Planning & Green Port
John Carter, Deputy General Counsel IV, Office of the General Counsel

Port of San Diego Comments
Attachment B

WRITTEN COMMENTS AND RESPONSES TO WRITTEN COMMENTS

TENTATIVE RESOLUTION NO. R9-2017-0035

This document contains both copies of written comments received and responses thereto. The responses are provided first, followed by copies of comments in the same order. Written comments were solicited during February 3 - 21, 2017.

A. List of Comments Received

1. California Department of Transportation
2. City of San Diego
3. Climate Action Campaign
4. Unified Port of San Diego
5. San Diego County Water Authority

B. Responses to Comments

Commenters in general were supportive of the tentative Resolution's goals to address climate change using sound science and community collaboration. Some comments cautioned against imposing new requirements without providing clarity to permit applicants. Multiple commenters stated a desire to retain flexibility to deal with uncertainty and competing needs, for instance when evaluating the suitability of natural infrastructure alternatives to stabilize developed shorelines.

Responses below are numbered in order of the appearance of comments within each letter received. In most cases the subject is paraphrased for simplicity. The full comments are provided in Section C of this document.

California Department of Transportation

1) Subject: Uncertainty in Section 401 Certification Requirements. In order to provide clarity to expectations regarding the section 401 Certification process, the San Diego Water Board hopes to actively engage with Caltrans Headquarters and/or Districts to identify scenarios, models, and goals that help us achieve our respective missions.

2) Subject: Process to Discuss Permit Conditions for Transportation Infrastructure. The San Diego Water Board staff welcomes pre-application meetings with Caltrans regarding planned transportation projects. Our project managers and District staff generally have good lines of communication. One desired outcome of this Resolution and subsequent work is to provide staff with tools to address a mutual challenge of ensuring access to and incorporation of relevant data for decision-making.

3) Subject: Afford Caltrans Ability to Maintain a Safe Transportation System: The Water Board understands Caltrans faces various challenges in operating, and maintaining the existing transportation infrastructure. Our goal is to help ensure that proposals on coastal and inland shorelines subject to San Diego Water Board oversight meaningfully consider natural infrastructure and other alternatives that would ensure a sustainable and resilient coastline for human and ecosystem beneficial uses.

Port of San Diego Comments
Attachment B

4) Subject: Recognize Variety of Tools to Meet Mutual Goals. The San Diego Water Board understands that Caltrans is conducting vulnerability assessments of its transportation infrastructure that would feed into consideration of site-specific adaptation approaches, including defend, planned or forced retreat, and adaptation. We look forward to continued dialogue in order to understand how such considerations are evaluated as we seek to ensure that infrastructure projects do not unreasonably compromise long term resiliency of local waters to support beneficial uses.

City of San Diego

1) Subject: Potential Permit Language: The tentative Resolution does not establish any new requirements. It provides guidance as staff continues to develop implementation steps for addressing climate change. The San Diego Water Board will continue to use the best available science when evaluating permit applications. Existing science demonstrates that rising sea levels and flashier floods can pose threats to beneficial uses of waters if not properly accounted for and mitigated. We recognize that our ability to assess projects will improve as knowledge and certainty with respect to climate change improve. Our goal is to rely on consensus where and when available and to apply informed judgment with consideration of our Key Areas and Practical Vision.

2) Subject: Discuss Potential Mitigation Requirements. Part of our implementation effort is to meet periodically with key stakeholders, like the City of San Diego, to discuss mutually beneficial assessment and implementation approaches.

3) Subject: Do not Conflict with Statewide Guidance or Strategies. Our staff have been communicating with the State Water Board, which adopted a Climate Change Resolution on March 7, 2017, and with other State agencies developing related guidance. Regional Water Boards have a role within the statewide framework, and our intent is to complement, rather than conflict with statewide efforts.

4) Subject: Imported Water in Sustainable Local Water Supply: The San Diego Water Board is committed to help diversify the Region's water supply and reduce imported water. While imported water plays an important role in the Region's water supply, the Water Board's Practical Vision adopted in 2013 for a sustainable local water supply is: *"An ample, diverse, and sustainable local water supply for the San Diego Region that, combined with conservation and water reuse, minimizes dependence on imported water while maintaining and improving water quality."* A sustainable local water supply is needed because global climate change impacts, cyclic droughts, and pumping restrictions make the Delta and Colorado River supplies uncertain for the future. As noted in the Practical Vision, imported water also has caused degradation of water resources in the San Diego Region.

5) Subject: City Supports a Focus on Reuse of Water Supplies: The San Diego Water Board looks forward to helping the City increase capacity to produce and use recycled water to improve drought resiliency and improve water quality in basins.

Port of San Diego Comments
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6) Subject: Comparison of Energy Use of Greenhouse Gas Emissions Related to Water Supply Sources: How and to what extent energy use and greenhouse gas emissions of water source projects may influence San Diego Water Board permitting decisions is a subject that will be considered by staff during the development of a climate change implementation strategy. We look forward to reviewing suggestions from the City and other interested parties.

7) Subject: Acknowledge Affordability of Infrastructure Projects. The San Diego Water Board recognizes that infrastructure projects can be costly and that local governments, like the State, must prioritize and make prudent use of public funds. With respect to climate change, the San Diego Water Board is responsible for establishing waste discharge requirements that ensure beneficial uses will be protected over the life of the project. By expressing the need to consider climate change impacts, the Resolution provides potential dischargers the opportunity to identify affordable options to meet the goal of protecting beneficial uses. The San Diego Water Board does not dictate the manner of compliance with requirements, except in specific instances outlined in Water Code section 13360.

8) Subject: Collaboration. Collaboration that fosters learning via community-based partnerships and effective communication are cornerstones of our Practical Vision and crucial for the ultimate success of the San Diego Water Board. We look forward to strong relationships with entities such as the San Diego Regional Climate Collaborative, and applaud the City's generous commitment to that organization.

Climate Action Campaign

1) Subject: Use of Sound, Data Driven Science. It is critical for the San Diego Water Board to incorporate the latest science and/or technology in decision-making. Accessing and assimilating data on climate change is a challenge. We look forward to working with local, statewide, and federal partners to develop and make use of meaningful science.

Unified Port of San Diego

1) Subject: Support for the Regional Board's Efforts. Comment noted. We look forward to working with the Port to preserve beneficial uses of San Diego Bay from effects of climate change.

2) Subject: Ensure Consistency with California Initiatives Regarding Climate Change. Regional Water Boards have a role within the statewide framework, and our intent is to complement statewide efforts, including but not limited to efforts of the State Water Board, Coastal Commission, Office of Planning and Research, Ocean Protection Council, and others.

3) Subject: Consider Flexible Approaches for Shoreline Infrastructure. The San Diego Water Board understands that within San Diego Bay several current beneficial uses of the water, such as NAV and REC-2, currently rely on hardened shoreline infrastructure. Our intent in prioritizing natural infrastructure is to recognize that potential use of natural infrastructure is not restricted to existing open space areas.

Port of San Diego Comments
Attachment B

4) Subject: Clarify Temporal Scale and Scientific Foundation to Be Used by the Board. The San Diego Water Board recognizes that the precision with which climate change is likely to affect beneficial uses will continue to be refined over the coming years. Our intent is to approach uncertainty with an adaptive approach rooted in the principles and core values of our Practical Vision. That will include using the best available science. For applications regarding professional judgment, our intent is to collaborate where practical with experts at the local, State, and/or federal levels to inform our decision-making. To a large extent, we expect State-sponsored efforts such as the California Climate Change Assessments and statewide agency guidance will form a solid foundation for establishing waste discharge requirements.

5) Subject: Consider Climate Change When Setting Remedial Cleanup Actions. Indeed, along with green technologies and recommendations from entities such as the Sustainable Remediation Forum, the San Diego Water Board recognizes the need to consider effects of how cleanup sites can be affected by climate change impacts on hydrology. As such, Paragraph No. 12 of the Resolve section was revised to include examples of potential hydrological issues to consider during review of remediation plans.

6) Subject: Collaborate with agencies and academia. The San Diego Water Board understands the importance of collaboration to develop monitoring methods and metrics for climate change. Currently the San Diego Water Board is engaged in such climate change related projects as a member agency of the Southern California Coastal Water Research Project. And, we look forward to complementing those efforts with local agencies, such as the Port District, and non-governmental organizations as opportunities arise.

San Diego County Water Authority
Proposed revisions to the tentative Resolution findings in the "Whereas" section.

1) Subject: Whereas No. 6. The first proposed edit was included, but the second was not because sewage or wastewater, rather than bacteria, is the primary threat to contact water recreation.

2) Subject: Whereas No. 8. The proposed edits were not included because the draft language was developed to be consistent with wording in the Practical Vision.

3) Subject: Whereas No. 9. An edit was made to specify collaboration with stakeholders as part of the leadership role recognized by the San Diego Water Board as important.

4) Subject: Whereas No. 10. The proposed edits were made to better highlight the potential benefits of wetlands and other aquatic resources.

5) Subject: Whereas No. 15. The proposed edits were made to (a) highlight the understanding of "consequences" of management options as an item challenging staff and stakeholders; and (b) to clarify the San Diego Water Board's interest in ensuring long-term water resource needs are not compromised by climate change adaptation strategies.

6) Subject: Resolve No. 6. A variation of the proposed edit was made to direct staff to incorporate public participation into the Implementation Plan where warranted.

7) Subject: Resolve No. 10. The proposed edit was not included because the intent of the list is to highlight scenarios where potential climate change adaptation measures present potentially stark contrasting outcomes to beneficial uses. As an alternative, the Resolution could have been revised to contrast the proposed edit with a less acceptable alternative to the threat of harmful algal blooms. Doing so, however, may have warranted further public comment. Staff intends, however, to review reservoir management issues, such as eutrophication and algal blooms, as part of the 2014 triennial Basin Plan review if resources allow over the next few months.

8) Subject: Resolve No. 14. The proposed edits were not included because, though accurate, they are less on-point than the existing language.

C. Comments Received

Comments received begin on the next page.

Port of San Diego Comments

DEPARTMENT OF TRANSPORTATION **Attachment B**
DIVISION OF ENVIRONMENTAL ANALYSIS
P.O. BOX 942873, MS-27
SACRAMENTO, CA 94273-0001
PHONE (916) 653-7136
FAX (916) 653-1128
TTY 711
www.dot.ca.gov

Serious drought.
Help save water!

February 23, 2017

Mr. Jeremy Hass
San Diego Regional Board
2375 Northside Drive, Suite 100
San Diego, California 92108-2700

Dear Mr. Haas:

Caltrans appreciates the opportunity to review and comment on the proposed San Diego RWQCB Draft Resolution No R9-2017-0035. While Caltrans supports the efforts to address the requirements of the state of California goals towards climate change, we have the following comments to offer.

- We are concerned about the addition of uncertainty to 401 Certification requirements, as well as associated delays in the permitting process. For example, compensatory wetland and stream channel mitigation can be designed to withstand certain climate change factors, but clear definitions would be needed regarding the meaning of most likely hydrological and temperature effects, and the manner in which to determine such effects.
- Please clarify permits conditions for critical transportation system infrastructure, regarding protection of public health, safety, and mobility of California. Caltrans requests a process for active engagement with the SD Regional board on agreements, and policies to partner on solutions in addressing the Governor's Executive Order B-30-15, while allowing flexibility in design safety and integrity of the State Highway System.
- While Caltrans supports the efforts to achieve a sustainable and resilient California, the Boards direction to "*Incentivize and prioritize coastal and inland shoreline protection techniques that protect and preserve, enhance, or restore beneficial uses*" must be balanced with the ability to preserve and protect the states infrastructure investments in a sustainable and resilient manner. Resolution should be stated in a way that affords Caltrans the ability to maintain a safe transportation system.
- Caltrans supports protecting coastal beneficial uses and mitigating impacts caused by infrastructure projects. We request the San Diego RWQCB board recognize that rock (armoring), raising roadway structural sections, increasing drainage capacity (larger storm capacity and flood control), using concrete, as well as the use of natural wetlands to protect our state from climate change hazards, should all be available tools to meet our mutual goals of protecting California.

If you have any questions regarding this letter please contact Shaila Chowdhury, Chief Environmental Engineer, Division of Environmental Analysis at (916) 653-4446.

Sincerely,

PHILIP J. STOLARSKI
Acting Chief
Division of Environmental Analysis

c: Jeremy Ketchum, Assistant Division Chief, Division of Environmental Analysis
Shaila Chowdhury, Chief Environmental Engineer, Division of Environmental Analysis
Bruce Swanger, Office Chief, Division of Design
Jennifer Gillies, Office Chief, Biological Studies, Division of Environmental Analysis
Jennifer Heichel, Office Chief, Environmental Analysis, Division of Environmental Analysis

Port of San Diego Comments
Attachment B

The City of SAN DIEGO
Economic Development
Sustainability

February 28, 2017

VIA EMAIL TO: sandiego@waterboards.ca.gov

Mr. David Gibson
San Diego Regional Water Quality Control Board
2375 Northside Drive
Suite 100
San Diego, CA 92108

Subject: Comments on Tentative Resolution No. R9-2017-0035, Addressing Threats to Beneficial Uses from Climate Change

Dear Mr. Gibson:

The City of San Diego (City) appreciates the San Diego Regional Water Quality Control Board's (San Diego Water Board) consideration of our comments regarding Tentative Resolution No. R9-2017-0035, Addressing Threats to Beneficial Uses from Climate Change (Tentative Resolution).

In December 2015, the City adopted the Climate Action Plan that is a national model, and is based on five bold strategies that align well with the Regional Board's goals as described in the Tentative Resolution. The City's strategies address: Energy and Water Efficiency; Clean and Renewable Energy; Bicycling, Walking, Transit and Land Use; Zero Waste; and, Climate Resiliency. A few of the City's implementation actions listed below to illustrate consistency with the Tentative Resolution are: the Pure Water program and Urban Water Management Plans to ensure adequate water resources for the future; CIP projects to maintain and replace deteriorating storm water infrastructure; Green Infrastructure projects such as low impact design to capture storm water and improve tree coverage; Conservation of open space and vernal pool habitats; and, Urban tree canopy assessment and planned projects.

Additionally, the City has adopted an Urban Water Management Plan (UWMP) that assures long-term water supply reliability within known supply risk factors. The City's Pure Water project is identified as a planned project in its 2015 UWMP and the project is currently advancing through design and permitting phases of implementation. The City is also partnering with the San Diego County Water Authority (SDCWA) and the U.S. Bureau of Reclamation on a basin study for the San Diego watershed that will help our region to better understand and prepare for impacts to water management associated with climate change.

The City is largely supportive of the San Diego Water Board's efforts to partner with water agencies to proactively prepare for climate change impacts, however, the City encourages the San Diego Water Board to provide more time for public comment and collaborative discussions prior to adoption of this Tentative Resolution. With significant potential impacts across multiple sectors and disciplines, as well as advanced regional efforts already underway to address climate change, additional input prior to adoption is necessary. In brief review, the City provides the following specific comments.

Port of San Diego Comments
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1. The Tentative Resolution states, "This resolution does not ... impose new requirements on the regulated community." The Tentative Resolution later states "Certain projects may need effective long-term strategies for monitoring, mitigating, and offsetting impacts related to discharges or potential discharges of waste and fill material affected by climate change," as well as, "[it is the intent of the San Diego Water Board to] propose permit language that includes monitoring, adaptive management, and funding/financing provisions, for reducing vulnerability of regulated facilities to sea level rise or flooding due to climate change." These provisions seemingly contradict the San Diego Water Board's aforementioned intent to avoid imposing new requirements on the regulated community.

2. The Tentative Resolution outlines the San Diego Water Board's intent to propose permit language that includes monitoring, adaptive management, and funding/financing provisions for reducing vulnerability of regulated facilities to climate change. It notes the need to ensure compensatory wetland and stream channel mitigation (such as that required by 401 permits) will withstand effects from climate change. However, the Tentative Resolution does not provide any details regarding potential permit language, what might be required, or the extent of requirements. The City strongly opposes adoption of a Tentative Resolution that fails to provide detail regarding proposed permit language or type and extent of analysis pertaining to required mitigation and leaves potentially broad and ambiguous discretion to staff. To help address these concerns, the City would be willing and interested in participating in coordination calls and meetings to discuss implementation details.

3. On February 9, 2017 the State Water Resources Control Board (State Board) released proposed Resolution No. 2017-XXXX, Comprehensive Response to Climate Change (State Board Resolution). The City encourages the San Diego Water Board to ensure that implementation of the Tentative Resolution does not result in conflicting or duplicative policies or permit requirements with respect to the State Board Resolution or other State guiding documents or strategies such as those in the California Air Resources Board draft Scoping Plan or the Safeguarding California strategy.

4. The definition of a "sustainable local water supply" (Whereas #8) assigns a preferred value for locally produced water supplies that *decreases reliance on imported water.* Inasmuch as the region has a great focus (and appropriately so) on developing cost-effective local supply options, it should be noted that imported water remains a key strategy for the region's future water supply reliability and drought resilience. Indeed, water imported from the Colorado River has one of the lowest greenhouse gas (GHG) emissions profiles.

5. The City strongly supports a focus on the reuse of water supplies as an effective conservation measure to improve regional drought resiliency and improve water quality in basins.

6. The Tentative Resolutions states that the San Diego Water Board and staff have begun to participate in regional and statewide climate change initiatives and to incorporate climate change considerations into decision-making for projects including but not limited to water recycling and conservation (Whereas #13). The City requests assurance that to the extent that comparisons of energy and GHG intensity among water supply sources are

calculated, that they will be based on the entire energy and GHG footprint, not just the portion of energy or carbon emissions pertaining to a particular water agency. Certain water supply sources, such as imported water, will have multiple agencies contributing towards the total energy and GHG profiles used in the delivery and treatment of water whereas other supply sources will have the entirety of the energy profile borne by one agency. For example, an acre-foot of water imported by San Diego via the State Water Project will have energy uses borne by the California Department of Water Resources, MWD, the Water Authority and San Diego. The aggregate of all these energy sources, and their related GHG emissions, would represent that water supply's energy and GHG footprints. It is important that any comparison of energy use or GHG emissions related to supply source options be completed for the entire water supply footprint.

7. The City requests that the Tentative Resolution acknowledge affordability. A long-standing concern for local governments is the regulator's process for evaluating how much communities can afford for CWA-mandated and other water infrastructure improvements. In assessing municipalities' capability to finance infrastructure upgrades, EPA relies significantly on guidance issued in 1997[1]. This guidance is intended to provide general boundaries to aid EPA, states, and cities in negotiating reasonable and effective schedules for implementing infrastructure upgrades. San Diego urges recognition of community affordability in the Proposed Resolution and asks that a basis upon which affordability can be determined and factored into integrated local planning and decision making processes be included.

8. Finally, the City strongly encourages the San Diego Water Board to collaborate with other agencies and organizations already working to address climate change in the region. The City is a leader in addressing climate change and is committed to action on this complex issue area. Additionally, the City is a member of the San Diego Regional Climate Collaborative (Collaborative) where other leading agencies and local governments share best practices, resources, and collaborate to address issues. The San Diego Water Board would benefit from working closely with the Collaborative to help integrate and align efforts and ensure our region continues to be seen as a national model for climate collaboration.

The City appreciates your consideration of the concerns above, including the primary request for additional discussion prior to adoption of the Tentative Resolution. If you have questions, please contact Ruth Kolb at (858) 541-4328 or at rkolb@sandiego.gov or Cathleen Pieroni at (858) 292-6424 or cpieroni@sandiego.gov.

Sincerely,

Cody Hooven
Chief Sustainability Officer

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[1] U.S. Environmental Protection Agency, Office of Water, Office of Wastewater Management, *Combined Sewer Overflows—Guidance for Financial Capability Assessment and Schedule Development*, EPA 832-B-97-004, February 1997, http://www.epa.gov/npdes/pubs/csofc.pdf.

Mr. David Gibson
February 28, 2017

Port of San Diego Comments
Attachment B

DK\CP\rk

cc: Paz Gomez, Deputy Chief Operating Officer, Infrastructure/Public Works
David Graham, Deputy Chief Operating Officer, Neighborhood Services
Alejandra Gavaldon, Director of Federal Government Affairs & Water Policy, Office of the Mayor
Jack Straw, Director of Land Use and Environmental Policy, Office of the Mayor
Erik Caldwell, Director, Economic Development
Kris McFadden, Director, Transportation & Storm Water Department
Halla Razak, Director, Public Utilities Department
Gene Matter, Assistant Deputy Director, Transportation & Storm Water Department
Davin Widgerow, Deputy City Attorney, City Attorney's Office
Ruth Kolb, Program Manager, Transportation & Storm Water Department
Cathleen Pieroni, External Water Policy Program Manager, Public Utilities Department
Christine Rothman, Development Project Manager III, Transportation & Storm Water Department

Port of San Diego Comments
Attachment B

CLIMATE ACTION CAMPAIGN

California Regional Water Quality Control Board, San Diego Region
Attention: Executive Officer David W. Gibson
2375 Northside Drive, Suite 100
San Diego, California 92108
Via email: sandiego@waterboards.ca.gov

February 23, 2017

RE: Tentative Resolution No. R9-2017-0035; Addressing Threats to Beneficial Uses from Climate Change

Dear Executive Officer Gibson,

Climate Action Campaign (CAC) is a San Diego-based nonprofit organization with a simple mission: to stop climate change. We advocate for policy and program climate solutions at the local level in order to reduce greenhouse gas (GHG) emissions, increase climate resiliency and protect future generations. We are pleased to support the Regional Water Quality Control Board's Tentative Resolution No. R9-2017-0035; Addressing Threats to Beneficial Uses from Climate Change.

As you know, water is a limited resource and we face increasing threats to our water quality and water supply as temperatures continue to rise in California and beyond. We encourage the Regional Board to continue to use sound, data-driven science in order to make planning decisions, including development of water conservation measures such as bioswales and other natural solutions to absorb our polluted runoff and keep water in the ground for positive reuse. We also recognize that it is important to protect beneficial uses of water such as recreational or ecological use so that we have a thriving biodiversity in our ecosystem, and that everyone can enjoy swimmable and fishable water systems.

We support each recommendation listed on the resolution. From our perspective, **recommendations 5, 6, 12, and 16** should be prioritized.

We applaud the Regional Board for proposing to respond and adapt to climate change and to reduce the risk associated with the unpredictable and existential nature of these threats.

Thank you again for your commitment to protect our water quality and water supply for now and future generations.

Sincerely,

Carolina Rodriguez-Adjunta
Deputy Director of Operations and Programs
Climate Action Campaign

Unified Port of San Diego

3165 Pacific Highway, San Diego CA 92101
P.O. Box 120488, San Diego CA 92112-0488
619.686.6200 · www.portofsandiego.org

VIA EMAIL

February 23, 2017

California Water Quality Control Board – San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108-2700
Attention: Jeremy Haas
Email: sandiego@waterboards.ca.gov

Subject: Comment – Tentative Resolution No. R9-2017-0035

Dear Mr. Haas:

The San Diego Unified Port District (District) appreciates the opportunity to provide comments in response to Tentative Resolution No. R9-2017-0035 Addressing Threats to Beneficial Uses from Climate Change (Tentative Resolution). As the public trustee of the tidelands of San Diego Bay (Bay), the District shares a common interest with the San Diego Regional Water Quality Control Board (Regional Board) in ensuring the protection of the Bay's beneficial uses. The District respectfully submits the following comments on the Tentative Resolution.

1. **Support for the Regional Board's efforts to address threats to beneficial uses from climate change.**

   With the adoption of the District's Climate Action Plan in 2013, the District became one of the first ports in the United States to establish goals and measures to reduce greenhouse gas emissions and ensure a sustainable long-term vision for the Bay and surrounding tidelands. The first step to address climate change is to mitigate greenhouse gas (GHG) emissions from activities, which in turn provides co-benefits such as air quality improvements, resource conservation, water quality improvement, and natural habitat protection. The District's Climate Action Plan contains 75 measures to reduce emissions and promote co-benefits including conservation of open spaces and the restoration of aquatic resources, which are in accordance with the Tentative Resolution. As such, the District supports the Regional Board's efforts to preserve the beneficial uses of the Bay from the impacts of climate change and remains committed to working collaboratively with the Regional Board to fulfill our agencies' shared goals.

Port of San Diego Comments
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2. **Ensure consistency with California initiatives regarding climate change.**

   California has been progressively researching and providing guidance to local governments regarding climate change and its impacts. A number of state agencies have released planning documents and guidelines to address specific components of climate change such as the Coastal Commission's Sea Level Rise Policy Guidance, which provides strategies assessing and adapting to sea level rise when updating Local Coastal Programs and issuing Coastal Development Permits. In addition, California is conducting the Fourth Climate Change Assessment which will update past scientific assessments of climate change and may refine previous results. Meanwhile, the California Office of Planning and Research is amending the General Plan Guidelines to include climate change in planning process. With so many statewide programs to address climate change and the possibility of conflicting guidance, the District believes that, where applicable, the Regional Board's Tentative Resolution should ensure consistency with other California climate-related initiatives.

3. **Consider flexible approaches for shoreline infrastructure to protect beneficial uses in bays and harbors.**

   The Tentative Resolution indicates that the Regional Board may prioritize natural infrastructure solutions over hardscape infrastructure. While natural infrastructure is an important adaptation strategy along natural habitat areas such as wetlands or along parks and other open spaces in bays and harbors, they may not be appropriate in other areas. Much of San Diego Bay is already armored with bulkheads and revetment to protect urban areas from erosion or coastal flooding, which may undermine infrastructure and pose a risk to public safety. Current hardscaped shorelines are appropriate to maintain the presence of coastal uses and provide public access to the waterfront. Moreover, an important beneficial use designation for San Diego Bay includes Navigation to accommodate commercial as well as military shipping. Shoreline infrastructure to support the berthing of vessels must be designed to protect commerce and promote maritime navigation in the San Diego Region. Therefore, the District requests that the Tentative Resolution acknowledge that strategies may vary depending on the beneficial uses which need to be protected.

4. **Provide clarification on the temporal scale and the scientific foundation for which Regional Board will consider climate change impacts to beneficial uses in planning, permitting, site remediation, monitoring, and enforcement.**

While some impacts of climate change have begun to occur, there is still great uncertainty in the science as to the frequency and magnitude of specific climate-related events. For example, the National Research Council of the National Academy of Sciences conducted an analysis of current and future sea level rise along the west coast of the United States in 2012[1]. The study includes a range of sea level rise projections for different time periods through 2100. The NRC's report acknowledges great uncertainty in the long-term due to the ambiguity of land and sea based ice-sheet melting, which may increase sea level rise. As a result, when considering climate change and its effects on beneficial uses in planning, permitting, site remediation, monitoring, and enforcement, it is important for the Regional Board to clearly identify the best available science and long-term expectancy of actions. For instance, if mitigation to plant eelgrass is a requirement of a project, the location and specifications for restoration should be aligned with best available science to ensure the longevity of the mitigation measure.

5. **Consider climate change when setting remedial cleanup actions.**

   The District supports the concept of using green cleanup methods and technologies during remedial cleanup actions. Several areas within San Diego Bay are being investigated with potential clean up actions likely forthcoming. Effects from climate change have the potential to impact several uses of the bay especially sensitive shallow water habitats, shorelines, navigation corridors and berthing areas due to sediment transport and erosion. Developing appropriate cleanup strategies that are resilient to climate change effects is paramount for the long-term success of such remedies. As such, the District encourages the Regional Board to consider likely impacts of increased storm surge, increased upstream runoff, and storm intensity when evaluating capping, sediment cover, or natural attenuation as remedial actions.

6. **Collaborate with state and local agencies and academia to develop monitoring methods and metrics for climate change.**

   As climate change is an evolving science, there is little guidance on monitoring techniques or metrics to evaluate the impact to beneficial uses. The District encourages the Regional Board to collaborate with state and local agencies as well as academia to determine efficient methods to assess climate change and develop metrics to measure changes. Standardized methods will be important

[1] National Research Council. 2012. Sea Level Rise for the Coasts of California, Oregon, and Washington: Past Present, and Future.

Port of San Diego Comments
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for comparison across California. The District is eager to work with the Regional Board to develop and evaluate these methods.

The above comments offered by the District are suggestions to assist the Regional Board in effectively implementing the Tentative Resolution. The District is committed to continued collaboration with the Reginal Board to address impacts to beneficial uses from climate change.

If you have any questions or would like additional information related to the comments submitted herein, please contact Philip Gibbons at (619) 725-6037 or via email at pgibbons@portofsandiego.org.

Sincerely,

Karen Holman
Principal,
Planning & Green Port

cc: Jason Giffen, Assistant Vice President, Planning & Green Port
John Carter, Deputy General Counsel IV, Office of the General Counsel

Port of San Diego Comments
Attachment B

San Diego County Water Authority
4677 Overland Avenue • San Diego, California 92123-1233
(858) 522-6600 FAX (858) 522-6568 www.sdcwa.org

February 23, 2017

David Gibson, Executive Officer
San Diego Regional Water Quality Control Board
2375 Northside Drive, Suite 100
San Diego, CA 92108-2700

Subject: Comment - Tentative Resolution No. R9-2017-0035

Dear Mr. Gibson,

The San Diego County Water Authority appreciates the opportunity to comment on the San Diego Regional Water Quality Control Board's (San Diego Water Board) Tentative Resolution No. R9-2017-0035 on climate change, which will be considered for adoption at your April 12, 2017 Board Meeting. We recognize the challenges and potential impacts that climate change may have on water resources, and support the San Diego Water Board's efforts to address potential threats to the region's beneficial uses.

The Water Authority is the wholesale water agency in San Diego County with 24 retail member agencies, serving a population of 3.3 million residents and supporting the region's $222 billion economy. Our mission is to provide a safe and reliable water supply to our member agencies, and planning for the potential impacts of climate change is integral to meeting this mission. We support development of a proactive approach by the San Diego Water Board that recognizes the importance of climate change adaptation in water resource management strategies, and includes collaboration between the San Diego Water Board and the region's water suppliers.

In collaboration with our member agencies, the Water Authority has been implementing a long-term strategy to diversify the region's supply sources since the early 1990s. This strategy includes water use efficiency and the development of local supplies such as recycled water, brackish groundwater recovery, seawater desalination and potable reuse, that are highly reliable and minimize vulnerabilities to changing weather conditions. The next increment of supply is expected to be potable reuse and will further reduce dependence on imported sources, protect against droughts, and enhance climate change preparedness.

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As part of our long term planning efforts, the Water Authority evaluates and plans for the influence of climate change on the region's projected water resources mix, including through the 2015 Urban Water Management Plan. In 2014, the Water Authority became one of the first water agencies in California to voluntarily adopt a Climate Action Plan to address carbon footprint and Greenhouse Gas (GHG) emissions, with a goal of minimizing Water Authority GHG emissions through reduction measures focused on energy efficiency and opportunities to develop renewable energy. We are also an active member of the Water Utility Climate Alliance, which consists of 10 of the largest water providers in the nation, collaborating on climate change adaptation and GHG mitigation.

The Water Authority has partnered on several research projects to better understand the uncertainties and impacts associated with climate change on water demand and local water resources in the San Diego region. Currently we are partnering with the City of San Diego and the U.S. Bureau of Reclamation on the San Diego Basin Study to examine uncertainties associated with climate change impacts on the San Diego region's local and imported water supplies and are planning to work together with the San Diego Water Board to help ensure the success of this study.

Given that water supply reliability is our mission and highest priority, the development of local reliable supplies becomes even more important as an adaptation to climate change. Although some new local supplies such as desalination can require greater energy inputs, these same local supplies also provide the highest water supply reliability. Ensuring reliability now and into the future means investing in new sources of water and projects that reduce the region's vulnerability to drought and shortages from any one source.

The San Diego Water Board's Tentative Resolution highlights the State's efforts to prepare for and adapt to a changing climate through its *Safeguarding California* plan. We support strategies identified in *Safeguarding California* to ensure a reliable water supply through increased regional self-reliance, local water supply diversification, and water use efficiency, all of which are important components of the Water Authority's diversification strategy. *Safeguarding California* emphasizes that these strategies must be implemented by local and regional water management agencies, such as the Water Authority and our member agencies. Efforts by the San Diego Water Board to protect and enhance the region's water resources must include a collaborative approach with the region's public water suppliers to support our efforts to maintain safe and reliable water supplies including adapting to climate change.

We respectfully submit as an attachment our proposed changes to the Tentative Resolution for your consideration. Thank you for the opportunity to provide comments. Please contact Goldy Herbon if you have any questions at (858)522-6767 or by email at GHerbon@sdcwa.org.

Port of San Diego Comments
Attachment B

Sincerely,

Toby Roy, Water Resources Manager
Sent via Electronic Mail to: sandiego@waterboards.ca.gov
Attachment: Proposed Changes to Tentative Resolution No. R9-2017-0035

Port of San Diego Comments
Attachment B

Attachment
Proposed Changes to Tentative Resolution No. R9-2017-0035

WHEREAS:

6. Climate change increases the risk of public health threats that affect beneficial uses of waters, such as those from harmful algal blooms in drinking water reservoirs and swimming areas, pathogens in fish or shellfish, and ~~sewage~~ bacterial contamination of swimming areas.

8. The production, storage, transport and delivery of water for agricultural, residential, and commercial needs have ~~significant~~ energy and greenhouse gas implications. ~~A sustainable l~~Local water supplies ~~supply is one that~~ decreases reliance on imported water, provide drought resiliency, and can ~~efficiently uses~~ support energy efficiency to produce and transport water suitable for municipal, agricultural, industrial and other human uses ~~while also optimizing the reuse of water~~.

9. Mitigating climate change effects relies on actions at the local level, and there are many current efforts in the San Diego Region to reduce greenhouse emissions, assess climate change risks, and plan for adaptation actions. The San Diego Water Board should collaborate with public water suppliers to support efforts to ~~must play a strong role in~~ develop~~ing~~ long-term strategies for monitoring, mitigating, and offsetting the local water resource impacts of global climate change.

10. Wetlands provide resilience for both human and ecosystem beneficial uses of water threatened by climate change, ~~, and the r~~Restoration of aquatic resources, including wetlands~~,~~ can play crucial roles in reducing risks from climate change by improving water quality, protecting water resources, reducing GHG emissions, and enhancing habitat. In Resolution No. R9-2015-0041, the San Diego Water Board recognized threats of climate change to aquatic ecosystems and directed staff to promote and advance aquatic ecosystem restoration. Subsequent law (e.g., Assembly Bill 1482) requires state agencies to promote the use of natural systems and infrastructure, such as wetlands, in climate change adaptation plans.

15. Challenges affecting the San Diego Water Board's ability to implement key actions for addressing climate change threats to beneficial uses include:

a. Ensuring staff have a strong conceptual understanding of the key stressors induced by climate change and the impacts of these stressors.
b. Improving staff and stakeholder understanding of the scope, timing, cost, feasibility, ~~and~~ effectiveness and consequences of various management options to address climate change risks.
c. Accessing and assimilating relevant data for decision-making.

Port of San Diego Comments
Attachment B

d. Collaborating and communicating with external parties to influence their waste discharge plans.
e. Integrating climate change considerations into program work plans and statewide performance measures.
f. Ensuring short-term and long-term water resource and planning needs are met without sacrificing long-term beneficial uses.

THEREFORE, BE IT RESOLVED THAT it is the intent of the San Diego Water Board to:

6. Complete a Climate Change Readiness Implementation Plan in accordance with the 2017 Operational Plan presented to the Board in February 2017 (Tentative Resolution No. R9-2017-0029) that provides opportunities for public participation.

10. Advocate for solutions that protect beneficial uses from direct and indirect effects of climate change, including but not limited to prioritizing:
a. Natural infrastructure solutions, including emphasizing the restoration, enhancement, and creation of wetlands, both submerged and terrestrial, over hardscape infrastructure in climate adaptation plans.
b. Water capture, recharge, and reuse solutions over increased effluent discharges.
c. Relocation of vulnerable infrastructure over in-place adaptation measures that impair the resilience of water resources to support beneficial uses.
d. Management of nutrients in surface water runoff to avoid harmful algal blooms and eutrophication.

14. ~~Ensure~~ Align compensatory wetland and stream channel mitigation, such as required in Clean Water Act section 401 Water Quality Certifications, ~~will withstand~~ with the most likely hydrological and temperature effects from climate change.

Jeremy Haas
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Healthy Waters Branch
California Regional Water Quality Control Board, San Diego Region
sandiego@waterboards.ca.gov

April 10, 2018

Re: Comments - Tentative Resolution No. R9-2018-0051

The Surfrider Foundation's[1] San Diego County Chapter ("Surfrider San Diego") appreciates the opportunity to submit these comments on Tentative Resolution No. R9-2018-0051 *Addressing Threats to Beneficial Uses from Climate Change.* We believe the Tentative Resolution does an excellent job meeting the goals of: (1) informing the public of the San Diego Water Board's intentions; (2) providing guidance to staff; and (3) responding to climate change-related directives of the Governor and Legislature. Our specific comments are as follows:

1. Since promoting water conservation, capture and reuse is a major policy goal of Surfrider San Diego, we appreciate the comments on page 3, number 9 regarding a sustainable local water supply which optimizes the reuse of water.

2. Another major area of interest for Surfrider San Diego is to minimize coastal armoring (seawalls, riprap) and hydromodification of stream channels. Such actions may be proposed to address coastal erosion, streambank erosion and flooding which has been exacerbated by sea level rise and climate change. As noted in the Tentative Resolution (page 4, number 12a), these actions may "restrict recreational uses of beaches and bays and prevent inland migration of intertidal habitat and species" and "disrupt ecosystem uses of

[1] Surfrider Foundation ("Surfrider") is a non-profit environmental organization that engages a vast volunteer network of ocean users to protect the ocean, waves and beaches through conservation, activism, research, and education. Surfrider San Diego represents thousands of ocean recreation users from surfing to seabird watching and beach going, as well as the coastal communities and economies that rely on them throughout the region.

streams, wetlands and associated floodplains" (page 4, number 12b). We advocate for softer, natural solutions which include relocation of infrastructure away from the coast and out of floodplains and the utilization of dunes and wetlands.

3. Page 5, number 13f – we believe non-governmental organizations should be added to this list potential partners.

4. Table 1 – Under Safe to Swim, Key Areas for the Use, place a comma between "Ocean" and "Bays" to make clear that these are two distinct use areas.

5. Page 7, numbers 11a, b and c – As stated above in comment number 2, Surfrider San Diego strongly agrees with the Regional Water Board about the need to prioritize natural infrastructure solutions; water capture, recharge, and reuse solutions; and relocation of vulnerable infrastructure to protect beneficial uses from the effects of climate change.

6. Page 8, number 16 – Surfrider San Diego agrees that incentivizing and prioritizing "coastal and inland shoreline protection techniques that protect, preserve, enhance, or restore beneficial uses" is a key strategy for addressing threats to beneficial uses from climate change.

Respectfully Submitted,

_____

Rick Wilson
Acting Policy Manager, Surfrider San Diego

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April 12, 2018

Mr. David W. Gibson, Executive Officer, San Diego Region
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Email: sandiego@waterboards.ca.gov

Regarding: **Tentative Resolution No. R9-2018-0051**

Dear Mr. Gibson:

Thank you for the opportunity to comment on the public review draft of the **Tentative Resolution No. R9-2018-0051**. We understand that you are accepting comments through April 12, 2018. We anticipate transmitting our comments via email by that date, with a hard copy to follow by regular mail for your records. Please note that your draft document has not been reviewed nor comments prepared by the California Coastal Commission (CCC) itself, but rather by Commission staff.

First, we commend you and your staff for taking this important step toward protecting coastal water resources in light of climate change impacts. We recognize that the State Water Resources Control Board adopted its first climate change resolution, "Comprehensive Response to Climate Change" on March 7, 2017 (Resolution No. 2017-0012) in light of Governor's Executive Order B-30-15 (April 29, 2015) which specifically addresses California's climate adaptation framework, and directs state agencies to factor climate change into their planning and investment decisions, guided by four key principles:

1) actions should be prioritized that build climate preparedness;
2) where possible, flexible and adaptive approaches should be taken to prepare for uncertain climate impacts;
3) the state's most vulnerable populations should be prioritized;
4) natural infrastructure solutions should be prioritized.

Subparagraph 13 of the Tentative Resolution (redline version) appears to incorporate the EO-B-30-15 principles and other features of the EO, which also requires the California Natural Resources Agency to update the state's climate change adaptation strategy "Safeguarding California" every three years (the latest update, "Safeguarding 2018" is pending). The California Ocean Protection Council (OPC) is the lead for the Ocean and Coastal Resources and Ecosystems Sector and has recently adopted the latest findings on sea level rise of the OPC Science Advisory Team (OPC-SAT) working group, and these findings will offer "best available science" on sea level rise for "Safeguarding 2018". As you know, the OPC-SAT findings

adopted by the OPC in 2017 include emerging information about the increased sea level rise risk posed to California by the contributions of West Antarctica ice sheet losses. The OPC's latest sea level rise assessment metrics therefore include the "H++" extreme sea level rise planning scenario developed by OPC-SAT last year. H++ anticipates the potential for as much as ten feet of sea level rise by the end of this century. OPC-SAT research on the H++ scenario continues, and while the OPC has not yet assigned H++ a probability factor as it has for other increments of sea level rise potential, the magnitude and timing, and the non-linear changes in sea level suggested by the H++ scenario send a strong signal to state agencies and local governments with responsibility for coastal resource planning.

Although we do not yet know if ten feet of sea level rise (OPC's H++ scenario) will occur by 2100, research published by the U.S. Geological Survey (USGS) in 2017 shows that by 2100 between thirty to seventy percent of southern California beaches from Santa Barbara to San Diego may become completely eroded by 2100 based on only one to two meters (approximately three to six and a half feet) of sea level rise. The USGS study uses a recently developed computer model "CoSMoS-COAST" (Coastal Storm Modeling System – Coastal One-line Assimilated Simulation Tool) to predict the extent of beach loss that will occur from the impact of sea level rise meeting the armored footprint of existing beachfront development and/or sea cliffs.

The USGS research and the early warnings of potentially even more extreme levels of sea level rise during this century underscore the importance of seeking other methods of addressing attendant risks to infrastructure along the edge of the rising sea. Coastal rail corridors, roads, wastewater treatment plants, drinking water infrastructure, and coastal resources including beaches, ecosystems and water supplies face unprecedented threats. Commission staff urges San Diego RWQCB to include measures in **Tentative Resolution No. R9-2018-0051** that reduce the need for emergency-based armoring of existing development in favor of solutions that rely on climate change/sea level rise adaptation measures that ensure resilience of infrastructure and are protective of coastal resources and environmentally sustainable over the long-term. This means that the Resolution should clearly require appropriate, long-term advanced planning including relocation of development where feasible. Feasibility should take into consideration the economies of appropriate action, including the costs of mitigating the effects of armoring on beach profiles, the increasing maintenance costs and challenges of retaining threatened development in current shoreline locations, and the overall benefits of inland relocation as a long-term strategy and adaptation alternative offering maximum feasible protection of public beaches, wetlands, and other coastal ecosystems.

We note that continuing public access to California's public beaches is a matter of social and environmental justice. If California's heavily-visited southern California beaches are eventually lost due to rising seas meeting shoreline armoring at the water's edge, meaningful access to the California coast will be lost for most Californians. State residents and visitors of limited economic means would suffer the greatest loss of coastal access if public beaches are etched away by rising seas and coastal armoring fixing the otherwise naturally ambulatory line of the Public Trust boundary.

In light of these concerns, we suggest that the first bullet point under the third column of the table in Subparagraph 15 (redline version of the Tentative Resolution) be revised to delete the word "harmful" (as all shoreline armoring will ultimately cause harmful beach losses due to erosion that will occur when the hardened shoreline is met by rising seas). We also recommend that the alphabetized list under Subparagraph 13 (redline version of the Tentative Resolution) be revised as follows:

> b. Partner with California's most vulnerable populations to increase equity and resilience through investments, planning, research, and education.
>
> Recommended change:
> b. Partner with California's most vulnerable populations to increase equity and resilience through investments, planning, research, and education. **To enhance equity and resilience, avoid shoreline armoring as a response to sea level rise adaption to the maximum extent feasible and encourage soft solutions to shoreline erosion as an interim measure with planned inland relocation as the most preferable alternative to armoring vulnerable structures.**.
>
> e. Prioritize natural infrastructure solutions that build climate preparedness, reduce greenhouse gas emissions, and produce other multiple benefits.
>
> Recommended change:
> e. Prioritize **soft** natural infrastructure solutions that build **near- and intermediate-term** climate preparedness **while planning for and facilitating inland relocation of infrastructure necessary to address increased sea level rise over the longer term to increase resilience of infrastructure, protect beaches and coastal ecosystems**, reduce greenhouse gas emissions, and produce other multiple benefits.

Commission staff also recommends that **Tentative Resolution No. R9-2008-0051** incorporate an increased emphasis on the role of sea level rise in seawater intrusion. We know that inland groundwater extraction may exacerbate seawater intrusion into coastal aquifers and therefore recommend that the Tentative Resolution include measures to monitor, meter, and report on well development and other activities that affect groundwater dynamics at the saltwater/freshwater interface. We suggest that the table (Table 1) set forth under Subparagraph 15 include an additional bullet point in the third column related to "Safe to Drink" to monitor seawater intrusion into coastal groundwater supplies and limit development that would increase such intrusion into coastal aquifers.

We commend the San Diego RWQCB for acknowledging within the Tentative Resolution the relationship between imported water supplies and the significant amount of energy required to transfer water to the San Diego region. All measures to conserve the use of water and reduce overall regional water demand have a direct impact not only on the overall supply of water in the state and within the San Diego region, but also have the potential to directly reduce energy consumption and the associated greenhouse gas emissions driving climate change.

Finally, we note that the Coastal Commission is also working to address the implications of climate change, including adaptation to sea level rise. If helpful, the Tentative Resolution could incorporate references to the Coastal Commission's unanimously adopted 2015 sea level rise adaptation recommendations *CCC Sea Level Rise Policy Guidance* as well as links to other sea level rise planning resources including a variety of sea level rise modeling and mapping tools such as CoSMoS, TNC's Coastal Resilience tool, the Pacific Institute hazards viewer and maps, Cal-Adapt, and the NOAA SLR Viewer.

Coastal Commission staff welcomes any future opportunity to coordinate with the San Diego RWQCB staff toward integrated climate change adaptation solutions. We have staff resources in our Statewide Planning, Energy & Ocean Resources, Water Quality, and San Diego District Units with interest and expertise in collaborating with your staff. Please feel welcome to contact me directly for referral to Commission staff or informational resources. Thank you again for the opportunity to offer comments regarding Tentative Resolution No. R9-2018-0051.

Sincerely,

Madeline Cavalieri
Statewide Planning Manager