3-7-17Board Meeting-Item 7
Climate Change
Deadline: 3/3/17 12 noon

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March 3, 2017

Felicia Marcus, Chair
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814
Via email: commentletters@waterboards.ca.gov

Re: Comment Letter – Climate Change Resolution

Dear Chair Marcus and Members of the Board:

On behalf of the Natural Resources Defense Council (NRDC), which has 2.4 million members and activists, 380,000 of whom are Californians, we are writing to express our strong support for item 7 on the March 7, 2017 State Water Resources Control Board ("Board") meeting agenda, a proposed Resolution adopting a comprehensive response to climate change. We urge the Board to adopt the proposed policy with the amendments described below that will strengthen the Resolution.

Section I (B) Water Conservation and Efficiency and (D) Storm Water

California should require that water conservation and efficiency be maximized and that green infrastructure be deployed whenever possible for addressing storm water runoff for any projects the Board must ultimately approve, particularly for applicants to the Clean Water and Drinking Water State Revolving Funds (respectively the "CWSRF" and "DWSRF"). If the applicant does not believe these practices are the appropriate option for their project, they should explain why and their explanation should be subject to the Board's review.

Similar provisions were added to USEPA's CWSRF program as part of the Water Resources Reform and Development Act of 2014. Specifically the addition of Sec. 602(b)(13) under Title VI of the Federal Water Pollution Control Act which requires all CWSRF applicants to certify that they have:

> studied and evaluated the cost and effectiveness of the processes, materials, techniques, and technologies for carrying out the proposed project or activity for which assistance is sought under this title; [and] …selected, to the maximum extent practicable, a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation, taking into account the cost of constructing the project or activity; the cost of operating and maintaining the project or activity over the life of the project or activity; and the cost of replacing the project or activity.

U.S. EPA, 2015, p.6.

NRDC worked with Stratus Consulting to develop guidance that California could require applicants to use when preparing applications for financial assistance from the CWSRF and DWSRF.[1] This guidance lays out a process for evaluating the cost effectiveness of water efficiency and green infrastructure measures that could be incorporated into a proposed project, or could be pursued in lieu of more conventional grey infrastructure approaches.

Section II — Improve Ecosystem Resilience

Item 6

The Board should add California's State Hazard Mitigation Plan (SHMP) to the list of plans, permits, and policies that it shall develop in coordination with other agencies. California's SHMP was last updated in 2013[2] and will next be submitted to the Federal Emergency Management Agency (FEMA) for approval in 2018. The plan is an ideal place for the Board to engage and contribute to the assessments of the vulnerability of the state's water resources and water infrastructure to the impacts of climate change.

Under FEMA guidance for development of SHMPs, states are required to assess the future impacts of climate change and the effect that climate change may have on the frequency and magnitude of future natural disasters.[3] The Board should ensure that California's SHMP recognizes the actions that can be taken to reduce the vulnerability of the state's water resources and water infrastructure, such as through improved siting and design of new facilities, retrofitting older facilities to be able to withstand flooding, etc. Inclusion of these hazard mitigation actions in the SHMP is also necessary in order for the state to receive funding for these types of projects through FEMA's Hazard Mitigation Grants and Pre-Disaster Mitigation Grants Programs, which are often an overlooked source of funding for making water infrastructure more resilient to the effects of drought and flooding.

Between 1998 and 2014, California received $576,256,008 from FEMA through its Public Assistance Grants program for flood disaster clean up and rebuilding efforts.[4] These figures do not account for the extensive damage suffered by California from the recent and ongoing floods in 2017. Much of the $576 million in assistance that FEMA provided was for repairing and rebuilding public infrastructure. These figures indicate an existing vulnerability and the need to assess how future flooding and sea level rise could make the state's water infrastructure even more vulnerable in the future.

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[1] *Guidelines for Assessing the Cost and Effectiveness of Efficiency, Reuse, and Recapture Projects for the Clean Water State Revolving Loan Fund*, Prepared for NRDC by Stratus Consulting, December 2015. Available at https://www.nrdc.org/sites/default/files/wat_16012504a.pdf.

[2] Available at http://hazardmitigation.calema.ca.gov/plan/state_multi-hazard_mitigation_plan_shmp.

[3] FEMA, State Mitigation Plan Review Guide, March 2015. Available at https://www.fema.gov/media-library/assets/documents/101659.

[4] NRDC, *The Need for Federal Flood Protection Standards*. Available at https://www.nrdc.org/resources/need-flood-protection-standards.

We therefore also recommend that the Board conduct a vulnerability assessment of the state's water infrastructure to identify facilities that are currently located in floodplains, have been damaged by floods in the past, or are located in coastal areas that are susceptible to sea level rise and increasing risk of coastal flooding. We also recommend that the Board identify facilities that have experienced water shortages due to the recent drought and may be susceptible to water shortages in the future as climate change makes droughts more likely. All of this information should be shared with California Emergency Management and incorporated into California's 2018 SHMP.

NRDC recognizes the Board's desire to conduct an assessment of the state's water infrastructure (Section III, Item 11) and have further recommendations on how to improve on what has been proposed.

Item 9

The last several years of extreme weather – from severe drought and record-setting air temperatures to this year's extensive atmospheric rivers – have provided a glimpse of the impacts that climate change is likely to have on California's hydrology. These impacts have been especially severe on the San Francisco Bay-Delta estuary, the largest estuary on the west coast of the Americas and the hub of California's water system. During the drought, the Bay-Delta's water quality and ecosystem health suffered severe declines, while the State's water supply was significantly curtailed. This year, repeated flood threats demonstrate the importance of expanding floodplains and flood bypasses in and upstream of the Delta to reduce threats to our communities, recharge groundwater, and improve habitat for water-dependent species.

The State's water management system must reflect these changing realities and be adjusted to avoid or mitigate these impacts. California will simply be unable to achieve the co-equal goals for the Delta if the impacts of a changing climate are not incorporated into long-term water planning efforts.

Section III — Respond to Climate Change Impacts

NRDC suggests that the title of this section be changed from "Respond…," to, "Prepare for Climate Change Impacts." Responding is a reaction to something that's already happened, while the Board's resolution lays out a series of proactive steps that should be taken to prepare for the impacts of climate change.

Item 11

NRDC fully supports the intent of this section, but requests that the scope be expanded beyond drinking water systems. The Division of Water Quality and the Division of Drinking Water should both conduct the vulnerability assessments for all forms of water infrastructure: drinking water, storm water, and wastewater. Both divisions should also promote communities' use of

USEPA's Climate Resilience Evaluation and Awareness Tool, which is designed to serve the needs of drinking water, wastewater, and stormwater management.[5]

Implementing this recommendation also would support the Board's contributions to development of California's SHMP, as discussed above.

Item 16

Sea levels are rising at a far faster rate than was previously understood or thought possible just a few years ago. NRDC urges the Board to not rely solely on the sea level rise projections referenced in the draft resolution.

In January 2017, the National Oceanic and Atmospheric Administration released its newest projections for global mean sea level rise, which included for the first time regional assessments of how sea level rise will vary in different areas of the United States. These projections indicate that sea level rise is a problem that is much greater in magnitude than previously understood.

NOAA's upper limit for global sea level rise has increased from 2.0 m by the end of this century in their last assessment to 2.5 m (8.2 feet). On the West Coast, sea levels will be *an additiona*l 0.2-0.3m (0.7-1.0 feet) higher than global average sea level rise, owing to ocean currents, regional rates of subsidence and other factors that influence regional rates of sea level rise.[6]

Given the rapid development of sea level rise science, NRDC urges the board to not rely solely on the state's previous guidance, which may now need updating to reflect the current understanding of sea level rise.

Section V — Funding

NRDC is supportive of the Items 20-23, requiring that climate change impacts be factored into a range of funding decisions made by DFA and the Board.

Item 20

As part of DFA's administration of the CWSRF and DWSRF, we reiterate our suggestion that applicants for financial support conduct a cost-effectiveness assessment for integrating water efficiency and green infrastructure into the projects they submit to DFA for financial support. As

[5] See CREAT Version 3.0 Methodology Guide for Water Utilities. Available at https://www.epa.gov/crwu/climate-resilience-evaluation-and-awareness-tool-creat-version-30-methodology-guide-water.

[6] NOAA, Global and Regional Sea Level Rise Scenarios for the United States, p. 29, January 2017. Available at https://tidesandcurrents.noaa.gov/publications/techrpt83_Global_and_Regional_SLR_Scenarios_for_the_US_final.pdf.

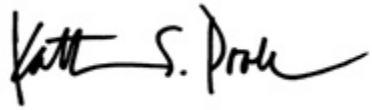
mentioned above, applicants could use guidance that NRDC developed with Stratus Consulting to conduct such as assessment.[7]

There are also many ways that California could support the development of more climate resilient water infrastructure systems. One of the most important actions is to explicitly require that all applicants to the CWSRF and DWSRF demonstrate compliance with the Federal Flood Risk Management Standard[8], set forth in Presidential Executive Order 13690[9], which superseded EO11988, currently referenced in California's SRF programs. The standard requires compliance for all projects that receive federal funding (the CWSRF and DWSRF are annually capitalized with new federal funding). The standard requires that an additional margin of safety be factored into the design and siting of public infrastructure and that climate impacts, like sea level rise, be considered when appropriate. Explicit recognition of EO13690 and compliance with FFRMS are essential components to add to the CWSRF and DWSRF.

Finally, California can learn much from other states' practices for incentivizing climate resilience action through the CWSRF and DWSRF. Many states give additional prioritization points, preferential interest rates, eligibility for additional loan subsidization or grants, and other actions designed to encourage municipal water infrastructure managers to make their systems more resilient to the impacts of climate change. NRDC compiled a number of best practices currently used by states around the country and urges California to review these and incorporate some of the best features into its Intended Use Plans for the CWSRF and DWSRF.[10]

Thank you for your leadership on this important issue.

Sincerely,



Katherine Poole
Director, Water and Wildlife Project

Rob Moore
Director, Water and Climate Project

[7] *Guidelines for Assessing the Cost and Effectiveness of Efficiency, Reuse, and Recapture Projects for the Clean Water State Revolving Loan Fund*, Prepared for NRDC by Stratus Consulting, December 2015. Available at https://www.nrdc.org/sites/default/files/wat_16012504a.pdf.

[8] Federal Flood Risk Management Standard, Available at https://www.fema.gov/federal-flood-risk-management-standard-ffrms.

[9] White House, Executive Order 13690. Available at https://obamawhitehouse.archives.gov/the-press-office/2015/01/30/executive-order-establishing-federal-flood-risk-management-standard-and-.

[10] NRDC, *Using State Revolving Funds to Build Climate-Resilient Communities*, June 2014. Available at https://www.nrdc.org/sites/default/files/state-revolving-funds-IP.pdf.