


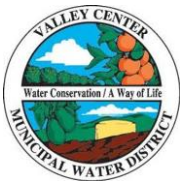

September 9, 2019

Nancy Vogel
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Delivered via e-mail to: input@waterresillience.ca.gov

Dear Ms. Vogel;

Governor Newsom's Executive Order (N-10-19) concerning the state's water resilience stated it very clearly – we have existing water resources problems that are going to get worse with climate change and increasing population. The focus needs to be on how we address these challenges and define priorities for action.

Our investments in water systems got us to where we are today, creating one of the most advanced and dynamic societies on the planet. These investments addressed the conditions of the 20th century. New investments need to be made in our water systems to address the conditions of the 21st century, and they need to take advantage of the technologies of the 21st century.

California's Fourth Climate Change Assessment projects the snowpack in the Sierra Nevada to decline by up to 70% in 2050, compared to historical levels. Overall precipitation is not projected to change dramatically, but precipitation events ("atmospheric rivers") are projected to increase in magnitude, leading to higher risk of catastrophic flooding. This will be exacerbated by the rise in sea level, which is projected to be up to 6.6 feet in 2100. California's water systems were not designed for these conditions, and federal, state and local agencies must act immediately to address these threats.

The fact sheet concerning the Resilience Portfolio describes the following scope (Section 3). Our comments address these topics.

"While specifics will be defined over the coming months, likely elements include making the most of every drop through recycling and conservation, expanding storm water capture and groundwater recharge to their full potential, modernizing water infrastructure - including in the Delta – to withstand climate pressures, and advancing multi-benefit projects such as floodplains that improve flood protection, enhance habitat and recharge groundwater basins."

Water Storage

The Sierra Nevada snowpack is estimated to store 17 to 18 million acre-feet, or almost the equivalent of the amount of storage in the reservoirs on the rivers along this mountain range. With storms producing more rain than snow, state and local agencies will need to operate reservoirs for flood control purposes more frequently, thus increasing the likelihood that reservoirs will store less water at the end of the rainy season. With a smaller snowpack, reservoirs will collect less water during the spring and summer runoff season. Similarly, with more prolonged dry periods, reduced snowpack and more precipitation coming as rain, the ability to capture surface water for groundwater basin replenishment and storage will also need to be enhanced.

To address these conditions, we recommend that the resilience portfolio include the following actions:

- Construct additional surface storage projects, such as Sites Reservoir, Temperance Flat Reservoir, and the expansion of Los Vaqueros and San Luis reservoirs
- Implement additional groundwater storage programs (water banking) wherever feasible
    - Install additional conveyance system capacity, groundwater replenishment facilities and groundwater recovery infrastructure that is needed
    - Update waste discharge regulations to facilitate groundwater storage and recovery
    - Implement land use regulations to protect recharge zones from development

Water Conveyance

Water conveyance infrastructure is an essential element of California's water management system, delivering high quality raw and treated water to users throughout the state. This infrastructure is threatened by various factors, such as rising sea levels, inundation from larger

floods, subsidence of the land underneath it, aging and deterioration of its components, and more. To address these issues, the portfolio should include the following actions:

- Construct new Delta conveyance facilities to improve the efficiency, quality and reliability of water deliveries through the Delta, reduce demands on upstream reservoirs, and improve environmental conditions in the Delta, while creating no redirected financial or water supply impacts on upstream water users
- Ensure Delta conveyance facility improvements result in a system that is fully protected from sea level rise and seismic threats
- Renovate the portions of the California Aqueduct and the Friant-Kern Canal that have experienced reduced capacity due to subsidence
- Construct new conveyance systems to expand the ability to capture flood flows and stormwater runoff and deliver these supplies to groundwater recharge systems and surface storage reservoirs

Flood Management and Wetlands Restoration

Rising sea levels and more intense storms will increase flooding in low-lying areas of the state. These areas include critical water infrastructure that will be at greater risk of inundation and failure, such as levees around islands in the Delta and along rivers and floodways and water and wastewater treatment facilities. To address this risk, the portfolio should include the following actions:

- Restore wetlands in the Delta, on upstream tributaries in the Sacramento and San Joaquin Valleys and on other waterbodies in the state, to improve aquatic habitat, replenish underlying groundwater basins and mitigate the impacts of rising sea levels
- Expand floodways and set back levees to increase flood management capacity and inundated floodplain habitat to benefit native aquatic species and increase replenishment of underlying groundwater basins
- Develop and implement improved weather forecasting and storm system modeling science to allow reservoir managers to minimize the amount of reservoir storage that is dedicated to safely managing flood flows while maximizing reservoir storage for water supply
- Relocate or provide protection to water and wastewater treatment and conveyance facilities that are at risk of inundation from rising sea levels and higher flood risk

Additional Sources of Supply

California's growing population and changing precipitation patterns will create increased demand for additional water supplies – particularly those supplies that are hydrologically independent. Reuse of water supplies already delivered to various parts of the state should be a top priority of government at all levels, and the portfolio should encompass all new sources of water supply, including water conservation, impaired groundwater cleanup and replenishment, ocean and brackish desalinated water, potable reuse and non-potable recycling. The portfolio should also include the recommendations outlined in the California WateReuse Action Plan that was recently released by WateReuse California. Specifically, the portfolio should address the following strategic priorities:

- Complete research and develop needed regulations to rapidly advance new forms of potable reuse
- Update and streamline existing recycled water regulations and permitting based upon water recycling's successful history of protecting public and environmental health
- Perform integrated regional planning to advance regional recycled water use opportunities
- Increase grant and loan opportunities to expand recycled water infrastructure
- Increase investment in desalination in California

Updated Regulations and Planning

Just as California's water infrastructure was designed for the hydrology of the 20th century, California's environmental regulatory infrastructure and hydrologic planning methodologies are also based on decades-old science and data. These also need to be updated to deal with new climate and hydrology realities. The portfolio should include the following actions:

- Adopt and implement Voluntary Agreements for habitat restoration, temperature improvements and flow augmentations in the Sacramento and San Joaquin River Watersheds
- Revise other water quality control plans, implementation plans and biological opinions, to accommodate changing patterns of precipitation, runoff and water temperatures
- Implement and evaluate the results of the new urban and agricultural water use efficiency requirements that were passed and signed into law in 2018, before pursuing additional legislative and regulatory mandates
- Provide to local water resources managers updated precipitation and runoff projections based upon the best available science for a 50-year planning horizon and at a scale that

will allow them, in conjunction with state and federal agencies, to prioritize necessary investments

Thank you for the opportunity to provide comments. We look forward to reviewing and commenting on the draft resilience portfolio.

Sincerely,

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