



## California's Water Resilience Portfolio

### Issue Summary

On April 29, 2019, Governor Gavin Newsom signed Executive Order N-10-19. The order directed three state agencies – the California Natural Resources Agency, the California Environmental Protection Agency, and the California Department of Food and Agriculture – to develop a comprehensive strategy to build a climate-resilient water system and ensure healthy waterways in light of climate change. The agencies are to develop a Water Resilience Portfolio that identifies the key priorities for the Administration's water portfolio moving forward.

As a state and federal leader in water resources public policy and governance, the Irvine Ranch Water District (IRWD) works to promote policy initiatives that allow IRWD, along with other water purveyors in California, to enhance the quality, reliability and resiliency of water supplies. IRWD also works to advance policies that would build resiliency into California's water systems and enhance the health of the state's waterways. As a means of providing input into the discussions surrounding the Water Resilience Portfolio, IRWD has compiled the following policy principles.

### Definition of Water Resilience

California has a climate that cycles between periods of large amounts of precipitation and times of drought. While the future impacts of climate change on California's weather cycles are not known with complete certainty, it appears that changes to weather cycles will result in more rainfall and less snow in the mountains, earlier snowmelt, more intense rain events, and increasingly frequent droughts.

Evidence suggests changes to California's weather cycles are already affecting water resources throughout the state, which in turn negatively impact ecosystems, economies, and communities. California can and should take action to build water resilience into its water resource management and planning that accounts for these changes.

A Water Resilience Portfolio must recognize the complex nature of California's water resource infrastructure and management which includes funding constraints and balancing the water needs of people, businesses, agriculture, and the environment. The portfolio must also recognize the diversity of communities across the state; the importance of flexible water resource management and diverse water supply development; and the need for actions that acknowledge, coordinate and work within the different roles, powers and limitations that exist among the various water resource managers.

The ultimate outcome of the portfolio should be a list of proposed actions that will ensure California manages water resources effectively and flexibly, thereby promoting healthy watersheds and water supplies for our communities and businesses in the 21<sup>st</sup> century.

#### ***A Definition of California Water Resilience***

*Water resilience for California means moving the state to better water resource management through cost-effective infrastructure investments, flexible systems operations, and changes in policy and regulations that result in water systems, communities, ecosystems, and economies adapting to and mitigating for the impacts of climate change to water supplies and watersheds.*

### Policy Principles

The California Water Resilience Portfolio should position California to obtain and consider the best science and data available to analyze, model, and then develop and implement the changes necessary to meet current and future water supply needs in an era of climate change. The following are issue areas and associated actions that should be included in the Water Resilience Portfolio to help ensure California builds water resilience due to climate change:

#### **1) Enhance Weather Forecasting and Optimize Storage through Integration:**

Improve California's ability to capitalize on and prepare for the impacts of climate change and greater variability in our weather.

### INITIAL ACTIONS NEEDED:

- Create and fund a California Atmospheric River Weather Center to improve weather modeling and forecasting to ensure California can predict with more lead time and accuracy the strength, frequency, duration and volumes of water anticipated from atmospheric rivers;
- Strengthen data collection of on-the-ground snowpack and runoff conditions in the Sierra Nevada and other snow-covered areas of the state to create more accurate runoff estimates and a more accurate water picture each year;
- Complete an analysis of how to optimize the state's existing conveyance and water storage facilities through enhanced surface and groundwater storage integration, and an analysis of what additional water storage and conveyance facilities and improvements are needed to ensure the state adapts to a climate with less snowpack and more extreme hydrologic volatility; and
- Change reservoir and conveyance operations while maintaining public safety, and amend regulatory rules to improve surface and groundwater storage integration, as indicated by the analysis, to optimize the capture and storage of wet-year water, which would otherwise be lost to the ocean, to maximize benefits to agricultural, urban communities, and the environment in drier times.



### **2) Focus on Climate Change-Driven Disaster and Its Environmental Impacts:**

Increased climate-driven wildfires and flooding are expected impacts of climate change in California. Mitigating and preparing for climate-driven wildfire and flooding can increase water resilience, enhance and protect watershed health, and prepare ecosystems and communities to better withstand climate change-driven disasters.

### INITIAL ACTIONS NEEDED:

- Provide state funding for a single, standardized fire camera system for each county, prioritizing high fire areas and the wildland-urban interface, to ensure fires are spotted and responded to more quickly, lessening the chance for wildfires, particularly wind-driven wildfires in Southern California, to become catastrophic wildfires;
- Improve forest health and resiliency to wildfires through active watershed and wide-scale fuels management that puts California on a path to obtaining and maintaining forest health statewide, as this will increase water supply, water quality, slow runoff, improve ecosystems, build forest resiliency to wildfires and reduce catastrophic wildfires; and
- Assess how California's flood plains can be restored, where it makes sense, and how floodwaters captured can be directed to surface storage and groundwater recharge.

### **3) Improve Water Transfers and Exchanges to Capture More Water in Wet Years:**

With climate change driving greater hydrologic volatility in California, it is essential that the state improve the ability of water rights holders, and state and federal project contractors, to transfer and exchange water for the benefit of urban communities, agriculture and the environment. Additionally, the state needs to modify its transfer and exchange approval process to ensure that more water that would otherwise be lost to the ocean (i.e., "new water") can be captured in the form of rain during wetter years, and moved to storage for use in dryer years.



### INITIAL ACTIONS NEEDED:

- Develop standardized Department of Water Resources-approved template agreements to expedite approval of short-term water transfers and exchanges to make short-term water transfers and exchanges easier to complete, thereby maximizing the beneficial use of water resources in the state;

- Prioritize and expedite agreements for transfers or exchanges that have a storage component to enable the state's storage network to capture more precipitation in the form of rainfall, or are designed to reduce losses to the ocean while providing drought protection, emergency supplies, and environment enhancements;
- Integrate the operations of surface and groundwater storage programs to provide opportunities for environmental enhancements while optimizing water supply benefits to agricultural and urban communities; and
- Encourage stakeholder discussion and state and federal action to expand water rights consolidated places of use. Optimizing the use of consolidated places of use should be done with stakeholder agreement to maximize water resource benefits to the environment and the state's agricultural and urban communities.



#### 4) **Evaluate and Build California's Water System Resilience:**

Actions should be undertaken to move all California water systems, with a combination of existing and future water supply projects and water efficiency measures, to be able to meet 80% of daily residential and business demands at build-out 95% of the time under the reasonably foreseeable climate change scenarios. System reliability targets should be set for water systems serving agricultural operations based on the composition of the agricultural operations they serve.

##### **INITIAL ACTIONS NEEDED:**

- Encourage regional evaluations and studies of water supply and system reliability under various climate change scenarios through regional collaborations between retail and wholesale water agencies utilizing existing planning documents such as Urban Water Management Plans, Agricultural Water Management Plans and Groundwater Sustainability Plans. Such collaborative studies should be conducted in a manner that is consistent with the roles, responsibilities and policies of participating agencies and should be used to inform supplier actions to improve resiliency;
- Implement "Making Water Conservation a California Way of Life" legislation to achieve reasonable *water use efficiency* statewide and in a manner that preserves *water conservation* as a tool water suppliers will use to respond to droughts;<sup>1</sup>
- Move forward with a long-term Delta solution that addresses enhanced conveyance and environmental protection in the Delta, supports a safe and secure water supply for the entire state, and mitigates climate impacts on the Delta's ecosystem. Within the next 10 years, construction on enhanced conveyance and environmental protection should be well underway; and
- Evaluate and reform regulatory frameworks and processes pertaining to water resources to avoid regulatory decisions being made in silos. Decision-making in a silo can exacerbate climate change impacts on urban and agricultural water systems and the environment without realizing needed improvements in water resiliency.



#### 5) **Incentivize the Investment in and Development of Emergency Water Supplies:**

With climate change likely bringing more frequent and intense droughts to California, the state needs to evaluate how it will ensure sufficient water supplies during times of shortage. Development of emergency water supplies will aid the state in mitigating the impacts of more frequent droughts. Unfortunately, few water suppliers have made these investments. The state needs to adjust policies and statutes to encourage the investment in emergency supply development and to provide assurances that water suppliers will have access emergency supplies they develop for this purpose. <sup>2</sup>

<sup>1</sup>Water use efficiency is the use of water more efficiently and reducing inefficiencies for a given set of beneficial uses, but not necessarily a reduction in the total volume used within a community. Water conservation is a temporary or permanent reduction in total amount of water used regardless of the use, typically in response to a shortage.

<sup>2</sup> An emergency water supply is a supply that has been developed by a water supplier to enhance its water supply reliability during times of shortage and is in addition to the water supplies that the supplier draws upon during non-shortage times to meet water demands within its service area (e.g., IRWD's Strand Ranch Water Banking Project.).

#### INITIAL ACTIONS NEEDED:

- Amend the Urban Water Management Planning Act to specifically recognize emergency water supplies as a category of supply a water supplier may discuss and assess in an Urban Water Management Plan, in addition to base load supplies and contingency supplies;
- As the Department of Water Resources develops the structure and reporting requirements for the Annual Water Supply and Demand Assessment, include emergency water supplies in the reporting structure, and in the calculation of water supply compared to water demand;
- Amend the Urban Water Management Planning Act to provide that an emergency water supply can be used in a Water Shortage Contingency Plan as part of the planned water supplier response to a water shortage; and
- Establish as state policy that state agencies shall allow a water supplier that develops and establishes an emergency supply to use that supply during a water shortage or drought consistent with its Water Shortage Contingency Plan.

#### **6) Expand Water Recycling, a Non-Hydrologically Dependent Supply:**

As a non-hydrologically-dependent water supply, expanding water recycling in the state would allow California to develop new water supplies without putting greater pressure on supplies stressed by climate change. The water community is prepared to expand reuse and use of water recycling as one means of adapting to and mitigating climate change, but regulatory certainty is needed from the state.

#### INITIAL ACTIONS NEEDED:

- Update the Title 22 Water Recycling Criteria (CCR, Title 22, Division 4, Chapter 3), which has not been updated in nearly 20 years, to remove outdated and overly prescriptive requirements for non-potable recycled water that are not needed to protect public health -or the environment;
- Fund and complete the research needed for the State Water Resources Control Board to develop regulations for raw water augmentation by 2023;
- Fund and complete the research needed for the State Water Resources Control Board to develop regulations for treated drinking water augmentation by 2025; and
- Modify existing regulatory structures to ensure that recycled water is regulated as a resource and not a waste, and take a “fit for purpose” regulatory approach for recycled water, appropriately balancing public health and safety with how the water is used.



## Conclusion

Achieving water resilience in California requires that state and local agencies work together to adapt to and mitigate for the impacts of climate change. The water infrastructure and operational changes that we already know need to be made to adapt to and mitigate for the impacts of climate change on our water resources should be included in the Portfolio. The initial actions recommended above are actions needed to build water resilience due to climate change. They will place California on the path to achieving water resilience, but other actions, not related to climate change, are also needed (e.g., addressing safe drinking water in disadvantaged communities, cleaning up groundwater contamination, and fully implementing the Sustainable Groundwater Management Act).

  
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