

February 7, 2020

Ms. Nancy Vogel
 Director of the Governor’s Water Portfolio Program
 California Natural Resources Agency
 1416 Ninth Street, Suite 1311
 Sacramento, CA 95814

Re: A multi-benefit approach to water resilience in California

Dear Ms. Vogel,

Thank you for your continued work on ensuring a resilient water future for all Californians. Building resilience in California will require investment in our natural and built water systems. Because water is deeply linked with our economic, environmental, and community well-being, these investments can affect all aspects of resilience, including energy use and greenhouse gas emissions, watershed health, and community livability.

California’s Water Resilience Portfolio can advance water resilience if it directs state agencies to systematically examine multiple benefits and trade-offs of investments and prioritize investments that maximize the benefits.

The draft California Water Resilience Portfolio specifically calls for multi-benefit projects and partnerships, yet it provides no definition of the term “multiple benefits.” Without a definition, it is challenging for state agencies and the public to compare and prioritize project options. **The term “multiple benefits” should be defined consistently throughout the portfolio** to reflect the full range of potential benefits and trade-offs of water management, including impacts to water quality, water supply, and flood control, as well as energy, environment, communities, and risk and resilience (Figure 1).



Figure 1. Five themes of multiple benefits and trade-offs for water management.

Through a collaborative research effort, the Pacific Institute developed a framework for systematically identifying and incorporating multiple benefits and trade-offs into water management decisions.¹ Based on this work, **we recommend that the California Water Resilience Portfolio:**

- 1) Define “multiple benefits” of water investments to include a broad and consistent list of benefits (such as the example list provided in Table 1 below).
- 2) Use that consistent list to prioritize project funding and maximize the benefits of investments in water.

Table 1. Example list of benefits that can be provided by water investments.

Themes	Benefits
Water Supply	<input type="checkbox"/> Increase water supply <input type="checkbox"/> Reduce water demand
Flooding	<input type="checkbox"/> Reduce large-scale flood risk <input type="checkbox"/> Reduce nuisance structure flooding
Water Quality	<input type="checkbox"/> Improve surface and coastal water quality <input type="checkbox"/> Improve groundwater quality <input type="checkbox"/> Improve drinking water quality
Energy	<input type="checkbox"/> Reduce energy embedded in water <input type="checkbox"/> Reduce energy for operations <input type="checkbox"/> Produce clean energy
Environment	<input type="checkbox"/> Reduce urban heat island <input type="checkbox"/> Restore or protect habitat <input type="checkbox"/> Reduce carbon footprint <input type="checkbox"/> Restore or protect in-stream flows <input type="checkbox"/> Improve air quality <input type="checkbox"/> Improve soil health
People and Community	<input type="checkbox"/> Create high quality jobs <input type="checkbox"/> Improve public health <input type="checkbox"/> Support local economy <input type="checkbox"/> Provide recreation <input type="checkbox"/> Improve household affordability
Risk and Resilience	<input type="checkbox"/> Increase resilience to natural hazards <input type="checkbox"/> Increase adaptability <input type="checkbox"/> Reduce stranded assets <input type="checkbox"/> Improve reputation <input type="checkbox"/> Provide regulatory compliance

In addition to providing a consistent way to prioritize strategies, a multi-benefit framework can assist water managers in **developing funding guidelines** that consider multiple benefits and trade-offs. Many of the benefits outlined above can be quantified or even monetized. Providing standardized metrics and methods in funding guidelines would allow water managers to better compare project options and support a more transparent decision-making process.

¹ For more information: Diringer, Sarah, Anne Thebo, Heather Cooley, Robert Wilkinson, Morgan Shimabuku, and McKenzie Bradford. 2019. Moving Toward a Multi-Benefit Approach to Water Management. Oakland, Calif.: Pacific Institute. <https://pacinst.org/wp-content/uploads/2019/04/moving-toward-multi-benefit-approach.pdf>.



Overall, a multi-benefit framework based on a consistent list of benefits can:

- **Provide an objective basis for comparison** of investment options for a policy or project;
- **Identify opportunities to share costs** among project beneficiaries or responsible agencies;
- **Minimize adverse and unintended consequences** to the environment and communities;
- **Optimize the investment** of time, money, and other resources; and,
- **Increase transparency** associated with water management decisions.

The draft portfolio calls for the development of an interagency team to develop multi-benefit funding programs by utilizing resources in existing programs (action 28.3). We recommend directing this group to define the term multiple benefits and develop methods for prioritizing projects based on these benefits. This information can also feed into efforts to simplify permitting, thereby helping to launch more multi-benefit projects and partnerships throughout the state.

While no single solution exists for California water challenges, it is important to emphasize that a “portfolio” approach does not imply that we must or can do “everything.” Resources are limited. We must invest in strategies that maximize benefits for the economy, environment, and our communities.

Sincerely,

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*** For identification only*