

Water Storage Investment Program Concept Paper Form

Please complete the questions below and return your completed concept paper by email to cwc@water.ca.gov by 5:00 p.m. on March 31, 2016. Completed concept papers should not exceed four pages.

Contact Information

Contact Name: Robert Swartz
Email: rswartz@rwah2o.org
Phone Number: 916.967.7692
Agency/Organization Name: Regional Water Authority
Agency Type (select one): <input type="checkbox"/> Public Agency <input type="checkbox"/> Nonprofit Organization <input type="checkbox"/> Public Utility <input type="checkbox"/> Tribe <input type="checkbox"/> Mutual Water Company <input checked="" type="checkbox"/> Local Joint Powers Authority <input type="checkbox"/> Other:

Project Information

Project Name: American River Basin Regional Conjunctive Use Project
Project Type: <input type="checkbox"/> CALFED Surface Storage <input type="checkbox"/> Groundwater Storage <input type="checkbox"/> Groundwater Contamination Prevention or Remediation <input checked="" type="checkbox"/> Conjunctive Use <input type="checkbox"/> Reservoir Reoperation <input type="checkbox"/> Local Surface Storage <input type="checkbox"/> Regional Surface Storage <input type="checkbox"/> Other:
Estimated Project Cost: \$1,400M
Estimated WSIP Funding Request: \$150M
Please describe your project, including location, water source, facilities, and operations: On behalf of the water purveyors in the Sacramento-Placer region of the American River Basin, the Regional Water Authority (RWA) proposes the American River Basin Regional Conjunctive Use Project (Project) to achieve the following objectives. <ul style="list-style-type: none"> • Maximize the regional conjunctive use practice in a sustainable manner to meet regional water supply reliability needs. • Implement coordinated operations to enhance Central Valley Project (CVP) operational flexibility to improve ecosystem and water quality benefits in the Lower American River and the Sacramento-San Joaquin Delta (Delta) as well as improve CVP water supply reliability. • Provide in-lieu water banking opportunities to improve statewide water management flexibility. Participating water purveyors, or Project Partners, include more than 20 members of the RWA. Some Project Partners currently rely solely on groundwater for their water supplies, some rely solely on surface water, and some use both conjunctively or in different parts of their service areas.

The sources of water for the Project include the following.

- Groundwater resources that many of the Project Partners currently use in a stable groundwater basin that is actively managed under effective groundwater management institutions.
- Existing and planned diversions using Project Partners' existing surface water rights and contract entitlements.

The Project allows Project Partners to leverage all these sources of water to improve long-term water supply reliability as a major climate change adaptation strategy for this region. The concept of the Project was initially identified in a Regional Water Master Plan by the American River Basin Cooperative Agencies in 2003, and has been implemented on a limited scale through various water supply infrastructure projects. The Project will leverage these existing facilities and investments with the following new facilities and elements.

- Interties, pipeline segments and booster pumps to connect the systems of neighboring agencies.
- Rehabilitation of some existing groundwater wells and construction of new groundwater wells.
- A new regional diversion of 200 million gallons per day (mgd) (i.e., 370 cubic feet per second (cfs)) on the Sacramento River near the Sacramento International Airport to allow relocating planned future diversions from the American River to the Sacramento River.
- A regional treatment facility of 200 mgd for treating raw water from the Sacramento River and main transmission lines to connect to existing distribution systems.

Project operations will be flexible and scalable because the combination of the new facilities from the Sacramento River and existing ones from the American River will provide a unique opportunity to coordinate CVP operations, in particular, the operation of Folsom Reservoir. More importantly, operations may be adjusted with short notice or in emergency conditions resulting in significant operational flexibility from the Project. In addition to water rights, many of the Project Partners are CVP contractors receiving deliveries from Folsom Reservoir. The groundwater basins under the Sacramento-Placer region have in excess of two million acre-feet (AF) of total available storage (with more than 100 thousand AF per year of exercised storage for municipal and industrial uses) that can be integrated into the operation of Folsom Reservoir.

- The foundational operations of the Project will provide needed water supply reliability for this region to fully integrate the use of water rights and contract entitlements with groundwater resources, with additional capacities to divert flood flows for in-lieu recharge and provide additional relief from flooding threats to downstream areas including the Delta.
- When the ecosystems or water quality conditions in the Lower American River or the Delta are stressed, the Project Partners can shift their surface diversions (including their CVP deliveries) between the two rivers and/or strategically switch to groundwater use temporarily to change the timing of surface water availability in Folsom Reservoir for the operational needs of the U.S. Department of the Interior, Bureau of Reclamation's (Reclamation).
- With additional partners in the CVP-State Water Project (SWP) systems, the Project Partners can use the Project to bank water in the basins and provide additional system operational flexibility to allow environmental, water quality, and water supply benefits, especially when the CVP and/or SWP have difficulties meeting in-basin flow, water quality, and environmental needs.

Per Water Code section 79753, the Commission may only fund the public benefits of water storage projects. Further, ecosystem improvements must make up 50% of the funded public benefits (Water Code section 79756(b)). What public benefits does your project provide? (select all that apply):

- Ecosystem Improvements Water Quality Improvements Flood Control
 Emergency Response Recreation

Please describe the magnitude of the public benefits and how the project will be operated to provide the public benefits:

The Project will provide ecosystem improvements, water quality improvements, and emergency response through the operation of Folsom Reservoir, as part of the CVP, owned and operated by Reclamation. Leveraging the configuration of the Project facilities and partner agencies' water rights and CVP contract entitlements, the Project may provide temporal and geographical adjustments for surface water availability by leaving water in Folsom Reservoir for Reclamation's operation to meet those public benefit needs in the Lower American River and in the Delta. Folsom Reservoir has been used to effectively manage for Delta water quality requirements due to the superior quality of the American River water and its close proximity to the Delta. The Project could provide an estimated 70 to 100 thousand AF of capacity for such an adjustment (i.e., operational flexibility).

During emergencies, the Project will provide the ability for this region to rely on groundwater storage for most of its needs, reducing its diversions out of Folsom Reservoir. This would free up Reclamation's delivery obligation from Folsom Reservoir and provide additional emergency water supplies to other parts of the system or contribute to endangered species protection. This operation could provide up to 200 thousand AF of emergency response capacity in driest years.

The Project can also provide flood control benefits because during flooding conditions or when excess water is available in the system, the Project may facilitate immediate in-lieu recharge by switching groundwater users to surface water, alleviating downstream flood conditions. The increased ability to move surface water into areas currently using groundwater also creates opportunities to better preserve flood storage space in Folsom Reservoir.

Water Code section 79752 requires that funded projects provide measurable improvements to the Delta ecosystem or to the tributaries of the Delta. Please describe how your project provides ecosystem improvements in the Delta or tributaries to the Delta:

The Project will provide ecosystem improvements, water quality improvements, and emergency response through the operation of Folsom Reservoir, as part of the CVP, owned and operated by Reclamation. Leveraging the configuration of Project facilities and the Project Partners' water rights and CVP contract entitlements, the Project can provide temporal and geographical adjustments for surface water availability by leaving water in Folsom Reservoir for Reclamation's operation to meet those public benefit needs in the Lower American River and in the Delta. Folsom Reservoir has been consistently used to effectively manage for Delta water quality requirements due to the superior quality of the American River water and its close proximity to the Delta. The Project could provide an estimated 70 to 100 thousand AF of capacity for such an adjustment (i.e., operational flexibility).

Water Code sections 79755 and 79757 require the Commission to make a finding that a project will advance the long-term objectives of restoring ecological health and improving water management for beneficial uses in the Delta prior to allocating funding for a project. Please describe how your project could help advance the long-term objectives of restoring ecological health and improving water management for beneficial uses in the Delta:

The Project will provide a unique opportunity to integrate its operation with the operation of Folsom Reservoir, if not the entire CVP-SWP system, providing critical operational flexibility when most needed. The Project will provide additional tools and capacities for Reclamation and the California Department of Water Resources (DWR), as well as resource regulatory agencies, to improve the ecological health and water management in the Delta, as well as water supply benefits. Folsom Reservoir provides a critical function for managing temperature on the Lower American River and Delta water quality for the enhancement and protection of Delta fisheries and ecosystem. The Project will further expand the ability of Folsom Reservoir to perform these functions by fully integrating groundwater storage with surface water storage operations. These project benefits would be realized immediately and would be available long-term to support adaptive management of the Delta ecosystem.

Please describe any other benefits provided by your project, such as water supply reliability benefits, and the potential beneficiaries:

The Project will provide a unique opportunity to integrate its operation with the operation of Folsom Reservoir, if not the entire CVP-SWP system, providing significant operational flexibility when needed. The Project will: (1) improve water supply reliability to the region, (2) contribute to improved groundwater sustainability by allowing maximum use of surface water for recharge during wet years or during flood conditions, and (3) create a regional groundwater bank that contributes to both local and statewide water supply reliability.