California WATER COMMISSION

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: Dave Eggerton	
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Phone Number: (209) 754-3543	
Agency/Organization Name: Calaveras County Water District	
Agency Type (select one):	☐ Public Agency ☐ Nonprofit Organization ☒ Public Utility ☐ Tribe ☐ Mutual Water Company ☐ Local Joint Powers Authority ☐ Other:

Project Information

Project Name: Wilson Lake Rehabilitation and Meadow Restoration Plan	
Project Type:	☐ CALFED Surface Storage ☐ Groundwater Storage ☐ Groundwater Contamination Prevention or Remediation ☒ Conjunctive Use ☐ Reservoir Reoperation ☒ Local Surface Storage ☒ Regional Surface Storage ☐Other:
Estimated Project Cost: $300,000	
Estimated WSIP Funding Request: $150,000	

Please describe your project, including location, water source, facilities, and operations:

Wilson Lake, located on the Bear Creek drainage, tributary to the Mokelumne River, is one of two raw water storage reservoirs owned by Calaveras County Water District (CCWD) to serve the customers of West Point, Wilseyville and Bummerville (**Latitude:** 38.432380, **Longitude:** -120.465213). The lake was created by an earthen embankment (Wilson Dam) constructed by a timber mining company in the 1940s and is approximately 25 feet high and 150 feet long. Water from Bear Creek flows into Wilson Lake and continues downstream to the Bear Creek Diversion structure which services CCWD's customers in Bummerville, West Point, and Wilseyville.

Although Wilson Dam was designed to impound up to 25 acre feet of water, the estimated amount of useable storage in Wilson Lake is significantly diminished due to the fact that the dam leaks and has no functional outlet controls. The lakeside (upstream) face of the dam has a large sinkhole that has slumped into the lake and is in need of repair. CCWD has developed some limited concepts and plans to restore the functionality of the dam, but has not pursued an actual project due to funding limitations.

CCWD, as owner and operator of Wilson Dam near West Point, Calaveras County, intends to complete a comprehensive study, permitting and planning effort for the potential restoration of the dam, reservoir and mountain meadow habitat upstream. CCWD would take the lead in completing the objectives of the proposed planning grant in partnership with Sierra Pacific Industries (SPI), the landowners of the area

upstream of Wilson Lake that has been identified as restorable mountain meadow habitat.

Based on the background of the issues stated above, the objectives of the proposal for a project are as follows:

- Develop a preferred concept and plan to: 1) determine the best available approach to addressing the functionality issues at Wilson Dam and Lake 2) determine the potential for upstream restoration of mountain meadow habitat adjacent to Wilson Lake.
- Establish necessary background technical information to execute a future project through the completion of feasibility, environmental, cultural, and biological analyses.
- Establish a preliminary design and final project report based on the preferred alternative to rehabilitate Wilson Lake and restore the upland meadow habitat.
- Develop all necessary environmental documentation and obtain permit approvals for the preferred alternative project.
- Prepare a complete planning and environmental package in order to be competitive for future grants to implement and construct a future project.

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:

Emergency Response - Bear Creek is the primary source for CCWD's West Point, Wilseyville, and Bummerville service areas, all severely disadvantaged communities, with a total of about 575 customers. The potential implementation of a selected restoration project alternative upstream of Wilson Lake developed by this planning effort has the ability to provide multiple benefits to the customers of CCWD. Mainly, a project alternative could restore reservoir storage and seasonal reliability upstream of the intake for the above mentioned service areas. Typically, extended periods of drought or lingering dry conditions do not allow CCWD to utilize the Bear Creek point of diversion downstream of Wilson Lake year-round. CCWD typically purchases supplemental water from Calaveras Public Utilities District from a different Mokelumne tributary source due to unavailability of water from this source. The project could restore flow regulation at Wilson Dam to extend releases throughout the dry season.

The project would also provide critically important water supplies for firefighters combatting wildland fire across the county. Given the strategic location of the West Point and Wilseyville water system and lack of public water infrastructure throughout much of the county, access to additional water supplies at Wilson Lake would be available for first responders to combat fires both locally and across the region, protecting the upper watersheds of the Mokelumne, Calaveras and Stanislaus Rivers - primary water sources for communities and ecosystems throughout the state. Calaveras County has some of the highest wildfire risk in the entire state. What was learned in the recent 70,000-acre Butte Fire is that there is a desperate lack of surface water to supply firefighters in the air and on the ground in these emergency scenarios. Additionally, having more reliability of two surface water supplies enhances the optimization opportunities for fire flows to existing facilities and hydrants within CCWD's system, which

aid local and regional fire response.

Ecosystem Improvements –The recent "California Water Action Plan" included the restoration of mountain meadow habitat as a key priority to offset habitat losses across the state in the face of climate change. Directly upstream of Wilson Lake is what is considered restorable mountain meadow habitat that resides on SPI land. The project could restore flow regulation at Wilson Dam to extend releases throughout the dry season while enhancing the natural storage of the watershed by restoring the upland meadow, whereby it would act as a "sponge" to sustain the hydrologic releases from the catchment, providing both water storage benefits and ecosystem improvements. The upstream areas above Wilson Lake consist of a flat topography with some grassy meadow that has been taken over by dense conifers due to a lack of water supply. CCWD is interested in pursuing the best alternative to retrofitting or restoring Wilson Dam and utilizing connectivity of the water storage to conjunctively restore the upstream meadow habitat. The potential restoration opportunity could provide desirable habitat for the mountain yellow-legged frog, an endangered species known to exist in this watershed, which has been a targeted species due to habitat loss in Calaveras County.

Recreational Opportunities - Ultimately, any potential projects generated out of this planning effort would enhance recreational opportunities for the surrounding disadvantaged communities, through the restoration of a historic lakebed and surface water area. Any project alternative would include enhanced kayaking, wildlife viewing, and fishing opportunities.

Water Quality Improvements - There are opportunities to restore certain natural functions of the watershed to improve water quality within the project area and further downstream for multiple benefits. CCWD operates a direct diversion for water supplies downstream of the lake. There are significant opportunities to use the restored natural function of the lake and meadow for filtration of sediment and pathogens for the benefit of humans and the environment. Typical existing water quality monitoring data could show this over time if a project were executed after the proposed planning effort is complete.

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 enhanced storage of this project has the ability to affect flow regimes in the tributaries to the Mokelumne, a larger tributary to the San Joaquin River in the Delta. Allowing for enhanced storage in high-elevation areas of the mountainous region improves the overall reliability and availability of inflows and supplies to the Delta in the face of future climate change. This could allow for better regional use of water supplies, and reduce reliability on the diversions from the Middle Fork of the Mokelumne River. CCWD could completely cycle off of supplies from the Middle Fork in some higher yield year scenarios, thereby increasing flows downstream for other benefits both within the region and across the state.

Additionally, limitations on forest management upstream and the current state of Wilson Lake create increased fire hazards that threatened the health and safety of the local community and its ecological resources as well as the natural function of one of the state's most important source water areas upstream of the Delta. A project developed out of this planning effort could enhance the possibility of a buffer zone for wildfire and reduce the adverse impacts of catastrophic fire on humans and the environment, both locally and miles downstream. This would help protect the quality of water flowing to the Delta for years to come.

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:

This project would enhance regional water supply reliability by restoring existing storage and the natural function of a meadow system, thus providing additional flows and improved water quality in a tributary to the Delta. As a result, additional, higher quality water would reach the Delta for the benefit of its ecology and dependent communities.

Enhanced opportunities for fire suppression, of which Calaveras County is lacking, could reduce water quality impacts associated with wildfire. Many endangered species within the Delta ecosystem downstream are at a significant risk of deleterious water quality impacts associated with sediment, ash, and organic carbon loads attributed to these very common wildfire events. Events such as this are likely to become increasingly common in the face of climate change, which has increased the frequency and severity of catastrophic fire events.

Managing our headwaters through enhanced upland storage areas for multiple benefits in the Sierra Nevada mountains is key for the state's future. The Sierra, Foothills and other forested areas of the State are the places of origin for more than two-thirds of the State's developed water supply via rain runoff and snowmelt. This opportunity, along with other similar small projects in the region, ensure a strong investment in the quality and quantity of water entering the Delta, with much wider impacts outside of the region.

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

The areas of West Point, Wilseyville and Bummerville, are Small Disadvantaged Communities located in the high elevations of Calaveras County. The primary source supply for these communities is Bear Creek. Due to storage limitations, CCWD must develop a long-term plan for a sustainable water supply for these communities. The planning activities described in this project are a first step toward long-term actions to bolster the supplies for these communities.

Due to the suite of water reliability issues affecting the residents of these Small Disadvantaged Communities, CCWD has recently designated improvements to the West Point water system as a high capital improvement priority, with several projects planned to increase water supply reliability, treatability, and regulatory compliance. Yet local funding is very limited. Access to state funding to achieve these projects of wider public benefit is vitally important to achieve progress.