

ATTACHMENT 9

Need

The Sierra Nevada region provides 65 percent of California's water supply, and is inhabited by more than 3,500 plant species and 720 species of animals. It produces 33 to 50 percent of the State's annual timber supply, supports more than 50 million recreation visits, and is home to more than 212 communities dependent upon the natural resources for jobs, recreation, and community character. Population growth in the Sierra is predicted to grow between 100-500 percent in Sierra counties in the next ten years. Climate change is predicted by some to shrink the Sierra snow pack by 36 percent in the next 50 to 100 years.

The Sierra Nevada regions have significant water issues that are only seen at higher elevation. For example, flood control is more focused on erosion control, or managing the watershed for retention, rather than controlled flows within levees for minimizing flood water damage. Water quality issues are more heavily influenced by old mining activities, recreational use and wild fires, rather than the more typical agricultural issues seen in the Central Valley. Another example is groundwater, where fractured rock aquifers are not well understood, instead of valley aquifers where recharge rates, conjunctive use, and sustained yields have been better studied.

The draft California Water Plan is including mountain counties in the Sierra as a distinct region for the first time in recognition of the unique water infrastructure and watershed issues faced by the region's stakeholders. Much of the existing water supply infrastructure was developed for power generation and mining operations, and then later adopted for public water supply and environmental purposes. As mining and logging operations have decreased, recreation, tourism, and residential development have significantly increased, exerting a different type of demand on the water resource and water quality. Attempting to meet the water needs of all stakeholders in the watershed with a system built for power and mining purposes creates the unique issues the watershed stakeholders must identify and address.

CABY was chosen to serve as a pilot area because of the significant Sierra issues described in the previous paragraphs, the water supply infrastructure connectivity, and because of the willingness between water agencies, water districts, power utilities, watershed groups, and watershed non-governmental organizations (NGOs) to work together to develop a model plan and implement integrated projects within the region.

The need for this Proposal is to fund priority projects in the CABY region that have been developed and are immediately ready for implementation once the CABY IRWMP has been adopted. The need for each project is outlined in the table below.

Table 1. Individual Project Needs

Project Title	Project Need
Upper Main Canal Lining Project	To increase water supply for the residents in El Dorado County and to provide additional recreation..
Water System Reliability and Conservation Project	To improve water system reliability as non-urban areas continue to grow and as water delivery systems age and deteriorate.
“The Great Water Mystery” Water Conservation School Assemblies	To provide effective in-school water conservation education in the counties located in the CABY region.
Groundwater Recharge and Water Budgets in the Cosumnes, American and Yuba Watersheds	To understand the interactions of groundwaters and surface waters and their chemical evolutions during transport from the CABY region.
Development of Early Warning System for Addressing High Risk Groundwater Areas Within Parts of Nevada and Placer Counties	To develop an early warning system in the CABY region that will alert communities to adverse changes in the sustainability of their groundwater resource.
Bear River Mercury Extraction – Phase 1	To protect Combie Reservoir storage volume and water quality as a supply for treated water.
The CABY Citizen Monitoring Program	To provide scientifically valid baseline water quality data for the CABY region to the State.
Sierra Meadows: Natural Reservoirs, Natural Filters	To develop regional integrated management of Sierra meadow wetlands, not only to protect wetland-associated biodiversity, but also to integrate these concerns with downstream water quality and quantity issues, including the timing of water supply.
Gaging Station Improvements and Mercury Assessment, American and Bear River Watersheds	To determine sources of mercury and methylmercury in the watershed to focus future remediation efforts on effective and cost efficient targets, identify mercury hotspots to improve Water Quality in the American River watershed and the lower Sacramento delta, and protect public health by providing mercury data (in sport fish) in all three forks of the river, improve gaging stations for improved measurements (real time) for water supply and flood control.
Deer Creek Mercury Assessment and Remediation Project	To lower mercury levels in the Deer Creek watershed such that human and wildlife health are protected.
South Yuba River Improvements Package	To implement the South Yuba River Comprehensive Management in order to protect and enhance water quality, water supply reliability and provide habitat protection and restoration.
The River Tribute Trail and Restoration Project	To develop a Sierra-based model of sustainable development that includes “town-centered” planning in order to restore targeted section of Deer Creek and create a cultural/ecological greenbelt along the creek before it becomes prohibitively expensive to do so.

The current water management system in the CABY region is maintained and managed by the Nevada Irrigation District, Placer County Water Agency, El Dorado County Water Agency, and Georgetown Divide Public Utility District. Each of the four watersheds in the CABY region are interconnected due to the current water management system through these institutions and infrastructure related to inter-basin water transfers.

Each of the four water agencies draw on at least two of the rivers for supply, with each agency sharing that river with its neighboring water agency. Infrastructure exists which diverts water in some form out of the watershed origin into another within the CABY region. Operational policies and decisions by each respective water agency, in addition to other stakeholder policies, when taken as an aggregate, affect the entire CABY watershed region. Because of this interconnecting relationship, the projects proposed in the CABY (Cosumnes, American, Bear, and Yuba Rivers) Implementation Proposal provide a logical delineation for implementing conservation efforts under the CABY IRWMP. The individual local efforts in water management and conservation have led to ineffective water policies, excessive spending, and poor environmental protection.

The CABY region encompasses a combined watershed that is significant to California’s overall water supply. The region provides significant flow to the Bay-Delta system, and subsequently to the Central Valley Project (CVP) and the State Water Project (SWP) customers throughout the state. The water supply from the four watersheds amount to approximately 5 million acre-feet per year. This amount of water resources represents approximately 30 percent of the Sacramento River’s total supply.

The expected long-term regional water management needs for the CABY region will be to maintain and/or increase water supply for irrigation and urban water demand, increase water supply reliability, increase water quality to support all beneficial uses, and increase water conservation. The projects listed in the table below were selected based on meeting the CABY Resource Area Objectives (Water Supply, Groundwater Management, Water Quality, and Environmental and Habitat Protection), as well as their capacity to begin once the CABY IRWMP is adopted.

Table 2. Project Relatedness to Long-Term Regional Water Management Need

Project Title	Long-Term Regional Water Management Need
Upper Main Canal Lining Project	Water Supply, Water Supply Reliability, Water Conservation, water quality and habitat enhancement.
Water System Reliability and Conservation Project	Water Supply, Water Supply Reliability, Water Conservation
“The Great Water Mystery” Water Conservation School Assemblies	Water Conservation
Groundwater Recharge and Water Budgets in the Cosumnes, American and Yuba Watersheds	Water Supply, Water Supply Reliability, Water Conservation
Development of Early Warning System for Addressing High Risk Groundwater Areas Within Parts of Nevada and Placer Counties	Water Supply, Water Supply Reliability, Water Conservation
Bear River Mercury Extraction – Phase 1	Water Supply, Water Quality

Table 2. Project Relatedness to Long-Term Regional Water Management Need (continued)

Project Title	Long-Term Regional Water Management Need
The CABY Citizen Monitoring Program	Water Quality
Sierra Meadows: Natural Reservoirs, Natural Filters	Water Supply, Water Supply Reliability, Water Quality, Water Conservation
Gaging Station Improvements and Mercury Assessment, American and Bear River Watersheds	Water Supply, Water Supply Reliability
Deer Creek Mercury Assessment and Remediation Project	Water Supply, Water Quality
South Yuba River Improvements Package	Water Supply, Water Supply Reliability, Water Quality, Water Conservation
The River Tribute Trail and Restoration Project	Water Quality

The CABY region serves as an important environmental, ecologic, and economic resource. Sensitive, threatened, and endangered wildlife species in the CABY region include the Peregrine falcon, bald eagle, golden eagle, valley elderberry long-horn beetle, foothill yellow-legged frog, river otter, townsend big-eared bat, and more than 86 butterfly species. Overall the Sierra Nevada watersheds contain approximately 400 endemic species. There is an abundance of wild and scenic locations with many outdoor activities including hiking, camping, and rafting. The rivers and lakes in the region also support fishing and whitewater rafting, which the Sierra Nevada Ecosystem Project Report estimates as a \$250 million per year value for the entire Sierra Nevada region. The projects in this proposal will increase the overall regional economic, environmental, and fiscal conditions in the CABY region by ensuring long-term protection and enhancement of source water for the state.

The CABY region is the fastest growing region in California, supplying a large quantity of water to meet current and future resource demands. Much of the current water management system for the region is failing, providing an inadequate infrastructure to meet the current demands, and will require upgrades to endure the projected future needs of California. If the proposal or individual projects are not implemented, water quality in the Bay-Delta will continue to decline, water supply will continue to decrease, and the reliability of that supply from the source will be negatively altered.