



ATTACHMENT 9

PROGRAM PREFERENCES



COSUMNES, AMERICAN, BEAR & YUBA RIVER
INTEGRATED REGIONAL WATER MANAGEMENT



CABY Integrated Regional Water Management Plan Proposition 84, Round 2 Implementation Grant

Attachment 9. Program Preferences

This attachment contains information illustrating how this CABY IRWM Implementation Grant Proposal contributes to the Program Preferences set by PRC §75026.(b) and CWC §10544.

The following section illustrates how this group of projects successfully meets both CABY and DWR priorities. Each of the projects included within this proposal is ready to proceed, and was identified as a Tier 1 priority project by the CABY Planning Committee in accordance with the project prioritization process described in the CABY IRWM Plan.

Certainty of Meeting Program Preferences: As a result of the thorough analysis that was performed on these projects by the Planning Committee and analysis that was completed with respect to monitoring, assessment, and performance measures we are fully certain that each of the projects included in this Proposal will provide the benefits described below.

Table 9-1 identifies the Program Preferences that will be addressed by each of the proposed projects within CABY's **Upper Watershed Resiliency Program** and demonstrates the magnitude and breadth to which each Program Preference will be addressed.

TABLE 9-1: PROPOSED PROJECTS AND PROGRAM PREFERENCES

| Proposed Projects | 1. Regional Projects | 2. Integrate Water Programs | 3. Resolve Conflict | 4. Bay Delta Objectives | 5. Benefit DACs | 6. Land Use Planning | 7. Statewide Priorities |
|---|--------------------------|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Camptonville Water System Improvement Project | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> |
| City of Placerville Waterline Replacement | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | <input type="checkbox"/> |
| El Dorado County Small Hydroelectric Development Program | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | | | <input type="checkbox"/> |
| Water Efficiency, Water Quality and Supply Reliability in the CABY Region | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> |
| Wolf Creek Watershed: Restoration, Stormwater Source Control, and Flood Management | <input type="checkbox"/> | | <input type="checkbox"/> |
| CABY Mercury and Sediment Abatement Initiative | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | <input type="checkbox"/> |
| Meadow Restoration, Assessment and Prioritization in the American, Bear and Yuba Watersheds | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |
| Degree of Certainty Preference will be addressed | High | High | High | High | High | High | High |
| Magnitude and Breadth to which Preference will be Addressed | Region | Region | Region | State | Local | Region | State |

As shown above in Table 9-1, the package of projects included in this Proposal will address each of the Program Preferences on a local, regional, and/or statewide scale. These terms, used to define the breadth and magnitude to which each project addresses the Program Preferences, are defined as follows:

- *Local*: Project benefits are focused locally within the project area.
- *Regional*: Project benefits extend throughout the CABY IRWM Region – serving multiple locations or addressing multiple issues.
- *Statewide*: Project benefits are widespread and will benefit not only the Region, but also other areas throughout California.

PROGRAM PREFERENCE 1: INCLUDE REGIONAL PROJECTS OR PROGRAMS

The CABY Planning Committee initiated the **Upper Watershed Resiliency Program** in 2012 with extensive outreach to develop integrated regional projects that represent a diverse spectrum of rural infrastructure and natural resource needs. These projects span the CABY Plan area, and have a regional emphasis. Many involve multiple partners working together. All projects are considered regional pursuant to CWC §10544, and it is fully certain that these projects will adhere to this Program Preference on a regional level. All of these projects are considered to be regional as they either are proposed for multiple locations following a single theme/issue-focus, or are models for urgently needed projects that can be exported across the region once the project is successfully completed. Additionally, in the mind of the CABY PC, projects which meet multiple Plan objectives are considered to be models for how future projects should be developed, integrated and implemented. Examples of these regional projects include:

Comptonville Water System Improvement Project serves as an example of how a small DAC in a rural area can systematically assess and design a project that meets long-term needs in a cost effective manner. Many other DACs in the region are using the methodologies, strategies and engineering strategies identified in this project as starting points for developing solutions to their own water system problems. The CABY-wide DAC outreach and project development program will use the lessons learned from this project to improve project design and implementation for other DACs in the region.

Wolf Creek Watershed: Restoration, Stormwater Source Control, and Flood Management project represents a significant development within the CABY region. This is the first time that a CABY-region DAC has proposed a green infrastructure strategy for minimizing local flooding. This project is being closely watched by other stormwater managers in the region as an example of a project that brings both stormwater managers and non-profit organizations together to jointly solve issues related to flooding in a sustainable and environmentally appropriate fashion – an alternative to high cost infrastructure improvements which none of the jurisdictions in the region can afford.

El Dorado County Small Hydroelectric Development Program will demonstrate the potential for low-impact, non-carbon renewable energy creation in similar water systems throughout the region. CABY has established the reduction of greenhouse gases as a priority issue – this project serves as the initial component of a program that will be implemented across both larger Urban Water Supplier entities as well as being adaptable for small DAC purveyors who can benefit materially from reducing operational costs associated with pumping and delivery.

Water Efficiency, Water Quality and Supply Reliability in the CABY Region aims to improve interconnectivity and cooperation between two major water suppliers in the region during regional emergencies. These two suppliers serve over one-half of the CABY area and X % of the regional population.

CABY Mercury and Sediment Abatement Initiative represents the first strategically developed, multi-stakeholder project in the Plan area to take an integrated, regional approach to cleaning up the legacy of abandoned mines.

Meadow restoration, Assessment and Prioritization in the American Bear and Yuba Watersheds represents a coordinated region-wide program to maintain, protect and improve meadows.

PROGRAM PREFERENCE 2: EFFECTIVELY INTEGRATE WATER MANAGEMENT PROGRAMS AND PROJECTS WITHIN THE CABY REGION

In 2009, DWR specifically approved the CABY IRWM region as part of the Region Acceptance Process. Each of the seven projects listed within this Proposal are contained within this DWR-identified region and address this Program Preference.

The CABY “**Upper Watershed Resilience Program**” effectively integrates seven prioritized projects. The projects collectively operate in an effective, integrated fashion to address multiple cumulative impacts to the headwaters of California’s water supply. These include improving aging infrastructure to ensure water supply reliability and good water quality, implementing model projects, and also protecting natural values of the watersheds of the region. Examples of integrated projects include:

Water Efficiency, Water Quality and Supply Reliability in the CABY Region will improve cooperation between two major water suppliers in the region during regional water supply-related emergencies, while improving the efficiency and reliability of their infrastructure.

City of Placerville Waterline Replacement: The project will reinforce and bring up to code, the City’s potable water system by replacing deteriorated pipes and prevention of water main breaks and ensuring local water supply

CABY Mercury and Sediment Abatement Initiative: This project will acquire the necessary information through targeted regional planning coordination, assessment and remediation to be responsive to regulatory processes, specifically the Statewide TMDL effort. The initiative will be coordinated through a forum for regional planning, the CABY Mercury Forum.

PROGRAM PREFERENCE 3: EFFECTIVELY RESOLVE SIGNIFICANT WATER RELATED CONFLICTS WITHIN OR BETWEEN REGIONS

The IRWM Plan Objectives were established as a result of an open and transparent consensus-driven stakeholder process, where all stakeholders were invited to voice their significant issues and conflicts within the region. As a result, the seven projects included in this proposal address all of the collaboratively developed updated IRWM Goals and Objectives, and effectively resolve water-related conflicts identified by the diverse stakeholder group.

By including both infrastructure projects and natural resource projects we are addressing a perceived long-term conflict in the region, ensuring water agency needs while at the same time addressing the concerns of natural resource agencies and organizations. Moreover, each of these projects will help to alleviate regional conflicts that result from competition for funding between and among the water purveyors, environmental groups and natural resource agencies who are striving to maintain the ability of the region to both serve its own human and environmental water needs with export of water to other regions of the state.. The integration of infrastructure/water supply projects and natural resource projects represents an authentic and comprehensive approach to integrated water resource management in an important source water region.

Due to the degree of collaborative analysis performed on these projects by the CABY stakeholder group, it is fully certain that this proposal will meet the Program Preference of contributing to a systematic and intentional series of steps aimed at resolving significant water-related conflicts throughout the CABY region.

PROGRAM PREFERENCE 4: CONTRIBUTE TO ATTAINMENT OF ONE OR MORE OF THE OBJECTIVES OF THE CALFED BAY-DELTA PROGRAM

As described below, the seven integrated projects in the CABY “**Upper Watershed Resilience Program**” meet three of the four Calfed Bay-Delta Program objectives: Water Quality, Water Supply, and Ecosystem Restoration.

Water Quality: By replacing decrepit water storage and delivery systems, six projects will minimize water quality concerns associated with these antiquated systems. These projects are the *Camptonville Water System Improvement Project*, *Water Efficiency*, *the City of Placerville Waterline Replacement Project*, and *the Water Quality and Supply Reliability in the CABY Region*. In addition, the *Wolf Creek Watershed: Restoration, Stormwater Source Control and Flood Management* project helps improve water quality by managing water in a more natural way while the CABY Mercury and Sediment Abatement Initiative and the Meadow Restoration, Assessment and Prioritization in the American Bear and Yuba Watersheds aim to improve legacy water quality issues in the headwaters of the CABY region.

Water Supply: The water delivery systems of the project communities are vulnerable to system performance problems as a result of substandard and aging infrastructure. Infrastructural upgrades included in this proposal will help disadvantaged and/or rural communities to proactively identify and address system vulnerabilities, while increasing reliability and reducing substantial water wastage. These improvements will build these communities’ capacity to meet their water supply needs while increasing the efficiency of the regional and statewide water delivery systems. Additionally the CABY Mercury and Sediment Abatement addresses the significant issue of reservoir sedimentation and is a model project, that once proven, can be replicated at other reservoirs in the Sierra Nevada region whose water storage capacity is significantly diminished or compromised by sediment inflow.

Ecosystem Restoration: All the projects in the CABY “**Upper Watershed Resilience Program**” contain elements of environmental stewardship and an intention to coordinate project implementation with ecosystem restoration. Several of the projects in the proposal are specifically targeted at regional ecosystem/watershed restoration needs including the CABY Mercury and Sediment Abatement Initiative and the Meadow Restoration, Assessment and Prioritization in the American Bear and Yuba Watersheds, while infrastructure related projects include ecosystem restoration related goals for example the Camptonville Water System Improvement Project which will significantly improve the Camptonville Water System plant while eliminating the practice of discharging treated (chlorinated) water back into the Campbell’s Gulch resulting in multiple ecosystem benefits.

PROGRAM PREFERENCE 5: ADDRESS CRITICAL WATER SUPPLY OR WATER QUALITY NEEDS OF DACS WITHIN THE REGION

From the outset of the Planning Update, CABY prioritized stakeholder outreach to Disadvantaged Communities (DACs). CABY developed an outreach plan prioritizing communities who are often underserved and/or disproportionately affected or impacted by land and water development projects. Examples of projects fulfilling this preference include:

Camptonville Water System Improvement Project: This project takes place in a Disadvantaged Community where the water system does not meet Federal Surface Water Treatment Rules, nor state Title 22 water treatment standards. This project will address this critical need and provide access to safe, clean and affordable water.

Wolf Creek Watershed: Restoration, Stormwater Source Control and Flood Management: The State Water Resources Control Board has now listed 23 miles of Wolf Creek and its associated tributaries (including Peabody Creek) as impaired under Section 303(d) of the Clean Water Act and put an applicable TMDL

schedule for fecal coliform in place. This project is a multi-benefit integrated project that targets improvements to this watershed in a Disadvantaged Community.

Water Efficiency, Water Quality and Supply Reliability in the CABY Region: This project aims to improve coordination between two major water suppliers in the region during regional emergencies especially targeting water supply needs of North Auburn, a Disadvantaged Community, during emergencies such as wildfires and infrastructure failure.

PROGRAM PREFERENCE 6: EFFECTIVELY INTEGRATE WATER MANAGEMENT WITH LAND USE PLANNING

Many of the land use plans and regulations of land-use agencies within the Region are consistent with the water management goals, objectives, and strategies included in the Updated CABY IRWM Plan. Examples of projects fulfilling this preference include:

Wolf Creek Watershed: Restoration, Stormwater Source Control and Flood Management: This project will install pervious pavement and capture stormwater runoff as well as floodplain restoration. Local land use planning agencies will be involved in implementing and promoting these strategies. Partnering with land use planning agencies will allow mutual objectives of the project and land use planning to be achieved. This project creates a hybrid green infrastructure project that efficiently and effectively provides multiple benefits as well as a model that could be replicated regionwide. This further illustrates how city and county governments could effectively partner with environmental NGOs to accomplish outcomes of common interest while fostering future collaboration in effectively integrate water management with land use planning throughout the Region.

Meadow Restoration, Assessment and Prioritization in the American Bear and Yuba Watersheds: This project will identify and prioritize location and types of meadows for restoration throughout the American River Watershed and will be used to guide land-use planning for years to come.

PROGRAM PREFERENCE 7: SWFM FUNDING: N/A

PROGRAM PREFERENCE 8: ADDRESS STATEWIDE PRIORITIES

The management of the CABY region’s watersheds and the infrastructure of the water delivery system play a major role in the well being of all Californians. Although the Mountain Counties hydrologic region only comprise about 10% of the total land mass and a mere 2% of the state’s population, this hydrologic region contributes over 60% of California’s domestic water supply. The CABY region’s impact on the state’s water supply cannot be overstated. However, while the CABY region makes a disproportionate contribution to the state’s water supply demands, the region struggles to provide safe and efficient water delivery and storage systems and to protect the natural resources of the CABY watersheds. This project addresses statewide priorities by improving the infrastructure for water delivery and storage while significantly enhancing water conservation measures and remediation and protection of the headwaters of California’s water supply.

All seven projects within CABY’s “**Upper Watershed Resilience Program**” will either directly or indirectly address every Statewide Priority established by DWR. Table 9-2 demonstrates which Statewide priorities are addressed by each of the proposed projects. The table is followed by a narrative description of how each project addresses Statewide priorities.

As such, based on the level of analysis for each project, it is fully certain that each of these projects and the proposal will achieve the Statewide priorities at a regional level (throughout the CABY region and beyond).

TABLE 9-2: PROPOSED PROJECTS WITH STATEWIDE PRIORITIES

| Proposed Projects | Drought Preparedness | Re-Use Water More Efficiently | Climate Change Response Actions | Expand Environmental Stewardship | Integrated Flood Management | Protect Water Quality | Improve Tribal Water/Natural resources | Ensure Equitable Benefits |
|---|--------------------------|-------------------------------|---------------------------------|----------------------------------|-----------------------------|--------------------------|--|---------------------------|
| Camptonville Water System Improvement Project | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| City of Placerville Waterline Replacement | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| El Dorado County Small Hydroelectric Development Program | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | |
| Water Efficiency, Water Quality and Supply Reliability in the CABY Region | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | | <input type="checkbox"/> |
| Wolf Creek Watershed: Restoration, Stormwater Source Control, and Flood Management | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CABY Mercury and Sediment Abatement Initiative | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | |
| Meadow Restoration, Assessment and Prioritization in the American, Bear and Yuba Watersheds | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Camptonville Water System Improvement Project

Drought Preparedness: This project achieves long-term reduction of water use through installation of new instrumentation, online data collection and process controls that will reduce and/or cease diversion by 3,000,000 gallons of chlorinated water per year from Campbell Gulch. In the aggregate, this water savings will make the District significantly less vulnerable to drought conditions by initiating a reduction in overall use and cessation of substantial wastage.

Use and Re-Use Water More Efficiently: This project will increase water efficiency through improved plant process control, instrumentation and procedures. The project also includes a Water Efficiency Education component to promote conservation and recycling practices to consumers.

Climate Change Response Actions: The project proposes several adaptations to climate change effects: 1) Increasing water storage capacity to prevent water rationing and to improve water quality by lessening tank draw downs on high demand days 2) Reducing annual demand from the surface water source 3) Increasing knowledge of ground water characteristics for future development of a new water source. Additionally, modifications at the water treatment plant will preserve gravity as the power source at the Plant with new valves and instrumentation devices. The project will also reduce plant energy demands due to the reduction of the amount of water needing to be treated.

Expand Environmental Stewardship: Reducing the amount of surface water taken from Campbell’s Gulch (a spring fed creek) by 3,000,000 gallons per year will have multiple ecosystem and groundwater benefits. The project will also eliminate the practice of discharging treated (chlorinated) water back into the creek resulting in multiple ecosystem benefits.

Protect Surface Water and Groundwater Quality: This project will reduce the amount of water taken from, and reduce the amount of treated water discharged to waste into Campbell’s Gulch.

Improve Tribal Water and Natural Resources: This project will involve training the Native Youth Conservation Corps (a work-experience program of the Sierra Native Alliance) to carry out the project’s brush-clearing task. While this is not a direct benefit to Tribal water the ability of Tribal youth to participate in this and other projects in this Proposal is seen as a real contribution to expanding the connection for Tribal youth between their ancestral landscape and modern projects that attempt to restore or protect natural resource systems which are integral to local Tribal identity.

Ensure Equitable Distribution of Benefits: This project will bring benefits to a Disadvantaged Community where the water system does not meet Federal Surface Water Treatment Rules, nor state Title 22 water treatment standards. The benefits include providing the community with safe, clean and affordable water.

City of Placerville Waterline Replacement

Drought Preparedness: This project promotes water conservation and achieves long-term reduction of water use by actively addressing system inefficiencies, conserving water and reducing water losses through the replacement of deteriorated and leaking pipes and reducing the risk of large-scale water main breaks.

Use and Re-Use Water More Efficiently: This project increases urban water use efficiency by reducing water losses in City’s water distribution system.

Climate Change Response Actions: This project contributes to climate change adaptation by reducing City water supply needs during droughts thereby increasing instream flows for downstream beneficial uses. The project also uses and delivers water more efficiently by reducing pipeline losses, reducing total demands for water supplies, and reducing energy demands for treatment and distribution. The project reduces GHG emissions by decreasing the energy needed for treatment and delivery of water supplies currently lost through the water delivery system, especially in the City’s service area that has significant pumping requirements due to topography.

Expand Environmental Stewardship: This project improves instream ecosystem functions by increasing instream flows due to reduced diversions for City water supplies

Protect Surface Water and Groundwater Quality: This project protects water quality by reducing associated soil erosion and potential sedimentation of nearby streams.

El Dorado County Small Hydroelectric Development Program

Drought Preparedness: While this project does not contribute directly to reducing drought-related impacts it does ensure that even during periods of low flows the affected districts can continue to generate electricity to offset local pumping costs. This capacity has the secondary impact of enabling water purveyors to operate the system in times of low flow while still offsetting their power consumption.

Use and Re-Use Water More Efficiently: In-conduit hydroelectric projects are low impact because they are located on already developed sites. This project is located within a fenced facility where there is limited potential for erosion or storm water runoff. In addition, incorporating hydroelectric generation into existing water systems adds a second value to the water that is already en route to its designated beneficial use, thereby using water more efficiently without increasing the amount of water used.

Climate Change Response Actions: By developing this renewable energy project, the water agency will conserve natural resources and meet regulatory requirements and goals in response to climate change. In addition, the Project will be less affected by drought since water deliveries will continue through EID’s

system to meet customer demands. The EID Tank 7 In-conduit hydroelectric project will use existing water facilities more efficiently by utilizing an existing water source to generate energy. Furthermore, the energy generated will be fed into the PG&E power grid to help offset the use of fossil-fuel powered generation, thereby decreasing greenhouse gas emissions. Low impact, in-conduit hydro has greater potential to reduce overall GHG emissions than other forms of renewable energy because: 1) it is a dependable source of renewable energy compared to intermittent solar and wind renewable energy sources; 2) its energy generation pattern is closely related to water flow patterns, which correlate with seasonal energy demands (higher summer water flows when energy demands are highest); 3) it is less energy intensive to manufacture, install, and maintain; and, 4) it has a proven economic life generally ranging from 30 to 40 or more years, compared to other forms of renewable energy that generally have a 15 to 20 year economic life. In addition, it does not have any carbon emissions that are associated with biomass renewable energy.

Water Efficiency, Water Quality and Supply Reliability in the CABY Region

Drought Preparedness: This project promotes water conservation and achieves long-term reduction of water use by actively addressing system inefficiencies and conserving water and reducing water losses through the lining of canals and installing gaging stations

Use and Re-Use Water More Efficiently: This project increases water use efficiency by reducing water losses in the agencies' water distribution system. It also improves reliability of Delta supplies by reducing the quantity of diversions needed for meeting customer water demands. The project also includes a Water Efficiency Education component to promote conservation and recycling practices to consumers.

Climate Change Response Actions: This project contributes to climate change adaptation by reducing water supply needs during droughts thereby also increasing instream flows for downstream beneficial uses. The project also uses and delivers water more efficiently by reducing canal seepage, reducing total demands for water supplies, and reducing energy demands for treatment and distribution. The project reduces GHG emissions and energy consumption by decreasing the energy needed for treatment and delivery of water supplies currently lost through the water delivery system. It also reduces energy consumption by decreasing energy used for both treatment and delivery of water supplies lost to leakage. The project provides interties between systems, which will serve the community at times of emergencies e.g. wildfires.

Expand Environmental Stewardship: This project improves instream ecosystem functions by increasing instream flows due to reduced diversions for City water supplies

Protect Surface Water and Groundwater Quality: Canal lining will reduce sediment loads and improve water quality.

Ensure Equitable Distribution of Benefits: The canal interties will serve the Disadvantaged Community of North Auburn in case of emergency breakdowns of the water delivery system.

Wolf Creek Watershed: Restoration, Stormwater Source Control and Flood Management

Drought Preparedness: This project's downspout disconnection program will promote and provide resources to help homeowners install rain barrels below their roof downspouts to store stormwater for use in the landscaping and gardening during dry periods (CWP 1998).

Use and Re-Use Water More Efficiently: This project reduces the need to use the municipal water supply for irrigating and is a significantly more efficient use of roof runoff (CWP 1998). The program will also reduce peak flows during storm events that cause erosion and increased sediment pollution (Williams and Wise 2006). The project will also install pervious concrete. Both pervious concrete and downspout disconnection are LID techniques that aim to deal with precipitation where it falls in a way that mimics natural hydrology.

Climate Change Response Actions: The Sierra Nevada region is expected to see earlier snowmelt and an increase in rain on snow events that will increase peak flows and flooding in the region. The project deals with the possibility of increased flooding by allowing Peabody Creek to access its natural floodplain. It also

creates a starting point for managing stormwater flows at their source in Grass Valley by teaching community members and contractors how to sustainably manage stormwater.

Expand Environmental Stewardship: The project will foster environmental stewardship through on the groundwork like floodplain restoration and pervious concrete installation and with the engagement of the local community, government, and construction industry. Peabody Creek is unique opportunity for restoration because of its urban location in an area where most creeks have been diverted underground. The restoration of the floodplain is going to be accomplished with local volunteers in a highly visible area. The downspout disconnection program will create materials and presentations for community members in the Wolf Creek watershed that will help them manage their roof runoff on their own property. The pervious concrete element of the project will also train a locally licensed concrete specialist in new techniques.

Practice Integrated Flood Management: The project seeks to protect neighbors from the flooding they currently experience by reconnecting the lower floodplain and allowing water to spread out and infiltrate in a more natural way during high flows. Flooding in the Peabody Creek basin is also exacerbated by the stormwater that flows directly into the system from runoff. The use of pervious concrete and downspout disconnection will reduce the concentration of peak flows that leads to flooding. The project will reconnect Peabody Creek with a half-acre of urban floodplain which will restore riparian and wetland functions and reduce downstream flooding.

Protect Surface Water and Groundwater Quality: The biggest risks to water quality in the country are sediment and pollution from urban runoff which both pose a large risk to public and environmental health. Every aspect of the project helps improve water quality by managing water in a more natural way. By allowing water to infiltrate into the ground and reengaging floodplains, the amount of pollution reaching waterways will be reduced and the peak flows, which contribute to erosion and sedimentation, will be lowered. The project will also refine the water quality monitoring that is currently conducted by the Wolf Creek Community Alliance fostering better management once water quality issues are identified.

Improve Tribal Water and Natural Resources: Native American youth from the Sierra Native Alliance's Native Youth Conservation Corps will be involved in planting and vegetation management in the Peabody Creek floodplain. American Rivers has a long history of engaging the Sierra Native Alliance in watershed restoration projects.

Ensure Equitable Distribution of Benefits: This project is a multi-benefit integrated project that will bring benefits to a Disadvantaged Community. These benefits include reduced flooding and stormwater pollution and neighborhood water efficiency education.

CABY Mercury and Sediment Abatement Initiative

Drought Preparedness: This project's Combie Reservoir element will lead to restoration of 124 AF of water storage space that is lost due to the accumulated hydraulic mining debris sediments that occupy the operational storage space of the reservoir. The Combie sediment removal project is a model project that once proven can be replicated at other reservoirs in the Sierra Nevada region that currently have water storage space occupied by accumulated sediment, such as Englebright Reservoir that has 17,850 AF of water storage space occupied by sediment.

Use and Re-Use Water More Efficiently: This project will lead to restoration of water storage space that is lost due to the accumulated hydraulic mining debris sediments that occupy operational storage space of the reservoir. The Combie sediment removal project is a model project that once proven can be replicated at other reservoirs e.g. nearby Englebright Reservoir with 17,850 AF of storage space occupied by sediment.

Climate Change Response Actions: Cold Water Habitat: By removing sediment that has accumulated in Combie reservoir, a shallow warm water habitat is replaced with a deeper cooler habitat and provides additional cold water refuge. By removing mercury from the aquatic environment, this project will improve the resiliency of aquatic and terrestrial food chains enabling them to adapt to climate change stresses.

Expand Environmental Stewardship: By remediating contaminated mine lands in the headwaters of the South Yuba River, the watershed function is expected to benefit through: 1) improved habitat with less contamination from suspended sediment and mercury, and 2) improved watershed function by promoting infiltration to the vadoze zone as opposed to surface runoff from surfaces that are devoid of soil from hydraulic mining practices.

Protect Surface Water and Groundwater Quality: By remediating upstream sources of sediment and mercury the water quality of miles of downstream habitat will be improved protecting environmental health. By reducing the amount of mercury contaminated sediment moving down the South Yuba River and into Englebright Reservoir, the fishery of Englebright Reservoir is expected to benefit, extending the cumulative benefits of this project to public health benefits through fish consumption.

Improve Tribal Water and Natural Resources: Native Youth Conservation Corps (a work-experience program of the Sierra Native Alliance) will be trained to carry out the project's outreach tasks. In addition, native cultural experts will be consulted to ensure that any remediation planning at Malakoff Diggins has no further impact on pre-historic sites.

Meadow Restoration, Assessment and Prioritization in the American, Bear and Yuba watersheds

Drought Preparedness: This project will accelerate meadow restoration and increasing groundwater storage in meadows at the headwaters of the CABY region. The prioritization of meadows in the American River watershed will accelerate meadow restoration in the watershed and lead to additional restoration projects. This acceleration and scaling up is important for landscape-level change in headwaters water storage.

Use and Re-Use Water More Efficiently: Sediment is the number one pollutant of our nations' waterways. This project uses green infrastructure techniques to reduce sediment supply by reducing erosion from degraded meadow systems. Headwater meadow restoration also addresses this priority by increasing groundwater storage and providing additional late-season flows to tributaries to the Sacramento-San Joaquin Delta (Jones and Stokes, 2007, Limnotech, 2012).

Climate Change Response Actions: With earlier peak snowmelt and decreased snowpack storage brought on by climate change, functioning meadows become an increasingly important source of water storage in the CABY headwaters. This project improves the resiliency of water supplies to climate change by capturing and storing snowmelt in meadows of the CABY region.

Restoration in Elliot and Blackjack meadows will protect the peat and carbon stored in the soils of these wet-meadow systems. Dewatered meadows oxidize peat and contribute GHGs. Through restoration, this project will increase water storage while simultaneously both sequestering carbon in soils and preventing GHG release from degraded wet-meadow soils.

Expand Environmental Stewardship: This project will restore degraded meadows throughout the region and prioritize meadows throughout the American River watershed for restoration. Most of the conifer removal and monitoring will be done by trained volunteers and the Native Youth Conservation Corps.

Practice Integrated Flood Management: Restoration in CABY headwater meadows will address this priority by increasing infiltration on the meadow floodplain, reducing sediment supply and decreasing peak runoff. Wet meadows are some of the only headwater floodplains in the CABY region and this project will accelerate restoration efforts throughout the region.

Protect Surface Water and Groundwater Quality: Sediment is the number one pollutant of our nations' waterways. This project uses green infrastructure techniques to reduce sediment supply by reducing erosion from degraded meadow systems.

Improve Tribal Water and Natural Resources: Native American youth from the Sierra Native Alliance's Native Youth Conservation Corps will be trained to remove invasive species from meadows in the CABY Region.