

# American River Basin: Antelope Creek Improvement Project

## Attachment 11: Program Preferences

### Overview of Program Preferences

In addressing local and regional water management needs, the American River Basin (ARB) Integrated Regional Water Management Plan (IRWMP) has the potential to benefit not only the ARB region but also regions upstream and downstream, including the headwaters of the American and Cosumnes Rivers, and the San Francisco-San Joaquin Bay-Delta (Bay-Delta). Consequently, the ARB is committed to partnering with the California Department of Water Resources (DWR) to balance the need to establish drinking water sources that are both sustainable and reliable with the need to protect communities and ecosystems within and outside the ARB region. This attachment demonstrates how Placer County Flood Control and Water Conservation District's (PCFCD's) Stormwater Flood Management Grant Proposal, along with those being submitted by the other ARB Region participants for Proposition (Prop) 1E (the City of Sacramento and Sacramento Area Flood Control Agency), assist in meeting the Program Preferences. This information is summarized in Table 1 and Table 2; Table 1 cross-references the three ARB Region Prop 1E proposals with the Program Preferences presented in the Proposition 84 & Proposition 1E IRWM Guidelines (Guidelines, DWR, August 2010) and indicates the overall degree of certainty that each Program Preference will be met along with the breadth and magnitude to which each will be met. Table 2 provides an additional level of detail by cross-referencing the three ARB Region Prop 1E proposals with the specific statewide priorities they address.

### Program Preferences

This attachment details how the PCFCD's (and its project partner Placer County Water Agency's) Prop 1E Stormwater Flood Management Grant Proposal, along with the proposals submitted by ARB Region partners the City of Sacramento and Sacramento Area Flood Control Agency (SAFCA), meet each of the Program Preferences. The discussion includes an analysis of how the three ARB Region proposals meet each Program Preference as well as details of how specific benefits of the individual proposals address the Program Preferences.

#### *Include regional projects or programs*

The ARB IRWMP is, by definition, a regional plan. As explained in more detail of Attachment 1 of this proposal, the projects presented in that Plan and the project presented in this grant proposal were identified through extensive stakeholder outreach and were selected based on key factors such as: distributing funds across a broad geographic area; benefiting a diverse set of IRWM objectives; distributing funds to a broad group of stakeholders; and meeting DWR priorities as outlined in their *Proposal Solicitation Package (PSP), Integrated Regional Water Management, Proposition 1E, Stormwater Flood Management* (August 2010). This proposal, along with those submitted by the City of Sacramento and SAFCA, represent the most significant effort to date in the ARB IRWM region to ensure inclusion of regional projects, and can likely serve as a model for other IRWM regions throughout the State.

The three ARB Region proposals submitted for funding under the Prop 1E Stormwater Flood Management Program all include projects that drain ultimately to the American and Sacramento Rivers. In that regard, the projects all integrate at the downstream terminus of their respective watersheds and are therefore regional projects. Additionally, the Antelope Creek Improvement Project is designed to address stormwater flood control on a regional basis in Placer County by integrating upstream and downstream-related project components into a single project. Therefore, there is a **High Degree of Certainty** that each project will provide a **Regional** benefit, and the Antelope Creek Improvement Project also demonstrates a **Local** benefit.

*Effectively integrate water management programs and projects within a hydrologic region*

The ARB Region encompasses a contiguous urban, suburban, and rural area covering more than 1,200 square miles and including 60% of the population of the Sacramento River hydrologic region. Prior to the preparation of the ARB IRWMP, planning efforts in the ARB had generally been split into three sub-areas with distinct geopolitical issues – north of the American River in Sacramento and Placer Counties; south of the American River and north of the Cosumnes River in Sacramento and El Dorado Counties; and south of the Cosumnes River in Sacramento County. The ARB IRWMP integrated the water management efforts of stakeholders across the entire ARB region, which is identified in the California Water Plan as an ecosystem with valuable ecologic processes and environmental resources. DWR recognized the ARB Region as an appropriate planning area through an unconditional acceptance in the RAP process.

Table 1 directly demonstrates that the three ARB Region stormwater flood control proposals, submitted by PCFCD, the City of Sacramento and SAFCA, require multi-stakeholder regional cooperation and sharing of resources to achieve multiple benefits. These projects included in each proposal require the participation of multiple agencies and organizations for implementation, and water supply, water quality, recreational and other benefits in addition to stormwater management and flood reduction benefits. Overall, there is a **High Degree of Certainty** that this Program Preference will be addressed at the **Regional** level.

*Effectively resolve significant water-related conflicts within or between regions*

Regional water management conflicts can arise due to differences in stakeholders' goals and values and the perceived priority of proposed projects and programs. Minimizing and resolving differences before they propagate into large-scale conflicts has been the region's approach since the inception of the Sacramento Water Forum in the early 1990's, and was integral to the development of the ARB IRWMP. This proposal, as well as those being submitted by the City of Sacramento and SAFCA, implement elements of the Water Forum Agreement (described in Attachment 3), which is one of the most significant and durable resolutions to water-related conflict developed by local stakeholders in the history of the State.

The ARB IRWMP planning process itself assures a **Low Degree of Certainty** of resolving water management strategy conflicts **Locally and Regionally**. The Upper Unionhouse Creek Flood Protection Project will allow for the expansion of Sacramento Regional Transit District's service area. The project will alleviate concerns regarding flooding that have prevented a connection from Downtown Sacramento to Cosumnes River College. The Antelope Creek Improvement Project will allow Placer County Water Agency (PCWA) more operational stability and PCWA will no longer be forced to rotate water deliveries when PG&E is performing annual maintenance on their Bear River Canal. The Downtown Combined Sewer Upsizing Project will improve the water quality in the Sacramento River and resolve conflicts between the City, regulatory agencies (e.g. State Water Resources Control Board) and downstream water suppliers resulting from water quality impacts.

*Contribute to attainment of one or more of the objectives of the CALFED Bay-Delta Program*

While 2009 legislation changed Delta governance, the critical needs of the Delta remain. The ARB Region, within and immediately upstream of the Delta, is uniquely situated to contribute to CALFED objectives. Each of the projects in the three ARB Region proposals contributes to the attainment of at least one CALFED objective, as shown in Table 1 and described below. Collectively, the proposal has a **High Degree of Certainty** of contributing to the attainment of the CALFED objectives for the **State**.

### Improve Water Supply Reliability

While the Antelope Creek Improvement Project described herein is predominantly a stormwater flood management project, it will improve the operational controls for PCWA by restoring the Clover Valley Reservoir to its original size and reducing the amount of sediment in the water. The additional storage space resulting from the proposed dredging will increase the reliability of PCWA's water distribution system by reducing the number of days PCWA has to alternate water deliveries when PG&E shuts down Bear River Canal for annual maintenance. This project has a **High Degree of Certainty** of supporting CALFED's Water Supply Reliability Program. The Downtown Combined Sewer Upsizing Project will reduce the amount of raw sewage released to the Downtown area and the adjacent Sacramento River. The Freeport Regional Water Authority's (FRWA) intake structure, located three miles downstream of downtown Sacramento on the Sacramento River, has the potential to be impacted by increased pollutant loading to the river upstream of the intake. In essence, any combined sewer overflows occurring in the City and entering the river has direct significant negative impacts on the river's water quality and therefore affects water entering the FRWA intake structure. This project will ameliorate this problem and will therefore, indirectly, improve water supply reliability with a **Low Degree of Certainty**.

### Improve Water Quality for Beneficial Uses

As previously noted, the three Prop 1E proposals being submitted from the ARB Region are focused predominantly on stormwater flood management. However, the projects do also provide water quality benefits in support of the CALFED program. Specifically, one of the goals of the Antelope Creek Improvement Project is to reduce the amount of sediment that enters the downstream natural waterways from the Clover Valley Reservoir. The new pipeline that will be installed in the eroding channel leading to the reservoir will reduce sediment at the canal release points into the reservoir, and combined with the new weirs on Antelope Creek that will allow for the settling of pollutants from flood waters, has a **High Degree of Certainty** of improving downstream water quality. This will further reduce sediment transport to the Bay-Delta. The Downtown Combined Sewer Upsizing Project will reduce the combined system overflows and combined sewer system outflows to Downtown Sacramento, thus reducing the amount of untreated wastewater and stormwater that enters the adjacent Sacramento River. This will improve the quality of the Sacramento River and in turn, the quality of the water in the Bay-Delta system. This project has a **High Degree of Certainty** of improving downstream water quality in the Bay-Delta. Finally, the widening of Upper Unionhouse Creek, constructed as part of the Upper Unionhouse Creek Flood Protection Project, may result in slower velocities in that reach and subsequently may decrease sedimentation, thus improving the water quality in the Unionhouse Creek and downstream reaches of Morrison Creek. This project has a **Low Degree of Certainty** of improving downstream water quality in the Bay-Delta.

### Improve Bay-Delta Ecosystem

The Antelope Creek Improvement Project includes specific habitat enhancements for fisheries, removal of invasive plants and replanting with natives, and bank re-contouring to ensure overbank flows that sustain the floodplain ecosystem. This project has a **High Degree of Certainty** of supporting CALFED's Ecosystem Restoration Program. As mentioned above, the Downtown Combined Sewer Upsizing Project will reduce the amount of untreated wastewater entering the adjacent Sacramento River. To this end, this project will protect and improve the Bay-Delta Ecosystem. This project has a **Low Degree of Certainty** of supporting CALFED's Ecosystem Restoration Program. The third ARB Region Prop 1E proposal (submitted by SAFCA) does not include an ecosystem restoration component.

### Delta Levee Integrity

Neither this proposal, nor the other two proposals submitted from entities within the ARB Region, will impact levees on the Bay-Delta.

### *Address critical water supply or water quality needs of disadvantaged communities*

DACs are largely interspersed throughout the service areas of water suppliers in the region and have few unmet water supply or quality needs. In general, meeting the regional needs through this proposal will provide overall benefits to the DACs in the region.

### *Effectively integrate water management with land use planning*

Stormwater flood and water resource management efforts in the ARB Region take into consideration land use plans identified in the General Plans for each city/county. Land use planning projections provide the basis for establishing water supply projections, identifying appropriate areas for residential and commercial development, and for identifying habitat areas that will need to be protected against impacts associated with urban development. The ARB Region has created an integrated approach to land use planning as part of a regional water supply and environmental protection program through the Water Forum Agreement (Agreement). The Agreement specifies how much water each of the area's water purveyors can use (depending on hydrologic conditions) from the American River and each of the three groundwater basins in Sacramento County through 2030, and it is the intent of signatories to the Agreement that land use decisions be consistent with these negotiated supplies. This proposal, along with the proposals submitted by the City of Sacramento and SAFCA, conform to the Agreement, demonstrating a **Moderate Degree of Certainty** that this Program Preference has been at the **Regional** level.

The Antelope Creek Improvement Project goes beyond the scope of the Water Forum Agreement in terms of supporting the integration of water management with land use planning. Land use projections estimate that at full build-out of the Dry Creek Watershed, the 100-year peak flow rate will increase by 826 cubic feet per second (cfs) at critically flood-impacted areas of downtown Roseville. This project has the ability to mitigate over 50% of the projected flow increase, demonstrating a **High Degree of Certainty** that the **Local** integration of water management strategies with land use planning will be effective. Similarly, the Upper Unionhouse Creek Flood Protection Project will allow for the expansion of Sacramento Regional Transit District's service area. The project will alleviate concerns regarding flooding that have prevented a connection from Downtown Sacramento to Cosumnes River College, thus fulfilling transit requirements for this urbanized area and demonstrating with a **High Degree of Certainty** the **Local** integration of water management and land use policies.

### *Address Statewide priorities*

The Guidelines identify eight statewide priorities specific to the IRWM Grant Program. As illustrated in Table 2, this Prop 1E proposal, along with those submitted by the City of Sacramento and SAFCA (PCFCD's ARB Region partners), embodies at least one of these Statewide priorities. Together, the three proposals have a **High Degree of Certainty** of addressing Statewide priorities at **Regional** and **Local** levels.

#### 1. Drought Preparedness

The third phase of the Antelope Creek Improvement Project will restore the Clover Valley Reservoir to its original capacity which will, in turn, provide more water storage within PCWA's service area thus reducing susceptibility to droughts. Beside the additional storage capabilities, desilting of the reservoir will allow PCWA to optimize downstream deliveries and minimize shortfalls during critical summer months. This project has a **High Degree of Certainty** of increasing **Local** reliability during water shortages.

#### 2. Use and Reuse Water More Efficiently

The Antelope Creek Improvement Project will improve PCWA's operational flexibility by restoring the Clover Valley Reservoir to its original size. The additional storage space will increase the efficiency of PCWA's water distribution system by minimizing the number of days PCWA has to alternate water deliveries when PG&E shuts

down Bear River Canal for annual maintenance. This project has a **High Degree of Certainty** of increasing the efficiency of **Local** water use.

### 3. Climate Change Response Actions

In aggregate, this proposal, along with those being submitted by the City of Sacramento and SAFCA, have a **High Degree of Certainty** of addressing **Regional** adaptation to climate change by improving flood management methods within the American and Sacramento River Basins. Additionally, the Antelope Creek Improvement Project will provide PCWA with needed system flexibility to address uncertainties in water supply by restoring onstream storage, and the Upper Unionhouse Creek Flood Protection Project will allow for the expansion of Sacramento Regional Transit District's service area, currently stalled due to flooding threats, thereby reducing future greenhouse gas emissions. Finally, expanding the City of Sacramento's combined sewer system in the Downtown area will increase the capacity of that system to handle combined stormwater and sewage flows, thereby providing the City with necessary system flexibility given future uncertainties relating to the size, duration and magnitude of storms under a changing climate.

### 4. Expand Environmental Stewardship

The Antelope Creek Improvement Project includes specific habitat enhancements for fisheries, removal of invasive plants and replanting with natives, and bank re-contouring to ensure overbank flows that sustain the floodplain ecosystem. It has a **High Degree of Certainty** of enhancing the **Local** riverine and floodplain ecosystems. The Downtown Combined Sewer Upsizing Project will reduce the amount of untreated wastewater that enters the Sacramento River from combined sewer overflows and from Sacramento's combined sewer system. This project has a **High Degree of Certainty** of improving the **Local** and **Regional** water quality and ecosystem.

### 5. Practice Integrated Flood Management

The Antelope Creek Improvement Project has a **High Degree of Certainty** of providing multiple benefits through **Regional** integrated flood management. This project is the highest priority project identified in the *Dry Creek Watershed Flood Control Study* due to its ability to substantially reduce flows at critically flood impacted locations. It will also improve an existing migration corridor for salmon and steelhead and enhance natural treatment of temporarily-stored flood waters in the floodplain. Two automated ALERT-type stream level and precipitation gauges to be installed at the project site will increase the data available to flood engineers and emergency responders at the local, regional, and State level prior to, during and after flood events.

The Downtown Combined Sewer Upsizing Project will reduce the possibility of flood damage in the economically vital downtown area of Sacramento by replacing existing pipeline with larger pipes, paralleling existing pipeline, or by connecting new pipes to upsized portions. This project is helping the American River Basin achieve its goals of minimizing impacts from stormwater discharges to sensitive receiving waters, namely the Sacramento River; therefore this project has a **High Degree of Certainty** of providing **Regional** integrated flood management. Finally, the Upper Unionhouse Creek Flood Protection Project has a **High Degree of Certainty** of providing **Local** integrated flood management by removing up to 300 houses from the 100-year floodplain for the creek and relieving the homeowners of the burden of flood insurance, while at the same time, allowing a critical regional transit project to proceed forward. This project will also lessen the cost of the South Sacramento Streams Group (SSSG) Federal Project and leverage authorized federal project funding to focus on flood problems elsewhere in the Morrison Creek watershed.

### 6. Protect Surface Water and Groundwater Quality

The Antelope Creek Improvement Project will reduce sediment loading in the Clover Valley Reservoir and in downstream reaches of Clover Valley Creek and the Antelope Creek. The flood control component of the project will allow for natural treatment of temporarily-stored flood waters within the floodplain. Together, these two components achieve a **High Degree of Certainty** of protecting **Regional** surface water and groundwater quality.

The Downtown Combined Sewer Upsizing Project will reduce the combined system overflows and combined sewer system outflows, thus reducing the amount of untreated wastewater and stormwater that enters the Sacramento River. This will improve the quality of the Sacramento River, a primary drinking water source for the region. This project has a **High Degree of Certainty** of protecting **Local** and **Regional** water quality. Finally, the Upper Unionhouse Creek Flood Protection Project may protect surface water quality by widening of the channel and subsequently slowing creek velocities. This reduction in flow velocity will allow pollutants to settle from the creek, thus improving the water quality in the Unionhouse Creek. This project has a **Moderate Degree of Certainty** of protecting **Local** water quality.

#### 7. Improve Tribal Water and Natural Resources

This proposal does not directly include improvements to water and natural resources of California Native American Tribes. The United Auburn Indian Community, which owns lands within the region that are served by participating water purveyors, was contacted during outreach for projects and indicated that they do not have any current unmet priorities. They will continue to be involved in the IRWM update process. RWA recently identified the Wilton Rancheria and the recently-formed Buena Vista Band and will coordinate with these groups throughout the update of the existing IRWM Plan.

#### 8. Ensure Equitable Distribution of Benefits

The three Prop 1E Proposals being submitted by ARB Region entities (PCFCD, the City of Sacramento and SAFCA) are distributed throughout the ARB Region and therefore have a **High Degree of Certainty** of ensuring an equitable distribution of benefits within the **Region**. The projects in the proposal are distributed throughout the ARB and include projects brought forth by the region's water agencies, by other local agencies and municipalities, by non-profit environmental organizations and by other stakeholders.

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Attachment 11 – Program Preferences

Table 1: Program Preferences by Project

ARB Proposed Projects	Program Preferences									
	Include Regional Projects or Programs	Integrate Water Management Programs and Projects within a Recognized Hydrologic Region	Resolve Significant Water-Related Conflicts within or between Regions	Contribute to Objectives of the CALFED Bay-Delta Program <sup>1</sup>				Address Needs of DACs	Integrate Water Management with Land Use Planning	Address Statewide Priorities
				WS	WQ	ER	L			
Antelope Creek Improvement Project	✓	✓	✓	✓	✓	✓			✓	✓
Downtown Combined Sewer Upsizing Project	✓	✓	✓	✓	✓	✓			✓	✓
Upper Unionhouse Creek Flood Protection Project	✓	✓	✓		✓				✓	✓
Degree of Certainty Preference will be Met <sup>2</sup>	H	H	L	H, L	H, L	H, L	N/A	N/A	M, H	H
Breadth and Magnitude to which Preference will be Met <sup>3</sup>	R, L	R	R, L	S				N/A	R, L	R, L

Footnotes:

1. WS – water supply; WQ – water quality; ER – ecosystem restoration; L – levee integrity
2. H – High; M – Moderate; L- Low
3. R – Region; S – State; L – Local

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Table 2: Statewide Priorities by Project

ARB Proposed Projects	Statewide Priorities							
	Drought Preparedness	Use and Reuse Water More Efficiently	Climate Change Response Actions	Expand Environmental Stewardship	Practice Integrated Flood Management	Protect Surface Water and Groundwater Quality	Improve Tribal Water and Natural Resources	Ensure Equitable Distribution of Benefits
Antelope Creek Improvement Project	✓	✓	✓	✓	✓	✓		✓
Downtown Combined Sewer Upsizing Project			✓	✓	✓	✓		✓
Upper Unionhouse Creek Flood Protection Project			✓		✓	✓		✓
Degree of Certainty Statewide Priority will be Met	High	High	High	High	High	High to Moderate	N/A	High
Breadth and Magnitude to which Statewide Priority will be Met	Local	Local	Region to Local	Region to Local	Region to Local	Region to Local	N/A	Region