

Coachella Valley Integrated Regional Water Management Implementation Grant Proposal

Reduce Delta Water Dependence

Attachment 15 consists of the following items:

✓ **Summary of IRWM Plan Relating to Reducing Delta Water Dependence**

This attachment contains information describing how the Coachella Valley IRWM Plan will reduce future additional dependence on the Sacramento-San Joaquin Delta (Delta) for water supply.

✓ **Assurances that IRWM Plan Update Will Continue Reducing Delta Water Dependence**

The CVRWMG is committed to implementation and revision of the IRWM Plan in ways that continue to reduce dependence on the Sacramento-San Joaquin Delta.

This attachment summarizes the portions of the Coachella Valley IRWM Plan that address reduced dependence on future additional supplies from the Sacramento-San Joaquin Delta and documents relevant Plan excerpts to support this summary.

Summary of IRWM Plan Relating to Reducing Delta Water Dependence

The Coachella Valley IRWM Plan addresses reduced water supply dependence on the Sacramento-San Joaquin Delta water in four areas:

- 1) IRWM Plan Objectives (Chapter 4);
- 2) considering desalination as a means to increase local water supply (Chapter 6);
- 3) adapting resource management strategies to climate change (Chapter 6); and
- 4) IRWM Plan regional priority of addressing reduced supply reliability (Chapter 7).

Each of these four areas is described below with Plan excerpts provided for support and documentation.

IRWM Plan Objectives Relating to Reducing Delta Water Dependence

The IRWM Plan Objectives function as a means to accomplish the five regional IRWM Plan goals. Subsequently, projects to be included in the IRWM Plan were evaluated based on their ability to comply with and achieve the objectives and goals set out by the Plan. The Plan contains four objectives that explicitly relate to reducing dependence on the Sacramento-San Joaquin Delta for water supply—Objectives 1, 3, 4 and 9—as listed in *Chapter 4: Objectives*.

Chapter 4: Objectives, Section 4.1.1 Determining Objectives (page 4-3 to 4-5)

Objective 1: Provide reliable water supply for residential and commercial, agricultural community, and tourism needs.

The focus of this objective is to meet the requirements of Goal 1 (optimize local water supply reliability). The Valley's 448,000 residents and \$576M agricultural economy are both dependant on a reliable water supply. Additionally, regional growth forecasts project that water demands within the region are expected to increase despite conservation efforts (see Figure 3-1 in *Chapter 3 Issues*



and Needs, Section 3.1 Demand). Adequate water supplies must be identified for all sectors of the Valley economy, including residential and commercial, agricultural, and tourism needs. Emphasizing local solutions that increase reliability would potentially reduce future additional demand for imported water supply from the Sacramento-San Joaquin Delta by encouraging development of other, more reliable sources of water.

Objective 3: Secure reliable imported water supply, including restoring/improving reliability of State Water Project supply and securing other imported water supplies.

The focus of this objective is to meet the requirements of Goal 1 (optimize local water supply reliability). As documented in the *California Water Plan 2009 Update* (DWR 2009), water allocation, environmental, and hydrologic constraints present significant challenges to the sustainability of historic State Water Project and Colorado River supplies, particularly during long-term droughts. In order to serve projected growth while limiting groundwater overdraft, new or expanded imported water supplies must be secured for the Coachella Valley. This objective aims at securing reliable (non-SWP) imported water supplies and/or encouraging the Region to engage in water transfers that would potentially reduce Sacramento-San Joaquin Delta dependence. For example, collaboration with coastal water purveyors could potentially provide a new source of ocean desalinated water and reduce the region's future dependence on SWP supplies.

Objective 4: Maximize local supply opportunities, including water conservation, water recycling and source substitution, and capture and infiltration of runoff.

The focus of this objective is to meet the requirements of Goal 1 (optimize local water supply reliability). Diversification of regional water portfolios is a key element of this IRWM Plan. Water conservation (reducing water demand and use) is the Valley's most cost effective option and is therefore a central component of the region's diversification program. In order to meet the State's 20x2020 Water Conservation Plan (February 2010) goals for the Colorado River Funding Area...all five local water purveyors are implementing water conservation measures. The CVRWMG agencies are also focusing on expansion of recycled water systems, source substitution, desalination of agricultural drain water, and stormwater capture and reuse. Maximizing local supply opportunities is the primary climate change adaptation strategy being employed by the CVRWMG. Source substitution will also help the CVRWMG mitigate potential climate change by reducing energy consumption, especially the energy embedded in water use, and ultimately reduce GHG emissions. Increasing local supply opportunities would also potentially reduce the need for future additional imported water supply from the Sacramento-San Joaquin Delta.

Objective 9: Optimize conjunctive use of available water resources.

The focus of this objective is to meet the requirements of Goal 4 (coordinate and integrate water resource management). Conjunctive use involves closer coordination between imported surface water supply and other supply sources, including groundwater, recycled water, stormwater, and flood flows. Optimizing conjunctive use will contribute to meeting future water demands, while combating challenges associated with supply unreliability and/or climate change. Optimizing conjunctive use will also contribute to possible climate change adaptation by more efficiently managing water supply and, therefore, reducing associated energy use and GHG emissions. In addition, by improving efficiency through conjunctive use, the Region could potentially reduce future additional demand for imported water from the Sacramento- San Joaquin Delta.



Desalination as a Means to Reduce Delta Water Dependence

Chapter 6: Resource Management Strategies of the IRWM Plan provides a comprehensive range of resource management strategies considered to achieve the goals and objectives of the IRWM Plan, and provides examples of how the Region is currently implementing these strategies. One of the strategies used to increase local water supply to the region is desalination. Desalination would provide a reliable, long-term local water supply, thus reducing dependence on imported supplies, including those from the Sacramento-San Joaquin Delta.

Chapter 6: Resource Management Strategies, Section 6.4.3 Increase Water Supply (page 6-14)

Desalination

Desalination has been identified as a potential solution for increasing water supplies and reducing groundwater overdraft for the Coachella Valley IRWM region. However, desalination requires complicated technologies and is a high energy consuming technology. Desalination offers many potential benefits including: increases water supply and reliability during drought periods, reduced dependency on imported supplies by developing a local supply source, protection of public health, and facilitates more recycling and reuse, given the lower salinity of the source.

Several recommendations identified by the *California Water Plan Update 2009* to facilitate desalination strategies include:

- Desalination projects should be given the same funding opportunities as other water supply and reliability projects,
- Ensure most economical and environmentally appropriate desalination technology is utilized,
- Project sponsors need to ensure planning of desalination projects is a collaborative process that engages key stakeholders, the general public, and permitting agencies.

Coachella Valley Efforts

Desalination strategies being considered by the Coachella Valley IRWM region are listed below.

- **CVWD Desalination Pilot Project.** CVWD recently received a grant from DWR's Proposition 50 Water Desalination Proposal. The proposal requested funds for a pilot desalination project to compare reverse osmosis with solar still "dewvaporation" of agricultural drainage runoff within the Coachella Valley. CVWD will receive \$596,000 from the program and will match the same for a total pilot project cost of approximately \$1.2 million. The plan is to have 11,000 AFY of agriculture drain water be desalted.

Adapting Resource Management Strategies to Climate Change and Reduce Delta Water Dependence

Climate change in California could potentially present uncertainties relating to the availability of Sacramento-San Joaquin Delta water supply for Southern California (including the Coachella Valley). As a result, the Region is looking to implement management practices that would reduce dependence on Delta water supply, also presented in *Chapter 6: Resource Management Strategies*.



Chapter 6: Resource Management Strategies, Section 6.5: Adapting Resource Management Strategies to Climate Change (page 6-34)

Adapting Resource Management Strategies to Climate Change

The variability of location, timing, amount, and form of precipitation in California, suggested as a result of climate change, could present some uncertainty to the availability of future SWP's delivery capabilities and future SWP deliveries. DWR has determined that the Sierra snowmelt is shrinking and that melting is occurring earlier, shifting runoff from the spring further into the winter and causing winter flooding. Changes in precipitation pattern and quantity throughout the Southwest may also impact potential water supply availability from the Colorado River. Concerns about climate uncertainty have resulted in the need to adapt existing flood management and water supply systems in response to changing conditions.

The *2009 SWP Delivery Reliability Report* (DWR 2009) is intended to help local agencies, cities, and counties that use SWP water to develop adequate and affordable water supplies for their communities now and in the future. The information provided in this report can be used by local agencies in preparing or amending their water management plans and identifying the new facilities or programs that may be necessary to meet future water demands. A new feature of the *2009 SWP Delivery Reliability Report* is the estimation of possible reduction of SWP delivery reliability due to future climate changes and sea level rises. As vulnerability tools and assessments are developed, additional adaptation strategies will be identified to address the potential region-specific impacts of climate change.

Achievable “no regret” management practices for tackling climate change concerns that Coachella Valley can employ include:

- continued investment in local water conservation;
- diversification of local water supply portfolio;
- practicing integrated flood management;
- increasing conjunctive use of available water supplies;
- protecting and restoring water-related ecosystems;
- increasing water reuse and recycling;
- monitoring local and regional activities;
- tracking related legislation;
- investigating water supply/energy relationships and coordinating with larger water utilities; and
- following the State's required adaptation strategies and legislation.

In order to further address these predictions, the region may attempt to incorporate some of the strategies outlined in the *2009 California Climate Adaption Strategy Handbook* (CNRA 2009). The document summarizes the best known science on climate change impacts in seven specific sectors and provides recommendations on how to manage against those threats.

The *2009 California Climate Adaption Strategy Handbook* defines climate change adaptation as adjustments to the natural or human systems due to actual or expected climate changes in an effort to minimize harm or take advantage of beneficial opportunities (CNRA 2009), while climate change mitigation aims at directly reducing the sources of climate change, such as GHGs. To effectively address the impacts of climate change, both climate change adaptation and mitigation strategies should complement each other.



RMS that are implemented to manage water resources can also address climate change adaptation and/or mitigation. Table 6-3 was extracted from the *California Water Plan Update 2009*; it categorizes resource management strategies and identifies GHG reduction opportunities associated with each RMS.

Finally, project-level CEQA analysis will include detailed climate change analysis, including generation and mitigation of GHG emissions. In preparing project-level GHG emissions analysis, project proponents should estimate GHG emissions from the project; establish significance criteria; identify those project components that may support carbon sequestration; and, if applicable, explain how the project may help in adapting to potential effects of climate change. Further, DWR will be a responsible agency for such project-level CEQA analysis, and project proponents shall follow the guidelines established by DWR with respect to project-level GHG analysis.

Water Conservation to Reduce Delta Water Dependence

The CVRWMG understands the issues affecting future supply reliability from the Delta, thus they are strongly encouraging water conservation and source substitution to reduce Delta water dependence, as emphasized in the Regional Priorities section of *Chapter 7: Project Evaluation and Prioritization*.

Chapter 7: Project Evaluation and Prioritization, Section 7.1 Regional Priorities (page 7-2)

Priority 6: Address Reduced Reliability

Developing a better understanding of the State's SWP priorities and issues affecting reliability will help the Region coordinate its efforts and resources towards improving future supply reliability. In the meantime, the CVRWMG is committed to encouraging water conservation and source substitution projects to reduce demand on the imported water supply. For example, the CVRWMG recognizes the importance of expanding the region's recycled water systems to offset potable water demand. With this emphasis on water conservation and recycling, the CVRWMG will implement DWR's Statewide Priority "Drought Preparedness" within the Valley. The Region's *Proposition 84-Round 1 Implementation Grant Proposal* includes a regional water conservation program to address the potential for reduced reliability and to achieve compliance with the State's 20x2020 Plan.

Assurances that IRWM Plan Update Will Continue Reducing Delta Water Dependence

The CVRWMG is committed to updating the Plan within two years of execution of the Implementation Grant Agreement (estimated June 1, 2011) if the grant is funded. The update will refine all requirements of the IRWM Plan Standards contained within the 2010 IRWM Grant Program Guidelines (refer to Attachment 14). Revisions and updates to the IRWM Plan are expected as part of the IRWM planning process, as described within *Chapter 5: Stakeholder Involvement*. As such, the CVRWMG anticipates updating the Coachella Valley IRWM Plan by June 1, 2013. The Coachella Valley, due to its current dependence on the Sacramento-San Joaquin Delta for water supply, has a vested interest in reducing future water demand, increasing local water supply, and increasing other reliable (non-Delta) water supply sources for future water use. Due to an increasing importance of these issues involving water supply availability and reliability in the Delta, the IRWM Plan update will include an increased emphasis on helping to reduce Coachella Valley's future additional dependence on the Sacramento-San Joaquin Delta for water supply.

