



## Upper Santa Clara River Proposition 84 IRWM Plan Implementation Grant Attachment 13 - IRWM Plan - Reduce Delta Water Dependence

### Introduction

This attachment addresses the following requirements from the Proposal Solicitation Package:

- Identify and include portions of the IRWM Plan that demonstrate it helps reduce dependence on the Sacramento-San Joaquin Delta for water supply; and
- Provide assurances that any revised or subsequent IRWM Plan will continue to help reduce dependence on the Sacramento-San Joaquin Delta for water supply.

The Upper Santa Clara River (USCR) IRWM Plan Region receives State Water Project (SWP) water delivered through the Delta; actions within the Region contribute to the success of CALFED Bay-Delta Program objectives.

In the adopted 2008 USCR IRWM Plan, the Stakeholders made “reduction in water demand” one of the regional objectives. In the IRWM Plan, Stakeholders sought a “ten percent overall reduction in projected urban water demand throughout the Region by 2030 through implementation of water conservation measures” (IRWM Plan, pg. 3-3). A reduction in water demand would reduce dependence on imported SWP water and contribute to the attainment of CALFED objectives, benefiting the Delta. The USCR IRWM Plan is in the process of being updated and completion is anticipated late 2013. The Stakeholders have revised this objective for the 2013 Updated IRWM Plan to “reduction in potable water demand,” to emphasize the necessity to enhance supplies other than the Delta.

Since the 2008 IRWM Plan was adopted, new State water conservation requirements of Senate Bill 7 of Extended Session 7 (SBX7-7) have been enacted, mandating that urban water suppliers reduce statewide water demand (in gallons per capita per day) by 20 percent by 2020. The California Department of Water Resources (DWR) has recommended that the Region receive the planning grant funds requested during Planning Grant Round 2, which is allowing the Region to better plan for recycled water in the future and update their Water Use Efficiency (WUE) Strategic Plans. The effort will also develop a cost-effective water supply portfolio for the Region and further compliance with SBX7-7 regulations. Additionally, the Proposal Projects **Santa Clarita Valley (SCV) WUE Strategic Plan Programs (CLWA-3)** and **Santa Clarita Water Division (SCWD) WUE Programs (SCWD-2)** specifically address water supply management practices to reduce potable water demand within the Region.

### Water Demand and Imported Water Needs in USCR

Nearly 50 percent of the Region’s water supply is imported water from the SWP. The imported water is delivered to Castaic Lake through SWP facilities, treated at one of Castaic Lake Water Agency’s (CLWA’s) two treatment plants, and then delivered to the domestic water purveyors through transmission lines owned and operated by CLWA. CLWA, as the Region’s water wholesaler, has been contracting with the State of California through the DWR to acquire and distribute SWP water since 1980. CLWA’s Water Supply Contract with DWR is for 95,200 acre-feet per year (AFY) of SWP Table A Amount (IRWM Plan, pg. 2-49). The four local retail water purveyors; 1) CLWA SCWD (a Regional Water Management Group (RWMG) member), 2) Los Angeles County Waterworks District No. 36 (LACWWD36), 3) Newhall County Water District (NCWD) (a RWMG member), and 4) Valencia Water Company (VWC) (a RWMG member), deliver these water supplies to municipal and industrial (M&I) users within the Valley. Agricultural uses are serviced by local groundwater supplies. Together, the Purveyors provide water to about 70,400 service connections (2011 Santa Clarita Valley Water Report).

Consistent with other urban SWP contractors, SWP deliveries to the CLWA have increased as its requests for SWP have increased (IRWM Plan, pg. 2-50). Table 13-1, adapted from the USCR IRWM Plan presents historical total SWP deliveries to CLWA’s service area.

**TABLE 13-1: HISTORICAL TOTAL SWP DELIVERIES TO PURVEYORS**

Year	Deliveries (AF)	Year	Deliveries (AF)	Year	Deliveries (AF)
1980	1,125	1996	18,093	2004	47,205
1985	11,823	1997	22,148	2005	38,034
1990	21,647	1998	20,254	2006	40,646
1991	7,968	1999	27,282	2007 <sup>(a)</sup>	45,332
1992	13,991	2000	32,579	2008	41,705
1993	13,393	2001	35,369	2009	38,546
1994	14,389	2002	41,768	2010	30,578
1995	16,996	2003	44,419	2011	30,850

Source: Santa Clarita Valley Water Report, 2011.

Note: (a) Historically these supplies were comprised of only SWP Table A Amount. Since 2007, CLWA’s imported supplies now consist of a combination of SWP water and water acquired from the Buena Vista Water Storage District in Kern County.



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In late 2007 a federal court decision required that DWR curtail pumping from the Delta to protect the endangered Delta Smelt. A similar court decision was rendered in 2009 involving endangered salmon. The results of these impacts on environmental resources in the Delta, when combined with recent socio-economic conditions, conservation efforts and hydrology changes have already reduced imported SWP utilization in the Region from a high in 2004 of 47,205 acre-feet (AF) to approximately 30,578 AF in 2010 (see Table 13-1). On December 14, 2010, the court overturned these rulings and has required new analysis of Delta pumping requirements. While the results are unknown at this time, it is expected that some level of SWP pumping restrictions will continue into the future.

The SWP supply itself is highly variable and depends on hydrologic conditions in northern California, the amount of water in SWP storage reservoirs at the beginning of the year, regulatory and operational constraints, the total amount of water requested by the contractors, and climate change. Currently, the reliability of the Region’s overall water supply is dependent upon the reliability of its groundwater, imported water, and recycled water supplies. Since SWP water deliveries are subject to reductions when dry conditions occur in Northern California, and/or are affected by environmental decisions, the IRWM Plan, as well as the CLWA 2010 Santa Clarita Valley Urban Water Management Plan (UWMP), include water management strategies for enhancing local water supply reliability during such occurrences.

Natural catastrophes can also impact water supplies. If an earthquake were to occur, pipelines, canals, or pump stations conveying water across the Tehachapi Mountains might become inoperable, making SWP deliveries to CLWA and the other downstream contractors dependent on the supplies then available in the terminal reservoirs. Although pipelines that traverse fault lines are reinforced, damage can still occur depending on the magnitude of the earthquake. Therefore, water banking opportunities south of the Tehachapi Mountains have a high value to CLWA, and thus are given high value as water management strategies within the USCR IRWM Plan.

In addition to earthquakes, the SWP could experience other emergency outage scenarios. Past examples include slippage of aqueduct side panels into the California Aqueduct near Patterson in the mid-1990s, the Arroyo Pasajero flood event in 1995, and various subsidence repairs needed along the East Branch of the Aqueduct since the 1980s. Such events could impact some or all SWP contractors south of the Delta. Impacts to the delivery of SWP water to CLWA would require the purveyors to rely on local supplies, increased groundwater pumping, recycled water, conservation, and water available to CLWA from Pyramid and Castaic Lakes during the time period the SWP was unavailable. Thus combinations of water management strategies that reduce dependence on imported water and that maximize the reliability of other local resources are strongly sought within the IRWM framework.

The following section identifies how the USCR IRWM Plan will continue to integrate multiple water management strategies (WMS) in order to maximize the flexibility of the Region’s water resources.

### USCR IRWM Plan Objectives

For the 2013 Updated IRWM Plan, the Stakeholders have already collaborated to complete the ranking process and have produced an updated list of priority projects. This Proposal was developed from the 2013 Updated IRWM Plan priority project list. During development of the IRWM Plan, stakeholder issues and concerns culminated into significant key themes.

**Key Issue #1: *Increasing water demand while imported water supplies become less reliable.***

*Since reduction in water demand is a critical objective within USCR IRWM Plan Region, and prioritizing projects is predicated on the objectives within the IRWM Plan, all of the projects within the IRWM Plan, and this Grant Proposal have been selected to directly meet the IRWM Plan objectives below (IRWM Plan, pg. 3-1).*

#### USCR IRWM PLAN OBJECTIVES

2008 IRWM Plan Objective	Draft 2013 Updated IRWM Plan Objective(a)	Multiple Benefit
<b>Reduce Water Demand:</b> Implement technological, legislative and behavioral changes that will reduce user demands for water.	<b>Reduce <u>Potable</u> Water Demand:</b> Implement technological, legislative and behavioral changes that will reduce user demands for water.	These projects result in more efficient water use, <i>less dependence on imported water supplies</i> , less energy usage for treatment and delivery of water, and reduced demand for new or expanded water supply infrastructure. <a href="#">Proposal Projects CLWA-3 and SCWD-2 are examples.</a>



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2008 IRWM Plan Objective	Draft 2013 Updated IRWM Plan Objective(a)	Multiple Benefit
<p><b>Improve Operational Efficiency:</b> Maximize water system operational flexibility and efficiency, including energy efficiency.</p>	N/A	<p>These projects have benefits related to reduced maintenance costs and decreased system water loss. <a href="#">Proposal Project CLWA-8 is an example.</a></p>
<p><b>Increase Water Supply:</b> Understand future regional demands and obtain necessary water supply sources.</p>	<p><b>Increase Water Supply:</b> Understand future regional demands and obtain necessary water supply sources.</p>	<p>These projects <i>provide for increased use of local supplies rather than imported water.</i> They can decrease peak flood flows and can provide opportunities for habitat improvement and restoration. <a href="#">Proposal Projects CLWA-3 and SCWD-2 are examples.</a></p>
<p><b>Improve Water Quality:</b> Supply drinking water with appropriate quality; improve groundwater quality; and attain water quality standards.</p>	<p><b>Improve Water Quality:</b> Supply drinking water with appropriate quality; improve groundwater quality; and attain water quality standards.</p>	<p>These projects reduce the potential for human exposure to potentially harmful substances and improve the efficiency of both water and wastewater treatment processes. They also benefit agricultural water users and wildlife habitat. <a href="#">Proposal Projects SCVSD-1 and NCWD-2 are examples.</a></p>
<p><b>Promote Resource Stewardship:</b> Preserve and improve ecosystem health; improve flood management; and preserve and enhance water-dependent recreation.</p>	<p><b>Promote Resource Stewardship:</b> Preserve and improve ecosystem health, and preserve and enhance water-dependent recreation.</p>	<p>These projects improve overall habitat quality, reduce flooding and prevent erosion. Arundo removal also increases water supply as this plant utilizes large quantities of surface and groundwater. <a href="#">Proposal Project SC-1/BCN-1 is an example.</a></p>

Note: (a) Additional Draft 2013 Updated IRWM Plan Objectives include: Flooding/Hydromodification, Take action within the watershed to adapt to climate change, and Promote projects and actions that reduce greenhouse gas emissions.

While all of the objectives are meant to work in together in order to maximize their benefits; two of the objectives are more directly focused on water supply as a resource and demand as a management tool that impacts that supply: **Reduce Water Demand** and **Increase Water Supply**.

The USCR IRWM Plan objective **Reduce Water Demand** will be implemented by technological, legislative and behavioral changes that will reduce user demands for water. This is important to the USCR IRWM Plan for a few key reasons:

1. Adequate planning for, and the procurement of reliable water supplies is a critical component of CLWA’s mission. Planning for an adequate water supply to meet demands requires consideration of the reliability of SWP supplies, because history and statistical analysis indicate that the full contractual Table A Amount will not be available for delivery to the SWP Contractors in all years (IRWM Plan, pg. 2-51). Therefore, SWP Contractors like CLWA are compelled to initiate local projects given that maximum Table A Amounts are not projected for delivery in the future.
2. The 2011 SWP Delivery Reliability Report indicates that environmental water needs and climate change will result in SWP deliveries from 9 percent to 70 percent of the maximum contract amount over an 82-year simulation period under current conditions. Deliveries are expected to average 61 percent of maximum contract amount under current conditions, but decrease to approximately 35 percent of maximum contract amount over multiple dry years. Anticipated deliveries under future conditions are similar. Therefore, SWP contractors such as CLWA cannot rely on the SWP for delivery of maximum contract amounts, now or in the future, compelling agencies to expand and pursue local water supply projects.
3. Local water agencies like CLWA and the four purveyors understand that local water supplies will provide them with more control and will also expand their water portfolios and encourage efficient water allocation and use.

The USCR IRWM Plan objective **Increase Water Supply** will be implemented by understanding regional water demands and obtaining the necessary water supply sources. This is important to the USCR IRWM Plan for a few key reasons:

1. The CLWA service area portion of the Region’s anticipated demand in a normal year is projected to be about 88,564 AF in 2030 (with conservation), but this could increase in a multi-year dry situation to an estimated



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99,096 AF in 2030 (CLWA 2010 UWMP). Concurrently, in a multi-year drought scenario, supplies will decline. For this reason the water agencies in the Region have planned for other sources to increase water supply and water supply reliability, including programs to restore groundwater production, to utilize recycled water, and to conserve water. Further, storm water capture and subsequent groundwater recharge provides for increased use of local supplies rather than imported water. These projects assist in maintaining the long-term sustainability of the groundwater supply.

2. Implementing and expanding the recycled water system within the Region provides a reliable source of water year round that can help offset reliance on imported water and local groundwater. Use and delivery of up to 17,400 AFY of reclaimed water was considered in CLWA's Recycled Water Master Plan Final Program Environmental Impact Report (IRWM Plan, pg. 3-6). By utilizing the effluent from the Region's two existing wastewater treatment plants, the Saugus Water Reclamation Plant and the Valencia Water Reclamation Plant, CLWA and the purveyors can more efficiently allocate its potable water and increase the reliability of the local water supplies in the Santa Clarita Valley (IRWM Plan, pg. 2-53).
3. CLWA and the purveyors currently meet the balance of their demands with local groundwater and a small amount of recycled water. However, CLWA has evaluated the long-term water needs (water demand) within its service area based on applicable county and city land use plans and has compared these needs against existing and potential water supplies. Results indicate that CLWA's water requirements should utilize increased proportions of supply from conjunctive use, water transfers and water banking as means to improve the reliability of SWP supplies, and that the Region's long-term water supply strategy should also include water conservation, storm water capture, groundwater recharge and recycled water (IRWM Plan, pgs. 2-60, 2-90, 3-4, 3-6, 4-13, 4-36, 5-10).
4. Since preparation of the 2008 IRWM Plan, new State water conservation requirements have been enacted. Methods of complying with SBX7-7 include enhanced water conservation, water use efficiency, and recycled water. In addition, storm water capture and groundwater recharge projects provide for increased use of local supplies rather than imported water. These projects assist in maintaining the long-term sustainability of the groundwater supply.

Additionally, to help gain a better understanding the Region's dependence on the Delta water supplies from a hydrologic perspective, the Region is implementing a focused region-specific Climate Change Technical Study during the 2013 Updated IRWM Plan. The Climate Change Technical Study identifies the vulnerabilities of the Region to climate change, evaluates potential climate change impacts, and identifies and evaluates potential adaption strategies to better understand this altered hydrologic reliability.

### **USCR Strategies to Reduce Dependence on Imported Water**

Nearly 20 separate projects were submitted for consideration as Priority Projects during the "call for projects" when developing the 2013 Updated IRWM Plan. The projects included in this Proposal address the critical water management challenges in the Region. Full implementation of the IRWM Plan will provide for the following specific benefits:

#### **Demand Management Projects**

Regional water purveyors coordinate wherever possible to maximize efficiency and ensure the cost effectiveness of their conservation programs.

"More efficient water use will result in less demand on imported water supplies, less energy usage for treatment and delivery of water, and reduced demand for new or expanded water supply infrastructure" (IRWM Plan, pg. 5-9).

By improving indoor and outdoor water use efficiency and conserving water, WUE projects can:

- reduce water demand (on the Delta),
- avoid costs for purchase of imported water,
- increase water supply reliability for the CLWA customers, and
- improve operational flexibility for the Region.

WUE programs have proven successful in the Region and more are planned as part of this grant application to assist with reduction of Delta demand (see Table 13.2).

Conservation efforts by current stakeholders are having success in the Region. Conservation actions include activities besides installation of low flow water fixtures. In the Region, non-native plants are significant water users. Arundo



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(*Arundo donax*) uses almost twice as much water as native riparian vegetation for the same area of coverage. Besides their heavy water demands, invasive plants in the watershed, such as arundo and tamarisk (*Tamarix spp.*) negatively affect water quality, crowd out native plants and species, and increase flood risk, erosion hazard, and wildfire risk. Large stands of arundo or tamarisk can obstruct stream flows and shunt flow outward, exacerbating bank erosion (IRWM Plan, pg. 3-8).

The City of Santa Clarita, Angeles National Forest, and other stakeholders are implementing an environmentally beneficial project in the USCR watershed that will remove invasive plant species and increase of water quantity (and therefore decrease the demand on the Delta), improve water quality, and reduce the flood/wildfire hazard. One of these projects (**USCR Arundo/Tamarisk Removal Program (SCARP) Implementation (SC-1/BCN-1)**) is included in this grant application for funding.

### Water Supply Projects

The majority of Priority Projects submitted by Stakeholders relate to water supply, particularly storm water capture, groundwater recharge, and development of recycled water supplies. Storm water capture and subsequent groundwater recharge provides for increased use of local supplies rather than imported water. These projects assist in maintaining the long-term sustainability of the groundwater supply. Depending on project specifics, these projects can also serve to decrease peak flood flows and provide opportunities for habitat improvement and restoration. Recycled water supplies, likewise, decrease demand for imported water. Recycled water can offset potable water demand, recharge groundwater, and be used to create and restore wetland areas. (IRWM Plan, pg. 5-9).

**TABLE 13-2: SELECT USCR PROJECTS THAT REDUCE DEPENDENCE ON IMPORTED WATER**

Project Type	Project	Applicable WMS/RMS that Reduce Dependence on Imported Water
Water Use Efficiency	<a href="#">CLWA-3, Santa Clarita Valley (SCV) WUE Strategic Plan Programs.</a> <a href="#">SC-1, Upper Santa Clara River Arundo/Tamarisk Removal Program (SCARP) Implementation.</a> <a href="#">SCWD-2, Santa Clarita Water Division (SCWD) WUE Programs.</a> <a href="#">SCVSD-1, Automatic Water Softener Rebate and Public Outreach Program.</a>	<ul style="list-style-type: none"> <li>Water conservation/Water use efficiency</li> <li>Water supply reliability</li> <li>Reduce water demand</li> </ul>
Recycled Water	<a href="#">SCVSD-2, Ultraviolet Treatment at the Water Reclamation Plants.</a> <a href="#">NCWD-1, Santa Clara River – Sewer Trunk Line Relocation Phase II and III.</a> <a href="#">CLWA-1, Recycled Water Program, Phase II.</a>	<ul style="list-style-type: none"> <li>Recycled municipal water</li> <li>Groundwater management</li> <li>Conjunctive use</li> <li>Water supply reliability</li> <li>Increase water supply</li> </ul>
Groundwater Management/ Conjunctive Use	<a href="#">NCWD-2, Pellet Water Softening Treatment Plant – Phase 1.</a> <a href="#">LADPW-9, SCR South Fork Rubber Dam No. 1 and Spreading Grounds.</a> <a href="#">CLWA-9, West Saugus Formation Groundwater Resources Monitoring Project.</a>	<ul style="list-style-type: none"> <li>Groundwater management</li> <li>Conjunctive use</li> <li>Water supply reliability</li> <li>Increase water supply</li> </ul>

Note: [Blue text indicates Proposal Projects.](#) These are only example projects from the 2013 Updated IRWM Plan Priority Project List, focused on projects with near-term implementation. Space limitations prevent a full listing of projects.

### Future IRWM Plan Efforts to Continue to Reduce Dependence

For the following reasons the USCR IRWM Plan *will continue to help reduce dependence on the Delta for water supply:*

- Adopted objectives of the USCR IRWM Plan are to **Reduce Water Demand** and **Increase Water Supply** (using local sources)
- Adequate planning for, and the procurement of, a reliable water supply is a fundamental function of CLWA, the Region’s SWP wholesaler and active Region Water Management Group (RWMG) member; and
- The RWMG is committed to, and the IRWM Plan governance structure supports, implementing and updating the IRWM Plan into the future.

The list of Priority Projects (Att13\_IG2\_Delta\_2of2); *projects that when implemented would continue to help reduce the Region’s dependence on the Delta, through either a reduction in demand or an enhancement in supply have been highlighted.*