

Section 3: Plan Objectives

The purpose of this section is to identify objectives for the IRWMP, or broadly what the Stakeholders and the RWMG have determined they would like the IRWMP to accomplish when implemented. The following pages include an overview of the IRWMP objectives and describe how objectives were developed utilizing the Stakeholder process. To the extent feasible, objectives have been quantified. Quantifying objectives is intended to provide a means by which the future success of IRWMP implementation can be measured.

3.1 Objective Development

Four Stakeholder meetings focused on the development of objectives for the Upper Santa Clara River IRWMP Region. After the topic and concept of “objectives” was introduced to the group, various goals and objectives from neighboring IRWMPs were presented and reviewed, and the Stakeholders held a brainstorming session on issues, goals, and objectives that would be appropriate for the Region. Once a draft list of objectives was prepared and presented to the Stakeholders at a subsequent Stakeholder meeting, the wording and definition of the draft list of objectives was discussed and refined. In developing objectives, Stakeholders determined that it was important that they be measurable, in order to gauge successful implementation of the IRWMP. Stakeholders also brainstormed many potential means of quantifying objectives. From this session a first draft of quantified objectives was developed for Stakeholder review, and this was refined during subsequent meetings.

The resulting objectives generally apply to the Region as a whole and are meant to focus attention on the primary needs of the Region. Table 3.1-1 presents the objectives for the Region, the definition of each objective, and proposed means for measuring progress toward achieving each objective as the IRWMP is implemented.

In developing these objectives, Stakeholders determined that it was important that they not only be measurable, but also that the existing condition of the resources at issue be quantified so that change/progress could be reasonably ascertained at a later date. Stakeholders evaluated a variety of reports and studies to determine existing conditions. These reports also contained valuable insight about how change or progress towards a given objective could be measured. References used to develop measurable objectives included:

OBJECTIVES OF UPPER SANTA CLARA RIVER IRWMP

Reduce Water Demand: Implement technological, legislative and behavioral changes that will reduce user demands for water.

Improve Operational Efficiency: Maximize water system operational flexibility and efficiency, including energy efficiency.

Increase Water Supply: Understand future regional demands and obtain necessary water supply sources.

Improve Water Quality: Supply drinking water with appropriate quality; improve groundwater quality; and attain water quality standards.

Promote Resource Stewardship: Preserve and improve ecosystem health; improve flood management; and preserve and enhance water-dependent recreation.

- Antelope Valley-East Kern Water Agency (AVEK). 2005. *2005 Urban Water Management Plan*
- CLWA. 2005. *2005 Urban Water Management Plan*.
- CLWA. 2007. *Recycled Water Master Plan Final Environmental Impact Report*.
- CLWA. *Fiscal Year 2006/2007 Strategic Plan*.
- City of Santa Clarita and County of Los Angeles. 2004. *Santa Clarita Valley General Plan ("One Valley, One Vision") Technical Background Report*.
- City of Santa Clarita. 1991. *Parks and Recreation Element, General Plan*.
- LACWWD No. 37. 2004. *Acton-Agua Dulce Conceptual Water Master Plan for Water Facilities*.
- Los Angeles RWQCB. 2006. *Amendment to the Water Quality Control Plan for the Los Angeles Region through Revision of the Implementation Plan for the Upper Santa Clara River Chloride TMDL Resolution 04-004. Resolution Number R4-2006-016*. August.
- Los Angeles RWQCB. 2003. *Amendment to the Water Quality Control Plan for the Los Angeles Region to include a TMDL for Nitrogen Compounds in the Santa Clara River. Resolution Number 03-011*. August.
- Penrod, K., C. Cabañero, P. Beier, C. Luke, W. Spencer, and E. Rubin. 2004. *South Coast Missing Linkages Project: A Linkage Design for the San Gabriel-Castaic Connection*. South Coast Wildlands, Idyllwild, CA. www.scwildlands.org
- Ventura County Resource Conservation District. 2006. *Upper Santa Clara River Watershed Arundo and Tamarisk Removal Program. Long-Term Implementation Plan*.
- Ventura County Watershed Protection District (VCWPD) and LACDPW. 2005. *Santa Clara River Enhancement and Management Plan*.
- US Forest Service. 2003. *Business Plan for the Angeles National Forest*. November. R5-MB-020.

**TABLE 3.1-1
UPPER SANTA CLARA RIVER IRWMP OBJECTIVES, DEFINITIONS AND
MEASUREMENTS**

Objective	Measurement
Reduce Water Demand: Implement technological, legislative and behavioral changes that will reduce user demands for water.	Ten (10) percent overall reduction in projected urban water demand throughout the Region by 2030 through implementation of water conservation measures. Replace up to 4,300 outdated water meters per year.
Improve Operational Efficiency: Maximize water system operational flexibility and efficiency, including energy efficiency.	With assistance of local energy utility, perform electrical audit on all wholesale and purveyor water facilities once every five years. Reduce, on an agency-by-agency basis, energy use per acre-foot treated and delivered.
Increase Water Supply: Understand future regional demands and obtain necessary water supply sources.	Increase use of recycled water by up to 17,400 AFY by 2030, consistent with health and environmental requirements. Implement long-term transfer and exchange agreements for imported water with other water agencies, up to 4,000 AFY by year 2010 and 11,000 AFY by year 2030. Increase water supply as necessary to meet anticipated peak demands at buildout in the LACWWD No. 37 service area (~0.74 mgd) and peak demands at buildout in the Acton and Agua Dulce areas (up to 12.16 mgd). Capture and recharge 5,000 to 10,000 AFY of urban and storm water runoff in a manner consistent with the pending update to the regional groundwater flow model and Basin Yield Study..
Improve Water Quality: Supply drinking water with appropriate quality; improve groundwater quality; and attain water quality standards.	Meet all drinking water standards. Prevent migration of contaminant plumes. Comply with existing and future TMDLs.
Promote Resource Stewardship: Preserve and improve ecosystem health; improve flood management; and preserve and enhance water-dependent recreation.	In areas of the floodplain where invasive species have taken hold, reduce invasive species to 40 percent or less cover of the understory and canopy in years 1 to 5. Every five (5) years reduce by half the percentage of invasive species. In years 20 and beyond, keep invasive species to 2 percent or less. Keep invasive species to 2 percent or less in the upper reaches and tributaries where little to no invasive plants are currently located. Acquire acreage or conservation easements for 10,900 acres of remaining proposed South Coast Missing Linkage. Purchase private property from willing sellers in the 100-year floodplain. Acquire 12 miles along the Santa Clara River for development as a recreational trail/park corridor.

3.2 Regional Objectives

The following paragraphs provide additional detail about the regional objectives developed by the Stakeholders and the various means of measuring whether or not the objectives are being achieved.

3.2.1 Reduce Water Demand

Water conservation provides a viable long-term means to reduce demand and enhance supply. It also saves considerable capital and operating costs, particularly energy costs, for both utilities and their rate payers, and can avoid environmental degradation associated with developing new supplies.

Both wholesale (CLWA and AVEK) and retail water agencies are pursuing conservation in the Region. CLWA has programs related to reducing water demand. CLWA performs system water audits (to find and correct leaks in its system), conducts public and school education programs within its service area on the need for conservation, and provides financial incentives to its purveyors to advance water conservation. The rate structure CLWA utilizes also encourages conservation by charging more when greater volumes of water are used. Retail agencies (NCWD, SCWD, VWC, and LACWWD No. 36), in coordination with CLWA have also implemented demand reduction measures, including plumbing retrofit programs, and have undertaken pilot studies on the best ways to implement conservation practices for large landscape areas and commercial, industrial, and institutional customers. In addition, NCWD and VWC have individual programs offered to customers such as free water audits to residential and commercial water users and inviting customers to participate in a pilot program to test the effectiveness of automated irrigation controller systems.

In addition, the retail agencies and CLWA have undertaken the production of a *Water Conservation Strategic Plan* for their service areas in the Valley, which will provide recommendations for a variety of water conservation measures that can be incorporated into future versions of the IRWMP through time.

AVEK, according to its 2005 UWMP, maintains an active public information program for conservation purposes. In addition, AVEK audits system losses on a regular basis and makes repairs to minimize water loss. Its service area, however, covers a relatively small portion of the Region (the far eastern edge).

Given past demand reduction success and the potential to introduce additional demand reduction measures (such as large landscape conservation), the Stakeholders have identified the following measurable objectives:

- *Ten (10) percent overall reduction in projected urban water demand throughout the Region by 2030 through implementation of water conservation measures*
- *Because outdated meters can underestimate water usage, replace up to 4,300 outdated water meters per year*

A 10 percent overall reduction in projected urban water demand by year 2030 was considered within CLWA's 2005 UWMP. Many of the water agencies in the Region also have meter testing,

repair, and replacement programs. Most of the purveyors in the Region strive to test and replace as necessary, any meters approximately 15 to 20 years of age or older. Testing is more frequent for larger meters.

3.2.2 Improve Operational Efficiency

Improved operational efficiency would result in decreasing the amount of energy, labor, and other materials (e.g., water treatment chemical supplies) needed to move water from its source to the customer. For example, through proper sizing and placement of storage tanks it may be possible to fill and drain tanks during off-peak hours for electricity or use gravity-feed to fill tanks. Another example of operational efficiency is using the river channel itself as a groundwater recharge area, rather than purchasing land to create and operate recharge facilities or injection wells. An example of operational *inefficiency* is using resources to treat water to the drinking water standard if in fact that water is going to be used for non-potable uses (for example, landscape irrigation and industrial processes). In this example, there could be greater operational efficiency if the recycled water distribution system were expanded to serve the non-potable uses currently receiving treated water.

Related to operational efficiency, the Stakeholders have identified the following measurable objectives:

- *With assistance of local energy utility, perform electrical audits on all wholesale and purveyor water facilities once every five years*
- *Reduce, on an agency-by-agency basis, energy cost per acre-foot of treated water delivered*

3.2.3 Increase Water Supply

A reliable water supply is necessary to protect the economic vigor of the Region. As discussed in Section 2 and the CLWA UWMP, the CLWA service area portion of the Region's anticipated demand in a normal year is projected to be about 130,000 AF in 2030 (with conservation), but this could increase in a multi-year dry situation to an estimated 138,000 AF in 2030. Concurrently in a multi-year drought scenario, supplies will decline. For this reason the water agencies in the CLWA service area have planned for other sources to increase their water supply and their water supply reliability, including programs to restore groundwater production, to utilize recycled water, and to bank groundwater.

On a sub-regional scale there is a projected imbalance between supply and demand. Peak demands during the summer need to be accounted for in order to size water supply, treatment, and transmission facilities, which run approximately two times the average daily demands. Existing demand for water in the LACWWD No. 37 service area is 2,252 AFY with peak demand at 4.02 mgd. Existing water supply sources for LACWWD No. 37 include three wells and the imported water from the AVEK water treatment plant (WTP) with a combined capability of delivering about 7.17 mgd. At buildout, the projected demand in the LACWWD No. 37 area is 4,431 AFY with peak demand at 7.91 mgd which exceeds peak supply by 0.74 mgd. Options available to meet the additional demand include expansion of the AVEK WTP, drilling additional wells, water conservation (reducing projected water demands) and water reclamation, or a combination of all four (4) options.

The Acton and Agua Dulce areas (outside of the LACWWD No. 37 service area) obtain water from local wells and in some cases hauled water. The 2004 LACWWD study of 3,707 parcels in the Acton and Agua Dulce area, adjacent to the LACWWD No. 37 service area, estimated the existing demand to be approximately 3,283 AFY with a peak demand of 5.86 mgd. At buildout estimated water demand for Acton and Agua Dulce areas (excluding LACWWD No. 37) will increase to 6,813 AFY and peak demand to 12.16 mgd. It is uncertain whether local wells will be sufficient to meet future demand. County policy requires that property owners demonstrate proof of reliable potable supply before proceeding with new development.

Related to water supply the Stakeholders have identified the following measurable objectives:

- *Increase use of recycled water by up to 17,400 AFY in year 2030; consistent with health and environmental requirements*
- *Implement long-term transfer and exchange agreements for imported water with other water agencies, up to 4,000 AFY by year 2010 and 11,000 AFY by year 2030*
- *Capture and recharge 5,000 to 10,000 AFY of urban and storm water runoff in a manner consistent with the pending update to the regional groundwater flow model and Basin Yield Study*
- *Increase water supply as necessary to meet anticipated peak demands at buildout in the LACWWD No. 37 service area (~0.74 mgd) and peak demands at buildout in the Acton and Agua Dulce areas (up to 12.16 mgd)*

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*. In addition, this same amount of recycled water was considered in CLWA's 2005 UWMP. CLWA's 2005 UWMP also contemplated long-term water transfers as a means for enhancing future water supply.

3.2.4 Improve Water Quality

Water quality is an important consideration not only for water delivered to the customer, but for ecosystems.

The majority of drinking water served in the Region is treated at either the ESFP or the RVWTP, both operated by CLWA. These plants use ozone, chemicals, and filtration to treat water. Chloramines and/or chlorine may also be added to the water following treatment to prevent the growth of bacteria in the distribution systems. In the LACWWD No. 37 service area, water is treated at the AVEK WTP. Currently, these facilities provide water that consistently meets drinking water standards.

Outside of the CLWA or LACWWD No. 37 service areas, many water users in the Region rely on privately operated wells for their water supply. In the Acton Valley Groundwater Basin, assessments by DWR and others have indicated that levels of TDS, sulfate, chloride, and boron can exceed drinking water standards. Though data is somewhat limited, there are also indications that nitrates can exceed drinking water standards in the Agua Dulce Groundwater Basin as well (NPRI 0-191-254). Therefore, related to water quality, the Stakeholders have identified the following measurable objective:

- *Meet drinking water standards*

The detection of perchlorate in Valley groundwater supplies has raised concerns over the reliability of those supplies and has pointed to the need to monitor for, and mitigate, any contaminant plumes. In cooperation with state regulatory agencies, CLWA and the local retail water purveyors have developed a plan to pump and treat perchlorate in a manner to limit contaminant plume migration. Based on the experience with perchlorate the Stakeholders have identified the following measurable objective:

- *Prevent migration of contaminant plumes*

Hard water (water high in calcium or magnesium or both) is a recognized problem in the Region. Due to water hardness, a high percentage of homeowners and businesses in the Region have installed water softeners. However, water softening has had a negative effect on the Upper Santa Clara River because the softeners (particularly self-regenerating softeners) add chlorides to the water which eventually pollute the river and have been implicated in downstream crop damage. Certain crops, such as strawberry and avocado trees, are “salt-sensitive” and increased levels of chloride in the water may interfere with their growth.

The majority of the Upper Santa Clara River has also been identified as having high nitrite, nitrate, and ammonia levels. High levels of these substances can be toxic to aquatic life and can cause algae growth. Identified sources for nitrate-related discharges are reclamation plant discharges, agricultural runoff, storm water discharges, and groundwater discharges.



TMDLs are Intended to Protect Beneficial Uses, Including Habitat

As described in Section 2, several TMDLs have been established for the Upper Santa Clara River. These TMDLs are established in order to protect beneficial uses of the river, including agricultural irrigation, warm freshwater habitat, and groundwater recharge. TMDLs have been adopted for both nitrogen compounds and chlorides. However, there are other constituents of concern in the Region that may result in additional future TMDLs. For example, lakes in the Region are listed as having eutrophic conditions and having issues related to trash, organic enrichment, and pH. Upper reaches of the Santa Clara River are listed as having impairment related to insecticide residues and coliform bacteria. Therefore, related to water quality the Stakeholders have identified the following measurable objective:

- *Comply with existing and future TMDLs.*

3.2.5 Practice Resource Stewardship

Water is intended for many beneficial uses including agricultural water supplies, groundwater recharge, water replenishment, recreation, wildlife habitat, rare and endangered species, and wetland ecosystems.

To this end, Stakeholders have investigated multiple objectives related to resource stewardship, including removal of invasive species, acquisition of floodplain areas for recreation and flood easements, and acquisition of habitat.

Invasive plants in the watershed, such as arundo (*Arundo donax*) and tamarisk (*Tamarix spp.*) negatively affect water quality, crowd out native plants and species, and increase flood risk, erosion hazard, and wildfire risk. Non-native plants are also heavy water users; arundo uses almost twice as much water as native riparian vegetation (Ventura County Resources Conservation District 2006). Both arundo and tamarisk are highly flammable, and due to plant height (up to 30 feet), a fire in arundo or tamarisk can easily spread to nearby tree canopies. Large stands of arundo or tamarisk can obstruct stream flows and shunt flow outward, exacerbating bank erosion. Stakeholders have identified the following measurable objective related to resource stewardship:



Non-native and Invasive Arundo

- *In areas where invasive plants have taken hold, establish areas of the floodplain where invasive species comprise 40 percent or less cover of the understory and canopy in years 1 to 5; decrease percentage of invasive species by half every five (5) years (20 percent: years 6 to 10, 10 percent: years 10 to 15, 5 percent: years 15 to 20). In years 20 and beyond, a less than 2 percent goal has been established. Keep invasive species to 2 percent or less in the upper reaches and tributaries where little to no invasive plants are currently located.*

This overall measurement is to remove non-native plant species and promote revegetation by native plant species in the Upper Santa Clara River and protect its 500-year floodplain. In addition, this measurement is intended to prevent establishment of new species of invasive plants within the Watershed, as it is the most cost effective way to control these plants and prevents further habitat degradation. A phased goal has been established over a 20-year period due to the persistence of these species, the expense of removal, the short annual removal period, and the changing nature of the Watershed. Specifically, the overall goal is to keep invasive species to 2 percent or less in the upper reaches and tributaries where little to no invasive plants are currently located. In areas where invasive plants have taken hold, the goal is to establish areas of the floodplain where invasive species comprise 40 percent or less cover of the understory and canopy in years 1 to 5. The goal will be halved every five (5) years (20 percent: years 6 to 10, 10 percent: years 10 to 15, 5 percent: years 15 to 20). In years 20 and beyond, a less than 2 percent goal has been established.

Recreation and flood control are both important activities on Pyramid, Castaic, and Elizabeth Lakes, as well as the Upper Santa Clara River and, in many cases, these can be competing interests. However, the purchase of public easements along the Upper Santa Clara River is one method to create land uses that would accommodate both the protection of flood inundation

areas and recreational facilities. Stakeholders have identified the following measurable objective related to resource stewardship:

- *Acquire 12 miles along the north side of the Santa Clara River to the eastern City Limit (within River Reach 6) for development as a recreational trail/park corridor*

As described in Section 2, within the Region, the South Coast Missing Linkages (SCML) Project is a partnership involving representatives from the US Forest Service, The Wildlands Conservancy, The Nature Conservancy, California State Parks, the National Park Service, Zoological Society of San Diego Applied Conservation, Conservation Biology Institute, the California State Parks Foundation, the Santa Monica Mountains Conservancy, South Coast Wildlands, and many others. This project has focused on defining and preserving ecological linkages throughout Southern California and Baja California, an area collectively termed the South Coast Ecoregion. The principle goal of the SCML-proposed San Gabriel-Castaic Connection, primarily located in the Upper Santa Clara River Region, is to preserve essential open space and viable connections for wildlife movement between two core habitat areas, the San Gabriel Mountains and the Castaic Ranges (including the Sierra Pelona), both part of the Angeles National Forest managed by the US Forest Service. A feature of the proposed linkage is the Santa Clara River as it acts as a natural linkage. The SCML has identified approximately 10,900 acres in Soledad Canyon (between Acton and the mouth of Agua Dulce Canyon), Hauser, Long, Bobcat, Escondido, Upper Mint, and Tick canyons for preservation. For this reason, the Stakeholders have identified the following measurable objective related to resource stewardship:

- *Acquire acreage or conservation easements for 10,900 acres of remaining proposed South Coast Missing Linkage*

Finally, Stakeholders of this IRWMP process have identified encroachment of private property into the floodplain as an issue. There are approximately 4,900 acres in the 100-year floodplain of the Upper Santa Clara River. This has also been raised as an issue and concern as part of past studies, most notably the *Santa Clara River Enhancement and Management Plan* (VCWPD and LACDPW 2005). Stakeholders have identified the following measurable objective related to resource stewardship:

- *Purchase of private property from willing sellers in the 100-year floodplain*

3.3 Strategies

Following identification of objectives, the Stakeholders then moved to refining strategies appropriate to achieving the objectives. This process and its outcomes are described in Section 4.

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