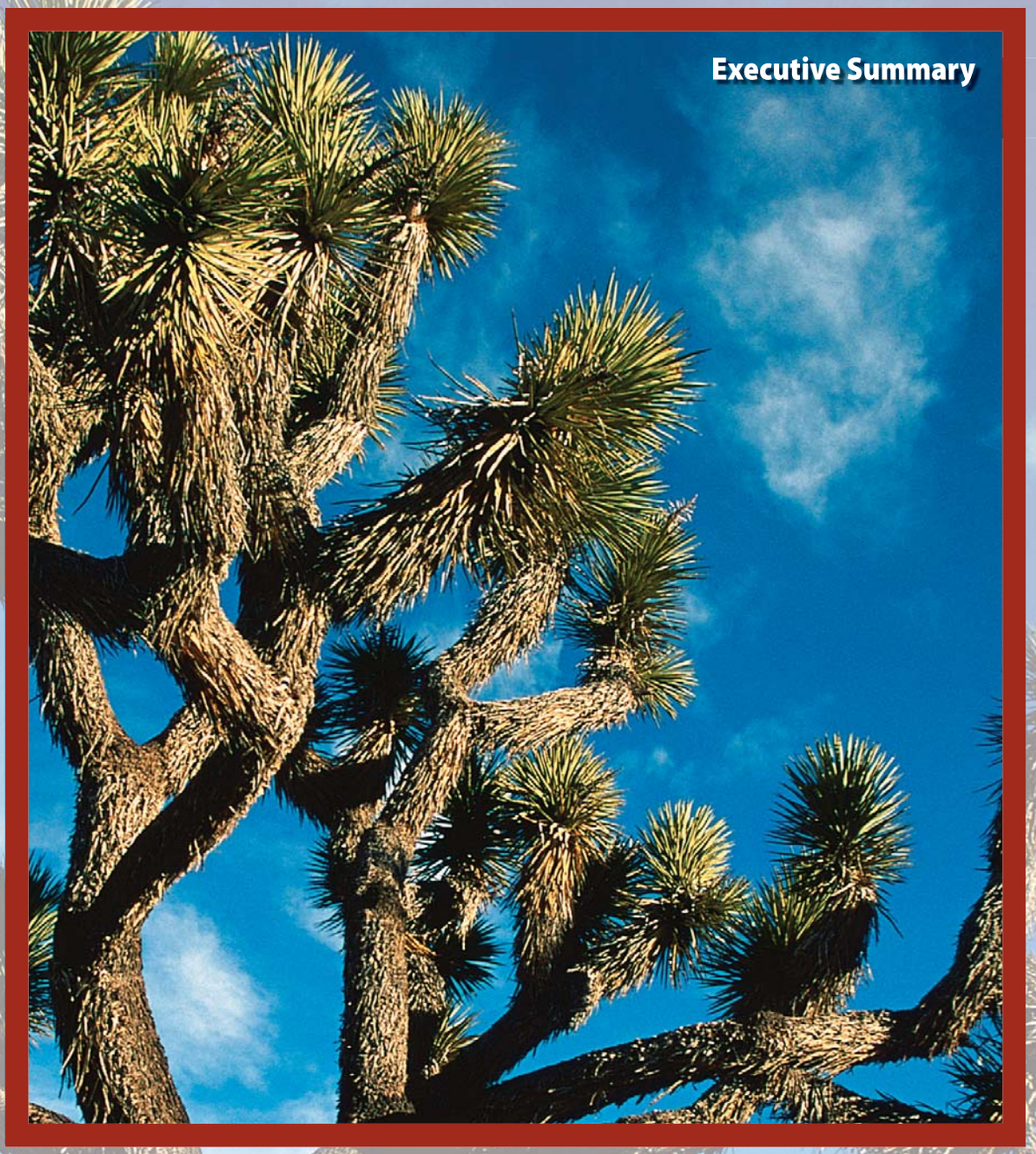
Executive Summary

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This plan defines a clear vision and direction for the sustainable management of groundwater reserves in the Antelope Valley Region.

Executive Summary

ANTELOPE VALLEY INTEGRATED REGIONAL WATER MANAGEMENT PLAN OVERVIEW

The California Water Plan 2005 update is the basis for all Integrated Regional Water Management (IRWM) planning efforts underway throughout the State, including this IRWM Plan for the Antelope Valley Region. It represents a fundamental transition in how the State looks at water resource management, and how the State government needs to be more involved at a local and regional level with governing agencies and interest groups to better identify and address State-wide water concerns.

The State recognizes that there is a need to consider a broader range of resource management issues, competing water demands, new approaches to ensuring water supply reliability, and new ways of financing.

IRWM planning was derived from Proposition 50 which was passed by California voters in November 2002, authorizing $3.4 billion in general obligation bonds to fund a variety of specified water and wetlands projects. It set aside $380 million for grants related to the implementation of IRWM Plans and is jointly administered by the California Department of Water Resources (DWR) and the State Water Resources Control Board (SWRCB).

Proposition 50 states that IRWM Plans should include a description of the region and participants, regional objectives and priorities, water management strategies, implementation, impacts and benefits, data management, financing, stakeholder involvement, relationship to local planning, and state and federal coordination. This Antelope Valley Integrated Regional Water Management (IRWM) Plan includes a discussion of the specified elements, as summarized below.

INTRODUCTION (SECTION 1)

Several years ago, leaders and agencies in the Antelope Valley Region recognized the need for regional cooperation and planning. In an effort to represent the broad interests within the Antelope Valley Region, a number of organizations joined to form a Regional Water Management Group (RWMG) to work together and create this IRWM Plan. Members of the RWMG include the Antelope Valley-East Kern Water Agency (AVEK), Antelope Valley State Water Contractors Association (AVSWCA), City of Lancaster, City of Palmdale, Littlerock Creek Irrigation District, Los Angeles County Sanitation District (LACSD) Nos. 14 and 20, Los Angeles County Waterworks District No. 40 (LACWWD 40), Palmdale Water District (PWD), Quartz Hill Water District (QHWD), and Rosamond Community Services District (RCSD). These agencies agreed to contribute funds to help develop the AV IRWM Plan, provide and share information, review and comment on drafts, adopt the final AV IRWM Plan, and assist in future grant applications for the priority projects identified in this IRWM Plan.

> *"We have a responsibility for future generations, and we have a responsibility just as responsible citizens, to protect this groundwater resource and make sure that we use it in the best way possible."*
>
> – Adam Ariki,
> Los Angeles County Waterworks District No. 40

In January 2007, the RWMG and other community participants (the Stakeholders) set about developing a broadly supported water resource management plan that defines a meaningful course of action to meet the expected demands for water within the entire Antelope Valley Region through 2035. They chose to create the water resource management plan consistent with the State sponsored Integrated Regional Water Management Program that makes grant funds available to support sound regional water management. The goals of the AV IRWM Plan are to address:

- How municipal and industrial (M&I) purveyors can reliably provide the quantity and quality of water that will be demanded by a growing population;
- Options to satisfy agricultural users' demand for reliable supplies of reasonable cost irrigation water; and
- Opportunities to protect and enhance the current water resources (including groundwater) and the environmental resources within the Antelope Valley Region.

The RWMG acknowledged that a separate process (called adjudication) related to groundwater management was also underway. Members of the RWMG and other stakeholders discussed at length whether it was possible (and if possible, how) to develop a Regional Water Management Plan before the adjudication was settled. The members of the RWMG agreed that since the IRWM Plan and the adjudication were focused on different aspects of water management, they could proceed in parallel. This IRWM Plan contains information to help take action to meet shared objectives for long-term water management for the entire region. The results of the adjudication will help provide important clarity and certainty between groundwater users about how the groundwater resources will be managed, but other important water management actions can and should be taken without waiting for a final adjudicated solution. Members of the RWMG agreed that no information developed for the purposes of the IRWM Plan should be interpreted to interfere in any way with the adjudication process. The data provided in this report were not prepared in a manner suitable to answer the questions being addressed in the adjudication.

REGION DESCRIPTION (SECTION 2)

The Antelope Valley Region of California is home to over 444,000 people living in many different communities. Residents within this Region have experienced tremendous changes over the past generation due to a rapid increase in population coming from nearby large cities. Current forecasts of population growth suggest even larger changes

Surface water for the Antelope Valley Region comes from the state aqueduct and Littlerock Reservoir

will occur before 2035. Water plays a central role in the health and well being of all residents within the Antelope Valley Region. People use water for drinking, bathing, household and outdoor activities, agriculture, business endeavors, recreation, and to sustain and enhance natural habitats. This common need for water links communities together in many ways. When anyone uses water, the ability of other people to use water within the Antelope Valley Region can be affected.

The Antelope Valley Region encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County, and western San Bernardino County. Major communities within the Antelope Valley Region include Boron, California City, Edwards Air Force Base, Lancaster, Mojave, Palmdale and Rosamond. All of the water currently used in the Antelope Valley Region comes from two sources: (1) naturally occurring water within the Antelope Valley Region (surface water and groundwater accumulated from rain and snow that falls in the Antelope Valley and surrounding mountains), and (2) State Water Project water (surface water that is collected in northern California and imported into the Antelope Valley and other areas around the state).

"This plan is going to provide a long-range benefit to the Antelope Valley and will be able to continue to provide for economic development, particularly with residential development throughout the Antelope Valley Region."

– Gretchen Gutierrez,
Antelope Valley Building Industry Association

The number of residents within the Antelope Valley Region expanded more than 330 percent between 1970 and 2005, growing from 103,000 people in 1970 to 444,000 people in 2005. Forecasters expect the population to continue to swell, potentially reaching 1,174,000 residents by the year 2035. As the number of people living and working in the

Antelope Valley Region increases, the competition for water supply increases, and the challenge of maintaining good water quality and managing the interconnected water cycle becomes more challenging.

Creation of a proactive, "smart" design for the fast-developing Antelope Valley Region makes this IRWM Plan essential to efficient and effective water management.

ISSUES AND NEEDS (SECTION 3)

Water managers and local planners face many daunting challenges related to supporting the well being of the Antelope Valley Region. Past activities have created problems that need to be addressed and expected increases in population growth make resolving these problems even more difficult. In order to help address the broad challenges, the AV IRWM Plan was organized to address issues and needs in the following categories. Section 3 of the Plan describes these issues and needs in detail.

Supplies are Variable and Uncertain

Determining the amount of water available for use at any given time (now or in the future) is more challenging than one might imagine. The amount of water supply available varies considerably due to changes in weather, rain and snow, and other conditions. All water supplies within the Antelope Valley Region come from two sources: (1) local rain and snow, or (2) imports of water from outside the Antelope Valley Region. The local water supplies come from rainfall and snowmelt that percolate into the groundwater aquifers or are captured in Littlerock Reservoir. Current estimates of water supplies made available from local rainfall and snowmelt vary widely (30,300 to 81,400 acre-feet per year (AFY).[1,2] Imported water comes from the State Water Project, which has historically varied. The currently available supplies from imported water can also vary widely from year to year (6,400 to 74,300 AFY).

Demand is Greater than Supply

One fundamental challenge in the Antelope Valley Region is that demand for water exceeds available supplies. The

The expected rapid growth in the Antelope Valley Region will affect water demand and increase the threat of water contamination from additional wastewater and urban runoff without proper management.

demand for water clearly exceeds even the higher estimates of currently available supplies. By 2010 the demand for water in an average year by 2010 will be 274,000 AFY and by 2035 could be 447,000 AFY. Even using the higher estimates of available supply, this means demand could exceed supply by 73,600 AFY in 2010 and by 236,800 AFY in 2035. The expected imbalance between supply and demand in 2035 is about the same as currently available supplies. If communities do not begin conserving water more effectively, the Region will need twice the water as it currently has in order to meet demand in 2035.

Historically, water supplies within the Antelope Valley Region have been used primarily for agriculture; however, due to population growth, water demands from residential and business uses have increased significantly and this trend is expected to continue. The expected continuation of rapid growth in the Antelope Valley Region will affect water demand and increase the threat of water contamination from additional wastewater and urban runoff. More residents will also lead to higher demand for water-based recreation.

Much of the water used within the Antelope Valley Region is extracted from groundwater aquifers. The amount of water pumped within the Antelope Valley Region has varied tremendously since the early 1900s. The United States Geological Survey estimated that groundwater pumping in 1919 was about 29,000 AFY and reached as high as 400,000 AFY in the 1950's. For many of those years, the amount of water being pumped was greater than the amount of water being replenished, creating an imbalance within the groundwater aquifers. Because the amounts pumped were greater than the amounts being replenished, groundwater levels have declined significantly throughout the Antelope Valley Region. The long-term depletion of aquifers cannot be continued indefinitely without serious

1 An acre-foot per year is enough water to cover an acre of land one foot deep and meet the water needs of a family of four for one year.

2 The analyses provided in the IRWM Plan are strictly for long-term planning purposes and have not been conducted to answer the questions being addressed within the adjudication. Once the detailed analysis of available local water supply are completed within the adjudication, the supply numbers for the IRWM Plan will need to be updated.

consequences. The historical declines in groundwater levels within the Antelope Valley Region have caused permanent damage to aquifers in some areas through land subsidence, or sinking.

In order to prevent further damage from declining groundwater levels, many water providers and managers within the Antelope Valley Region recognize the need to balance the water being pumped from the aquifers with the water being put back. In response to this need, a legal process called adjudication is currently underway. If the adjudication process is successful, groundwater users within the Antelope Valley Region will create and abide by a plan to stabilize groundwater levels and prevent further damage that can result from declining groundwater levels. While determining a method to balance groundwater use with the amount of water being replenished is a necessary piece to creating a viable water management strategy within the Antelope Valley Region, the adjudication likely will not provide any additional water supplies needed to meet the growing demands within the Antelope Valley Region.

Recognizing the need to identify meaningful actions beyond the adjudication, members of the Group and other community participants agreed to focus on actions beyond the adjudication in the Plan. Participants in developing the AV IRWM Plan encourage a quick and collaborative settlement of the adjudication process, but the contents of the AV IRWM Plan identify and recommend actions that go well beyond the adjudication. The actions identified in the AV IRWM Plan can help meet the larger needs of the Antelope Valley Region but will require a solution from the adjudication to stabilize groundwater levels. Nothing in the IRWM Plan shall be interpreted to interfere in any way with the adjudication process.

Water Quality and Flood Management

The groundwater basin within the Antelope Valley Region is an undrained, closed basin, meaning there is no outlet for water to flow to the ocean. When water enters a closed basin, any minerals or chemicals in the water typically accumulate in the basin. Currently, groundwater quality is excellent within the principal aquifer but is not as good toward the northern portion of the dry lake areas. Some portions of the basin contain groundwater with high fluoride, boron, total dissolved solids, and nitrate concentrations. Arsenic is another emerging contaminant of concern in the Antelope Valley Region and has been observed in LACWWD 40, PWD, Boron, and QHWD wells. Research conducted by the LACWWD and the United States Geological Survey has shown the problem to reside primarily in the deep aquifer,

The need for regional coordination of flood control efforts is readily apparent with the increase of paved surfaces, along with the increase of local flood events.

The preservation of the Antelope Valley Region's unique environmental features can be achieved through integrated surface and groundwater management actions.

and it is not anticipated that the existing arsenic problem will lead to future loss of groundwater as a water supply resource for the Antelope Valley.

Portions of the Antelope Valley Region are also subject to flooding from uncontrolled runoff in the nearby foothills, which can be aggravated by lack of proper drainage facilities and defined flood channels. This runoff can negatively affect the water quality of the underlying groundwater basin, and can create stagnant ponds in places where clay soils beneath the surface do not allow for percolation to occur. The need for regional coordination of flood control efforts becomes more readily apparent as urban development and paved surfaces increase throughout the Antelope Valley Region, along with the frequency of local flood events.

Environmental Resources

The Antelope Valley Region has many unique environmental features, and several plant and animal species are only found in this area. As the pressure for growth expands out into undeveloped or agricultural lands, the need to balance industry and growth against protection of endangered species and sensitive ecosystems requires difficult decisions and trade-offs, each resulting in a variety of unique impacts on water demands and supplies in the Region. The actions identified in the AV IRWM Plan can help to preserve open space and natural habitats in the greater the Antelope Valley Region while maximizing surface water and groundwater management efforts.

Water Management and Land Use

What people do on the land of the Antelope Valley and how they do it directly impacts many aspects of life, including the water cycle, within the Antelope Valley Region. Historically throughout California, land use planning and water use planning have been done almost independently of one another. The challenges identified within the Plan clearly show a need for much closer collaboration between

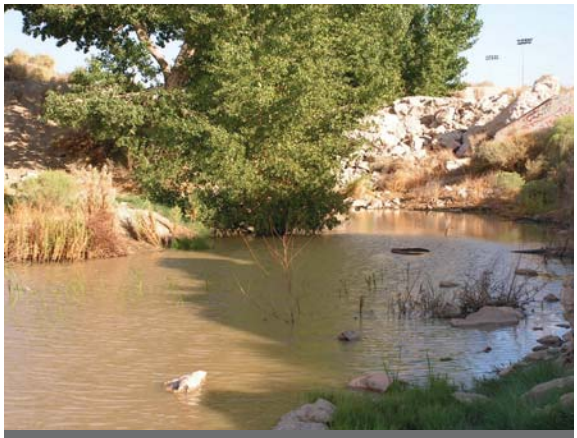
The expected rapid growth in the Antelope Valley Region will affect water demand and increase the threat of water contamination from additional wastewater and urban runoff without proper management.

land use planning efforts and water management planning efforts. Continued development within the Antelope Valley Region depends heavily on the successful completion of the objectives presented in the Plan to meet the growing demand for recreational opportunities while minimizing or avoiding the loss of local culture and values.

OBJECTIVES (SECTION 4)

The Stakeholders worked together to identify clear objectives and planning targets they want to accomplish by implementing the AV IRWM Plan (see Table ES-1). Although the AV IRWM Plan is intended to address the Antelope Valley Region's water resource management needs, this document also identifies several open space, recreation, and habitat targets as well. Refer to Section 4 of the AV IRWM Plan for details on how the objectives and targets were determined.

These objectives and planning targets represent the most important things the Stakeholders have chosen to work together to accomplish over the next several years. Everything done within the context of this IRWM Plan should contribute in some way to achieving these objectives. Also, because the planning targets are measurable, residents within the Antelope Valley Region can monitor how well the Plan is being implemented.



Stephen Sorenson County Park, a community recreation facility within the Antelope Valley, is home to "Lovejoy Springs" as it is known by the community.

Apollo Park Lake

Table ES-1 Antelope Valley Region Objectives and Planning Targets

Objectives	Planning Targets
Water Supply Management	
Provide reliable water supply to meet the Antelope Valley Region's expected demand between now and 2035.	Reduce (73,600 to 236,800 AFY) mismatch of expected supply and demand in average years by providing new water supply and reducing demand, starting 2009.
	Provide adequate reserves (50,600 to 57,400 AFY) to supplement average condition supply to meet demands during single-dry year conditions, starting 2009.[3]
	Provide adequate reserves (0 to 62,000 AF/4 year period) to supplement average condition supply to meet demands during multi-dry year conditions, starting 2009.[4]
Establish a contingency plan to meet water supply needs of the Antelope Valley Region during a plausible disruption of SWP water deliveries.	Demonstrate ability to meet regional water demands without receiving SWP water for 6 months over the summer, by June 2010.
Stabilize groundwater levels at current conditions.	Manage groundwater levels throughout the basin such that a 10-year moving average of change in observed groundwater levels is greater than or equal to 0, starting January 2010.
Water Quality Management	
Provide drinking water that meets customer expectations.	Continue to meet Federal and State water quality standards as well as customer standards for taste and aesthetics throughout the planning period.
Protect aquifer from contamination.	Prevent unacceptable degradation of aquifer according to the Basin Plan throughout the planning period.
	Map contaminated sites and monitor contaminant movement, by December 2008.
	Identify contaminated portions of aquifer and prevent migration of contaminants, by June 2009.
Protect natural streams and recharge areas from contamination.	Prevent unacceptable degradation of natural streams and recharge areas according to the Basin Plan throughout the planning period.
Maximize beneficial use of recycled water.	Increase infrastructure and establish policies to use 33% of recycled water to help meet expected demand by 2015, 66% by 2025, and 100% by 2035.
Flood Management	
Reduce negative impacts of stormwater, urban runoff, and nuisance water.	Coordinate a regional flood management plan and policy mechanism by the year 2010.
Environmental Resource Management	
Preserve open space and natural habitats that protect and enhance water resources and species in the Antelope Valley Region.	Contribute to the preservation of an additional 2,000 acres of open space and natural habitat, to integrate and maximize surface water and groundwater management by 2015.
Land Use Planning/Management	
Maintain agricultural land use within the Antelope Valley Region.	Preserve 100,000 acres of farmland in rotation[5] through 2035.
Meet growing demand for recreational space.	Contribute to local and regional General Planning documents to provide 5,000 acres[6] of recreational space by 2035.
Improve integrated land use planning to support water management.	Coordinate a regional land use management plan by the year 2010.

3 Dry year reserves determined by taking the dry year mismatch and adding the average year supplement. Assumes that the average year supplement equals the average year mismatch for any given year. Range determined from the maximum and minimum reserves.

4 As with single-dry year, multi-dry year reserves determined by summing the 4-year dry year mismatch and adding the 4-year average year supplement. Assumes that the average year supplement equals the average year mismatch for any given year. Range determined from the maximum and minimum reserves.

5 The phrase "in-rotation" means that not all 100,000 acres will be in agricultural production at one time rather the land will be rotated in cycles to make most efficient use of the land.

6 The City of Palmdale and City of Lancaster's General Plans provide a standard of 5 acres of parkland per 1,000 City residents. The Kern County General Plan provides a standard of 2.5 acres per 1,000 residents. The other local and regional General Plans do not provide a standard for "recreation or parkland" preservation. This planning target assumes a 2035 population of 1.17 million residents in the Antelope Valley Region.

WATER MANAGEMENT STRATEGIES (SECTION 5)

An overview and description of each of the Proposition 50 Water Management Strategies required to be considered in the AV IRWM Plan is provided in Section 5. These water management strategies include those that are currently utilized by the agencies and organizations in the Antelope Valley Region on an ongoing basis, the strategies now being implemented, and those that are planned for the future.

Additionally, in the AV IRWM Plan, the 20 different water management strategies identified in the IRWM Plan Guidelines (CWC §§ 79562.5 and 79564) were compared with those identified in the California Water Plan and then grouped into the AV IRWM Plan's five regional and broad-based water management strategy areas: water supply management; water quality management; flood management; environmental resource management; and land use management.

To help identify the many potential projects in the Antelope Valley Region and to assess the contribution of these projects towards meeting the AV IRWM Plan objectives and planning targets (as identified in Table ES-1, above), a "Call for Projects" form was sent out to all the Stakeholders to give them the opportunity to submit their project concepts for consideration. The Call for Projects provided an avenue to engage the Stakeholders in the information-sharing aspect of Plan development, and resulted in identification of many projects that provide multiple benefits that span more than one water management strategy.

IRWM PLAN AND PROJECTS INTEGRATION, EVALUATION AND PRIORITIZATION (SECTIONS 6 AND 7)

Many local agencies and other community participants have worked well together to create a Plan that identifies challenging issues and needs being faced by all Antelope Valley residents. Fortunately, this IRWM Plan also identifies actions that can help meet the objectives for the Antelope Valley Region and identifies methods for cooperative implementation of those actions.

Table ES-2 lists the projects and actions that the Stakeholders believe will help meet the Regional objectives. Implementing the high priority actions will require focused effort, broad community support, political resolve, and money. The Stakeholders are actively pursuing financial assistance through several grant programs to help leverage local investments. The RWMG is also working to establish a secure and long-lasting way to coordinate resources to meet the growing needs of the entire Antelope Valley Region.

Table ES-2 Stakeholder Prioritized Projects

Priority	Project	Project Sponsor
Water Supply Groundwater Recharge/Banking Infrastructure Projects		
High	Antelope Valley Water Bank	Western Development and Storage
	Aquifer Storage and Recovery Project - Injection Well Development	LACWWD 40
	Upper Amargosa Creek Recharge, Flood Control & Riparian Habitat Restoration Project	City of Palmdale, AVEK
	Water Supply Stabilization Project – Westside	AVEK/AVSWCA/ LACWWD 40
Medium	Aquifer Storage and Recovery Project: Additional Storage Capacity	LACWWD 40
	Lower Amargosa Creek Recharge & Flood Control Project	J. Goit/City of Palmdale
	Water Supply Stabilization Project – Eastside Project	AVEK
Water Infrastructure Projects		
High	Avenue K Transmission Main, Phases I-IV	LACWWD 40
	Littlerock Dam Sediment Removal Project	PWD
	Wastewater Pipeline	RCSD
Low	Avenue M and 60th Street West Tanks	LACWWD 40
	Place Valves and Turnouts on Reclaimed Water Pipeline	RCSD

Table ES-2 Stakeholder Prioritized Projects (continued)

Priority	Project	Project Sponsor
Recycled Water Projects		
High	Antelope Valley Recycled Water Project Phase 2	LACWWD 40/Palmdale/ LACSD
	Groundwater Recharge Using Recycled Water Project	City of Lancaster
Medium	Groundwater Recharge – Recycled Water Project	PWD
	Kern County and Los Angeles County Interconnection Pipeline	RCSD
	Regional Recycled Water Project Phase 3	LACWWD 40/Palmdale/LACSD
	Tertiary Treated Water Conveyance and Incidental Groundwater Recharge of Amargosa Creek Avenue M to Avenue H	City of Lancaster
Low	Regional Recycled Water Project Phase 4	LACWWD 40/Palmdale/ LACSD
Water Conservation/Water Use Efficiency		
High	Comprehensive Water Conservation/Efficient Water Use Program	Antelope Valley Water Conservation Coalition/ LACWWD/PWD
Water Quality Projects		
High	Lancaster Water Reclamation Plan Stage V	LACSD
	Palmdale Water Reclamation Plan Existing Effluent Management Sites	LACSD
	Palmdale Water Reclamation Plan Stage V	LACSD
	Partial Well Abandonment of Groundwater Wells for Arsenic Mitigation	LACWWD 40
Medium	Lancaster Water Reclamation Plan Stage VI	LACSD
	Lancaster Water Reclamation Plan Proposed Effluent Management Sites	LACSD
	Palmdale Water Reclamation Plan Stage VI	LACSD
	Palmdale Water Reclamation Plan Proposed Effluent Management Sites	LACSD
	Palmdale Water District New Treatment Plant	PWD
Low	42nd Street East, Sewer Installation	City of Palmdale
Flood Management Projects		
High	Development of Coordinated Antelope Valley Flood Control Plan	Cities of Lancaster, Palmdale, Los Angeles Department of Public Works (LADPW), Kern County
Medium	Quartz Hill Storm Drain	LADPW
	Anaverde Detention Basin, Dam & Spillway at Pelona Vista Park	City of Palmdale
	Barrel Springs Detention Basin and Wetlands	City of Palmdale
	Hunt Canyon Groundwater Recharge and Flood Control Basin	City of Palmdale
Low	45th Street East Flood Control Basin (Q East Basin)	City of Palmdale
	Avenue Q and 20th Street East Basin (Q West Basin)	City of Palmdale
	Storm water Harvesting	Leona Valley Town Council
Environmental Resource Management Projects		
High	Ecosystem and Riparian Habitat Restoration of Amargosa Creek; Avenue J to Avenue H	City of Lancaster
Medium	Tropico Park Pipeline Project	RCSD
Land Use Management Projects		
High	Development of a Coordinated Land Use Management Plan	Cities of Lancaster, Palmdale, LADPW, Kern County /Antelope Valley Conservancy
	Amargosa Creek Pathways Project	City of Lancaster

FRAMEWORK FOR IMPLEMENTATION (SECTION 8)

The AV IRWM Plan is a dynamic document that identifies monitoring guidelines and sets forth procedures for measuring the success, benefits, and impacts of the AV IRWM Plan. An ongoing management process is proposed for evaluating, updating and maintaining the Plan, and a comprehensive implementation framework has been developed to establish and identify a capital improvement program and financial plan for both construction and operation and maintenance of the projects and management actions selected as "high priority" (see Table ES-2, for a list of the high priority projects).

The 11 public agencies that have joined together to create the RWMG have recognized the value of working collectively towards meeting the regional goals identified in this Plan. In order to do this, they have signed a Memorandum of Understanding (MOU) to define what their roles and responsibilities are in developing and moving forward with implementation of the AV IRWM Plan. The decision-making structure of the MOU provides the RWMG with the responsibility to make formal decisions regarding the scope and content of the AV IRWM Plan. While the structure and approach has been successful to create the plan, the RWMG discussed whether the MOU and facilitated broad agreement approach would work well to implement and update the Plan after it is adopted. Several potential options were discussed including selection of one willing existing agency within the RWMG, (the City of Palmdale for example), that would serve on behalf of the entire stakeholder group, or creation of a new legal entity, such as a new Joint Powers Authority (JPA) to lead the collaboration with the stakeholder group and help implement the IRWM Plan.

The stakeholders decided that they would like to continue using the current approach of facilitated broad agreement to implement and update the AV IRWM Plan. However, several of the RWMG Members expressed a desire to form a more formal governance structure to implement the Plan over the next several years. The stakeholders understand that creating a new, more formal governance structure that will maintain the positive momentum the group has demonstrated during the past year until the year 2035 will likely require a few years.

Implementation of the high priority projects in the IRWM Plan is currently the responsibility of the individual lead agency with the jurisdictional authority to approve the project. The Stakeholders and RWMG have chosen these projects because they want to take action on them within the next two to three years, and they directly address the objectives and targets of better management of resources within the Antelope Valley Region. Furthermore, implementing the projects together yield greater benefits to the Region then if each agency implemented on their own.

The collection, management, distribution and use of data collected as part of this IRWM Planning effort, and through implementation, are essential to making this a sustainable effort that will benefit the Antelope Valley Region for years to come. Data regarding water quantity and quality are currently collected and distributed by a number of different agencies. The Stakeholders have identified strategies in this IRWM Plan to ensure quick identification of data gaps, avoiding duplicative (and costly) studies that result in the same information, and integrating with other important regional, statewide programs, and federal needs.

This IRWM Plan identifies performance measures that will be used to evaluate strategy performance, monitoring systems that will be used to gather actual performance data, and mechanisms to change these strategies if the data collected shows the Antelope Valley Region's IRWM planning targets are not being met. The Stakeholders also recognized that additional technical detail is needed for several of the IRWM Plan's performance measures to be properly implemented and measurable. The Stakeholder group has agreed to continue to refine these performance measures as the AV IRWM Plan is implemented.

This IRWM Plan is necessarily a Stakeholder-driven Plan. The RWMG invites the public and interested Stakeholders to become active participants in the Region's ongoing efforts to:

- Identify, evaluate, prioritize, and implement solutions to the Region's complex water management issues, challenges, and conflicts; and
- Continue the development and evolution of this Plan.

The San Gabriel Mountains provide a beautiful, natural backdrop to many Antelope Valley households.