



Section 8 | Implementation

This section develops a comprehensive implementation plan for the IRWM Plan. The objectives of this section are to describe how the governance structure of the Region operates now and in the future, develop a financial plan for implementation of the Plan and projects selected as implementation projects, describe how the Region will manage and report data, describe the technical information used in developing this plan and data gaps found, identify a means for monitoring progress in meeting Plan objectives, and describe how the Plan will be updated and maintained throughout the planning horizon.

8.1 Framework Introduction

This subsection discusses the agencies and stakeholders that develop plans or participate in the development of plans in the Antelope Valley Region, and it identifies the different scales at which planning occurs. How local agencies and stakeholders choose to link regional water issues and challenges with the IRWM Plan priorities, strategies, and objectives noted in Section 4; combine water management strategies; or determine which specific activities should occur for any specific water management strategy may vary based on the scale of planning. It is within this framework that the stakeholders intend to move toward the shared resource management objectives, following a course of greater integration and coordination of water projects and programs in the Region.

8.1.1 Existing Plans and Programs

A substantial number of federal, state and local/regional agencies and jurisdictions are responsible for, or participate in, the development and implementation of plans and programs that satisfy the resource management strategies developed earlier in this report.

Land use decisions have the potential to affect the resource management strategies utilized in the AV IRWM Plan, as land use can affect population growth, water demand, and surface water quality. The implementation of stormwater capture projects may require acquisition of land which could displace existing uses and may warrant consideration of modifications to land use policies and practices. In addition, the passage and implementation of water conservation or floodplain

management ordinances can further address IRWM Plan objectives. In developed areas, the land use decision makers are primarily the cities and the counties. In open space areas, the Forest Service, National Park Service, and California State Parks have regulatory responsibility for the conservation and preservation of those spaces. Additionally, many ‘open spaces’ in the Antelope Valley Region are undeveloped rural lands under Los Angeles and Kern County jurisdiction. All of these agencies and jurisdictions have been involved in the AV IRWM Plan as part of the stakeholder process, or are active members of the Antelope Valley RWMG (e.g., cities and counties).

The stakeholder process allows for interactive feedback to occur between local land use and water resources planning, and regional IRWM Plan planning. Local planning is conducted by cities, counties, and local agencies and districts. Most of the cities and counties in the Antelope Valley Region have participated either directly, or through the participation of a regional representative. Through the stakeholder workshops, the cities, counties and municipal agencies have advocated for their respective local planning needs and issues, which have been incorporated into the IRWM Plan through stakeholder feedback and project solicitation. Subsequently, the outcomes from the AV IRWM Plan process have been disseminated by the representatives back to their local decision makers, allowing the IRWM Plan priorities, objectives and planning targets to be considered in local planning efforts where appropriate. For example, the Los Angeles County General Plan is currently being updated (to be completed in 2014), and as appropriate, the AV IRWM Plan can be used to inform that process in areas related to water resource management.



Through the stakeholder workshops, the cities, counties and municipal agencies have advocated for their respective local planning needs and issues, which have been incorporated into the IRWM Plan through stakeholder feedback and project solicitation. Subsequently, the outcomes from the AV IRWM Plan process have been disseminated by the representatives back to their local decision makers, allowing the IRWM Plan priorities, objectives and planning targets to be considered in local planning efforts where appropriate. For example, the Los Angeles County General Plan is currently being updated (to be completed in 2014), and as appropriate, the AV IRWM Plan can be used to inform that process in areas related to water resource management.

Given this, numerous plans and studies related to water resources and land use management in the Antelope Valley Region have contributed to the development of the IRWM Plan. Thus, the AV IRWM Plan has been developed from and is consistent with local planning efforts in the Antelope Valley Region shown in Table 8-1.

8.2 Governance Structure

Governance structure means “decision-making” structure or management structure. As described in Section 1, the RWMG uses a governance structure established through an MOU that prescribed the roles and responsibilities for the RWMG. The MOU identifies how the RWMG will incorporate new members. When approved by all parties, new members may join the RWMG by adopting the IRWMP and executing the MOU. The MOU also states that, when appropriate, new members may pay a reasonable financial contribution as the existing RWMG members shall determine. The MOU intentionally does not identify a level of financial contribution for each member. Any action of the RWMG requiring funding from the members, including updates to the IRWMP, public noticing, and preparation of grant applications, will require a separate agreement approved by the governing boards of each respective member.

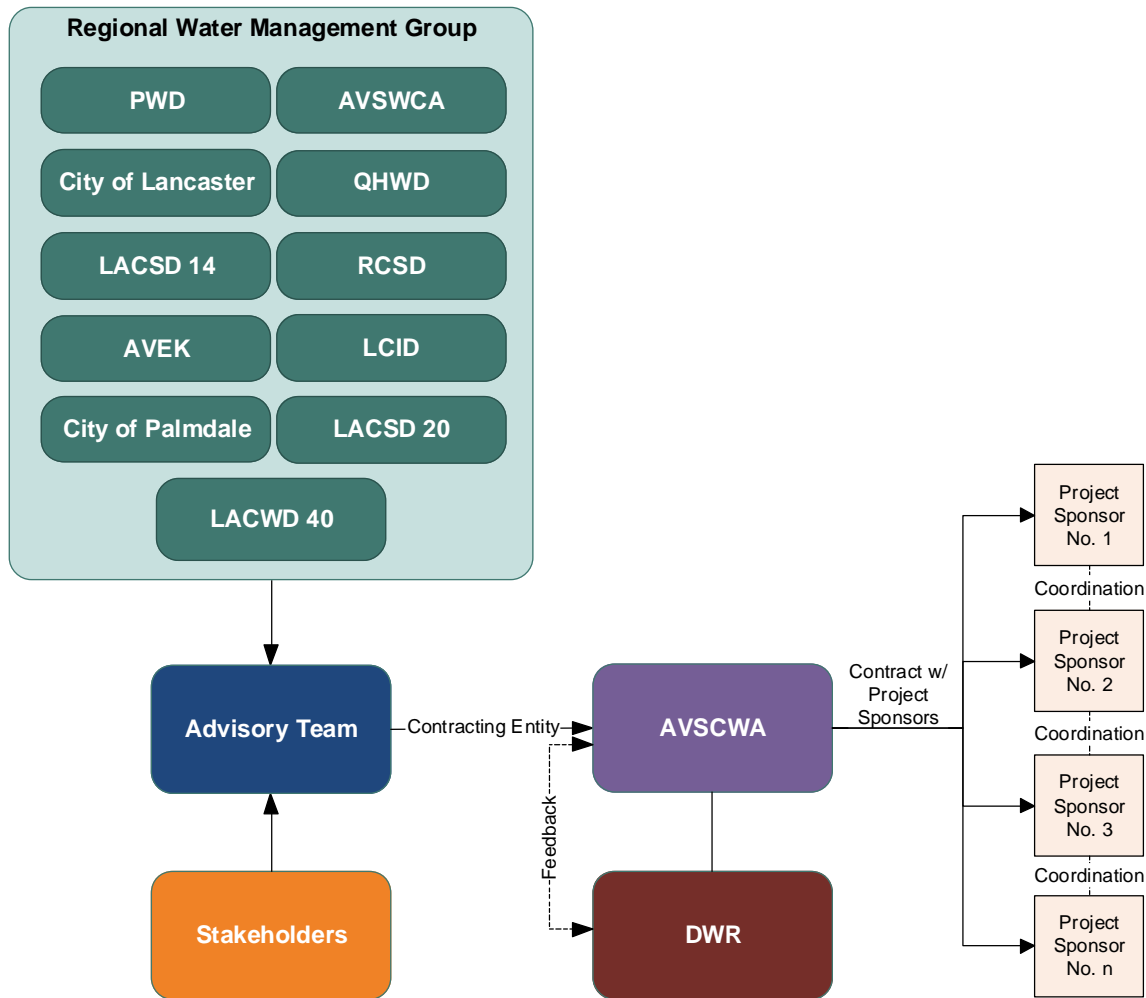
As shown in Figure 8-1, the RWMG is the governing body, and invites stakeholder involvement beyond the MOU signatories through regularly scheduled stakeholder meetings and participation in the Advisory Team and subcommittees. The RWMG has engaged a balance of interested persons or entities representing sectors or interests by conducting all business in consultation with the larger Stakeholder Group in meetings which are open to the public. The Stakeholder Group includes all participants within the IRWMP process including agencies that comprise the RWMG as well as an extensive mix of other cities and regulatory, environmental, industrial, agricultural, and land-use

planning agencies that represent all areas of the Antelope Valley Region. Any interested person may participate in Stakeholder meetings and provide input. The Stakeholder Group meets at least once per quarter (i.e., 4 times per year) to review progress on IRWMP implementation and to consider updates to the IRWMP (such as newly proposed projects or management actions that address the Regional Plan objectives).

Table 8-1: IRWM Plan Relationship to Local Planning Documents

Planning Document	Jurisdiction	Relationship to IRWM Plan	Updates
General Plans	Land use and zoning	Include land use and zoning information, significant ecological areas and growth projections for Antelope Valley cities and counties.	As needed
Lahontan Regional Water Quality Control Board Basin Plan	Water quality	Includes water quality information on local surface waters such as 303(d) listings, beneficial uses, non-point source pollution, and total maximum daily loads.	As needed
Urban Water Management Plans	Water supply	Provides current and 25-year projected water supply and demand, drinking water supply/quality issues, population and facilities	Every 5 years
State Water Project Reliability Report	Water supply	Contains information on projected reliability of imported water from the Delta.	Every 5 years
Groundwater Adjudication Documents	Water supply	Includes information on ongoing proceedings to adjudicate Antelope Valley groundwater, including historical pumping patterns, conditions of overdraft, and total sustainable yield.	As needed
Recycled Water Facilities Plans (Lancaster, Palmdale, Palmdale Water District, Rosamond Community Services District, LA County Waterworks District 40)	Water supply	Includes information on current and projected available recycled water supply and plans for future recycled water system expansion.	As needed
2009 California Water Plan	Water resources planning	Includes statewide discussion of water resources in California, including resource management strategies, strategic planning, and regional discussions.	Every five years
Species Recovery Plans	Habitat	Contains information on the locations of habitats of local endangered species.	As needed
Water Reclamation Plant Facilities Plans	Wastewater planning	Includes information on current and projected available recycled water supply and plans for future water reclamation plant expansion.	As needed

Figure 8-1: Antelope Valley IRWM Governance Structure



The RWMG has agreed to evaluate the effectiveness of the Region’s governance structure periodically, and to explore additional options for governance structures for integrated regional water management in the Antelope Valley if needed. The following discussion provides additional detail on how the Region’s governance structure performs various activities.

8.2.1 Public Involvement Process

The Region encourages public involvement in both the IRWM Plan development process and implementation process. The regional planning and public involvement process, described in Section 1, provided useful, broadly accepted information that supported development of the IRWM Plan Update. The public is encouraged to participate in the implementation of the updated IRWM Plan. To ensure continued participation, the Region will continue to hold regular stakeholder meetings open to the public. These meetings will allow the Region to accept project proposals on an ongoing basis, to continue to reach out to DACs, and to provide technical assistance when needed. DACs will be continually represented in the Stakeholder group so that the AV IRWM Plan will address the diverse issues and needs of the Antelope Valley Region.

8.2.2 Effective Decision Making

The RWMG has operated since its inception using a systematic approach called “facilitated broad agreement.” Whenever a decision needs to be made, the discussion between the RWMG members and the Stakeholder Group is facilitated until all members come to a consensus on an acceptable course of action.

8.2.3 Balanced Access and Opportunity for Participation

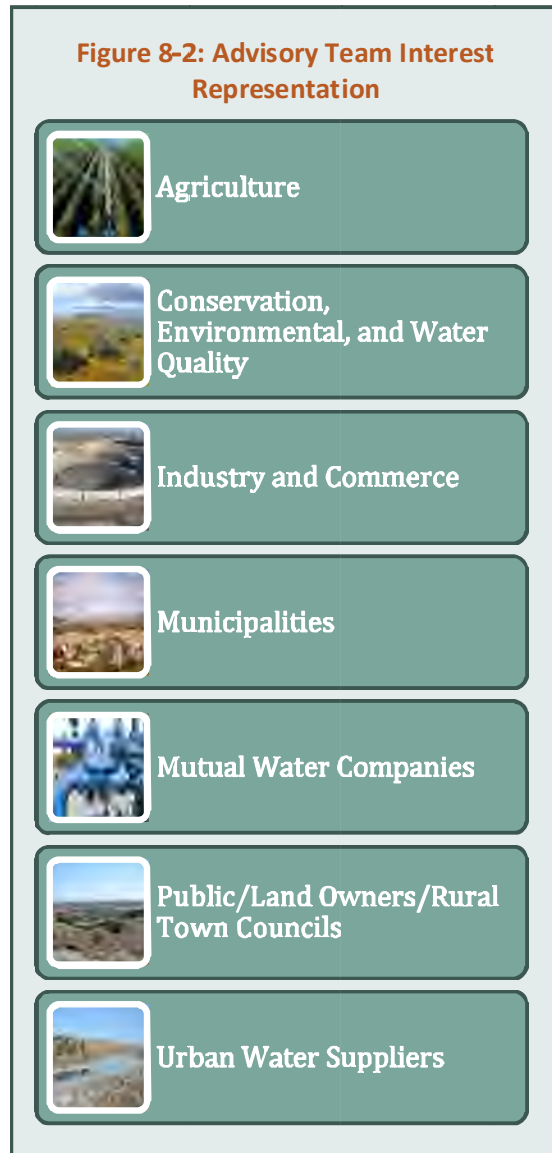
The Region’s planning efforts involve a diverse group of people with differing expertise, perspectives and authority of various aspects of water management to ensure balanced access and opportunity for participation. The RWMG itself is composed of various entities that represent water suppliers, wastewater service providers, land-use managers, flood managers, parks and recreation service providers, and environmental services. The Region’s stakeholders represent a diverse group of entities that actively participate in regular stakeholder meetings and other IRWM program related activities, as described in Section 1.2.2.

Meeting materials for the Plan Update were developed by a consultant team in cooperation with RWMG members and other stakeholders, and made available for review and comment by the stakeholders. In addition to this, the Region has formed various subcommittees which stakeholders can participate in to provide further input, including the advisory team, a public outreach subcommittee, a DAC subcommittee, a flood management subcommittee, a SNMP subcommittee, and a climate change subcommittee. These are described below.

8.2.3.1 Advisory Team

The MOU created an Advisory Team (A-Team) to provide focused initiative and effort to implement the IRWM Plan. The A-Team is not a decision-making body but is responsible for tasks such as:

- Organizing stakeholder meetings
- Maintaining the AVIRWM Plan website
- Identifying grant opportunities for which the RWMG or its members may apply
- Developing a list of short-term implementation objectives for consideration and approval by the RWMG and stakeholders¹
- Maintaining a list of long-term implementation objectives for the RWMG to address and update at stakeholder meetings
- Recommending an annual scope and budget for the RWMG



¹ This task was completed when the first IRWMP was developed in 2007.

- Drafting agendas and preparing minutes for stakeholder meetings;
- Distributing information to stakeholders

The A-Team includes seven members selected by the Stakeholder Group to serve a three year term, and represent the categories of water-related interests shown in Figure 8-2.

The current list of A-Team seats and active members is maintained on the www.avwaterplan.org website.

8.2.3.2 Public Outreach Subcommittee

The Public Outreach Subcommittee was formed in order to provide public outreach for the Region's IRWM Program. This subcommittee is responsible for:

- Assisting with community events
- Assisting with outreach presentations
- Assisting with public notices
- Collaborating with DAC outreach

These responsibilities have largely been assumed by the A-Team, but all stakeholders are invited to participate in this subcommittee. This subcommittee provides recommendations to the stakeholder group and RWMG for inclusion of the above items in the IRWM Plan Update and reporting on public outreach activities as needed at stakeholder meetings. There is no limit to the term of service for serving on this subcommittee.

8.2.3.3 DAC Subcommittee

The DAC Subcommittee was formed in order to encourage participation by DACs in the IRWM Program and to solicit feedback in DAC-related issues. This subcommittee was responsible for:

- Helping coordinate DAC meetings
- Assisting with outreach discussions
- Reviewing technical memorandums related to DAC water supply and water quality needs
- Collaborating with the Public Outreach subcommittee

All stakeholders were invited to participate in this subcommittee through the duration of the IRWM Plan update process. This subcommittee provided recommendations to the stakeholder group and RWMG for inclusion of these items in the IRWM Plan Update and reporting on DAC outreach activities, and it will only meet as needed to incorporate additional DAC related information into subsequent IRWM Plan updates.

8.2.3.4 Flood Subcommittee

The Flood Subcommittee was formed in order to incorporate integrated flood management concepts into this Plan Update. This subcommittee was responsible for:

- Participating in flood/stormwater discussions related to existing flood plans, flood needs, project priorities, multiple-benefits, stormwater quality, NFIP, and FloodSAFE
- Reviewing technical memorandums related to existing flood plans, flood needs, project priorities, multiple-benefits, stormwater quality, NFIP, and FloodSAFE

All stakeholders were invited to participate in this subcommittee through the duration of the IRWM Plan update process. This subcommittee provided recommendations to the stakeholder group and RWMG for inclusion of these items in the IRWM Plan Update, and it will only meet as needed to incorporate additional flood related information into subsequent IRWM Plan updates.

8.2.3.5 Climate Change Subcommittee

The Climate Change Subcommittee was formed in order to incorporate climate change projections and impacts into this Plan Update. This group was responsible for:

- Reviewing and vetting projected effects and impacts of climate change
- Determining and prioritizing the Region's climate change vulnerabilities
- Assessing strategies for responding to climate change
- Developing climate change related objectives and targets

All stakeholders were invited to volunteer to participate in this subcommittee through the duration of the IRWM Plan update process. This subcommittee provided recommendations to the stakeholder group and RWMG for inclusion of these items in the IRWM Plan Update, and it will only meet as needed to incorporate new climate change related information into subsequent IRWM Plan updates.

8.2.4 Communication

The Region's IRWM program fosters communication with various functional groups both within the Region and outside the Region. Communication among the Region's stakeholders (including RWMG representatives, governmental agencies, project proponents, general stakeholders, and neighboring RWMGs) regarding the IRWM program typically occurs through email notifications, announcements posted to the Region's website (www.avwaterplan.org), public presentations, stakeholder workshops, subcommittee workshops and A-Team meetings. In addition, several one-on-one meetings were conducted in support of this IRWM Plan update to encourage participation by DACs (see Section 1 for additional information regarding DAC outreach), develop projects, and evaluate regional needs and issues (e.g., groundwater adjudication).

8.2.5 Long-term Implementation of the IRWM Plan

The Antelope Valley IRWM Program is committed to ensuring long-term implementation of the IRWM Plan to ensure sustainability of the Region's water supply, water quality and natural resources. All interested stakeholders will continue to be invited to participate in IRWM program meetings and planning efforts. The Region's MOU reflects the commitment to ensure long-term implementation of the IRWM Plan given that the MOU signed by each RWMG member does not expire for 20 years after the date of execution (i.e., January 2027).

It is expected by the stakeholder group that each member of the RWMG will adopt the 2013 IRWM Plan Update in early 2014. Project proponents who plan to submit grant funding applications are also encouraged to adopt the 2013 IRWM Plan Update prior to the grant application deadline. Other members of the stakeholder group may also adopt the Plan.

8.2.6 Coordination with Neighboring IRWM Efforts, State Agencies, and Federal Agencies

The Region's governance structure allows for coordination with neighboring IRWM Regions, State Agencies, and Federal Agencies. Representatives from neighboring IRWM regions, state agencies, and federal agencies are included in the Region's email list to receive meeting notifications and updates on IRWM program activities. When necessary, the Region coordinates directly with neighboring IRWM efforts and state and federal agencies by electing an appropriate RWMG or A-Team member to represent the Region. In the past, the Antelope Valley Region has coordinated with the Mojave IRWM and Kern IRWM Regions on regional boundary overlaps and city and agency overlaps for the Region Acceptance Process. The Antelope Valley Region has also coordinated with

the Mojave, Inyo-Mono, and Tahoe-Sierra Regional on potential fund-sharing ideas within DWR's Lahontan funding area.

Additionally, the Region coordinates with state and federal agencies on grant and planning efforts by electing appropriate representatives. For example, the RWMG selected the AVSWCA to interface with DWR for the Proposition 84 grant efforts. Grant administration includes the ability to receive and administer funds to the awarded sponsored projects, to prepare the necessary progress reports and invoicing reports, to make investigations, and to execute, and file such documents and agreements with DWR as required.

8.2.7 Changes and Updates to the IRWM Plan

The AV IRWM Plan is a dynamic planning document. Given that the Region will continue the IRWM Program into the future, it will be possible to perform interim and formal changes to the IRWM Plan in response to changing conditions, and/or update or amend the IRWM Plan as needed. Should a change in the Region's water resources occur, stakeholders will have the opportunity to provide feedback at stakeholder meetings where the A-Team will determine necessary action items.

The AV IRWM Plan at a minimum will be updated every five years² as further study and planning is conducted, projects continue to be developed and objectives and priorities are adjusted. There will be an ongoing process for keeping the proposed project list up-to-date through regular quarterly updates with additional meetings. Revisions to the project list will be made as needed before major grant applications, as conditions change, as funding is identified, as projects are implemented, and as objectives are revised. The process for revising the project list is detailed in Section 7.

8.2.8 Future Governance Structure

Though no changes were made to the existing governance structure since 2007, in the future, the Region may consider formation of a JPA to replace the MOU. A JPA is formed when it is to the advantage of two or more public entities (e.g., utility or transport districts) with common powers to consolidate their forces to acquire or construct a joint-use facility. Their bonding authority and taxing ability is the same as their powers as separate units. A JPA is distinct from the member authorities, as they have separate operating boards of directors, yet these boards can be given any of the powers inherent in all of the participating agencies. In setting up a JPA, the constituent authorities must establish which of their powers the new authority will be allowed to exercise. A term and the membership and standing orders of the board of the authority must also be laid down. The joint authority can employ staff and establish policies independently of the constituent authorities. A prominent JPA in the Antelope Valley Region is the AVSWCA, formed in May 1999 by the three local SWP contractors of the Antelope Valley.

8.3 Funding and Financing of the IRWM Plan

Funding and financing needs for implementation of the IRWM Plan falls into the three categories of IRWM program, projects, and planning, as shown in Figure 8-3. IRWM Program activities meet the most basic requirements necessary for the Region to exist and implement the Plan according to DWR standards. These activities include outreach/communication activities discussed in Section 1 and 8.2 (e.g., website maintenance, email list and notifications management, participation in the public outreach subcommittee), data management activities discussed in Section 8.4, governance activities discussed in Section 8.2 (e.g., A-Team and stakeholder meeting preparation and attendance, program administration), and regular plan updates every 5 years.

² The 2007 IRWMP originally said that updates would be completed every two years. This has been adjusted to every five years in this 2013 IRWMP Update to coordinate with UWMP updates and SNMP updates.

Figure 8-3: Antelope Valley IRWM Financing Needs

IRWM Program	Projects	Additional Planning
<ul style="list-style-type: none"> • Outreach/communication • Plan performance • Data management • Governance • Plan updates (every 5 years) 	<ul style="list-style-type: none"> • Project review • Project prioritization • Grant application preparation • Grant management • Project implementation • Project O&M 	<ul style="list-style-type: none"> • Regional planning needs • More frequent Plan updates

Activities related to the Region’s projects include project review and prioritization (discussed in Section 7), grant application preparation and management (which the Region intends to continue), project implementation, and project operations and maintenance (O&M). Additional planning activities in the Region beyond IRWM and project activities allow the Region to further enhance regional planning and coordination activities. Since these additional planning activities are not required, the resources dedicated to them would be discretionary and only provided after the IRWM and project related activities are funded. Additional planning activities may include implementation of plans and studies in response to regional needs such as preparing a Region-wide watershed management plan or a groundwater master plan and more frequent Plan updates.

8.3.1 Funding/Financing Options

To meet the resource needs identified above, the Region will need to secure funding as both in-kind services and monetary resources. Potential funding sources and methods include:

- Sources
 - Ratepayers
 - Operating Funds
 - Water Enterprise Funds
 - Assessments/Fees/Taxes
 - Loans/Grants
 - Bonds
- Methods
 - In-Kind Time
 - Annual Dues
 - As-Needed Assessments
 - Grants/Loans

Given that local revenue sources will not be sufficient to fully fund all aspects of the IRWM Program’s financing needs over the 20-year planning horizon, the Region intends to fund its activities using a combination of local, state and federal funds. The following is a program-level description of the sources of funding which will be utilized for the development and ongoing funding of the IRWM Plan; and it includes potential funding sources for projects that implement the IRWM Plan, including project O&M costs.

Local Financing

Local in-kind services provided by representatives of the Region’s RWMG, A-Team and Stakeholder Group are the most important resource used by the Region. All of the Region’s governance,

outreach, communication, data management, plan review, plan performance and project development work is contributed as in-kind services. The capability of these entities to continue to dedicate staff resources for implementation of the IRWM Plan is critical to the Region's success.

In addition to in-kind services, members of the RWMG will continue to contribute funds to the Region as defined in the MOU, and provide local funds to finance projects included in the IRWM Plan. While existing funding mechanisms are in place for development of water supply and wastewater facilities and operation and maintenance of these facilities, the funds may not be sufficient to achieve the planning targets described in Section 4 of this IRWM Plan Update. It will be necessary for local agencies to implement additional local funding measures and/or pursue state and federal opportunities to fully fund implementation of the Plan.

O&M costs for specific implementation projects in this IRWM Plan will be funded by the project proponents/agencies from ratepayers, operating funds, water enterprise funds, assessments, fees, and taxes. The certainty of O&M funding is dependent on the particular project and project proponent. Additional detail on O&M costs may be found in Appendix K.

State Financing

The Region has pursued funding to implement projects in its IRWM Plan in the past, including grant opportunities through Propositions 50, 84 and 1E. The Region will continue to evaluate and apply for state funding opportunities such as the Proposition 84, Round 3 grant program for IRWM Plan project implementation and state revolving fund (SRF) loans. The Region will also participate in opportunities to provide leadership on statewide funding measures such as statewide discussions regarding the future of the IRWM Program and discussions on the language of future funding measures.

Federal Financing

Local agencies may seek federal funding opportunities to fund projects as they become available.

8.3.2 Funding/Financing Plan

Table 8-2 shows the Region's funding and financing plan to achieve the IRWM Program O&M and Project activities discussed above. Note that additional planning needs are not included here as they have not been determined at this time.

Table 8-2: IRWM Plan Financing Plan

Activity	Approximate Total Cost	Sources and % of Total Cost	Funding Certainty/Longevity	Assumptions
IRWM Program				
Outreach/communication	48 hours/year \$5,000/year	<i>In-kind</i> 100% RWMG agencies and/or A-Team members <i>Funds</i> 100% RWMG agencies	Contingent on ongoing agency staff allocations MOU program fund sharing in place for 20 years from date of execution	<ul style="list-style-type: none"> 4 hours/month for regular communication to stakeholder group = 48 hours/year \$5,000 per year to maintain program website
Plan performance	24 hours/year	<i>In-kind</i> 100% RWMG agencies and/or A-Team members	Contingent on ongoing agency staff allocations MOU program fund sharing in place for 20 years from date of execution	<ul style="list-style-type: none"> 24 hours/year (completed on annual basis by A-Team or subcommittee)
Data management	120 hours/year	<i>In-kind</i> 100% RWMG agencies and A-Team members	Contingent on ongoing agency staff allocations MOU program fund sharing in place for 20 years from date of execution	<ul style="list-style-type: none"> 10 hours/month = 120 hours/year
Governance	760 hours/year	<i>In-kind</i> 100% RWMG agencies and A-Team members	Contingent on ongoing agency staff allocations MOU program fund sharing in place for 20 years from date of execution	<ul style="list-style-type: none"> Stakeholder meeting attendance: 6 meetings/year * 4 hours * 25 attendees = 600 hours Program administration: 8 hours/month = 96 hours/year A-Team meeting attendance: 4 meetings/year * 2 hours * 8 attendees = 64 hours/year
Plan update: stakeholder review and consultant assistance	128 hours/update \$500,000/update	<i>In-kind</i> 100% RWMG agencies and A-Team members <i>Funds</i> 50% RWMG agencies 50% State grant funds	Contingent on ongoing agency staff allocations MOU program fund sharing in place for 20 years from date of execution Contingent on success in obtaining future grant funds for IRWM planning	<ul style="list-style-type: none"> Stakeholder review of plan update: 4 reviewers/section * 8 sections * 4 hours/section = 128 hours/update Consultant assistance with plan update: \$160,000/update

Activity	Approximate Total Cost	Sources and % of Total Cost	Funding Certainty/Longevity	Assumptions
Projects				
New projects: Initial review and prioritization, and stakeholder approval of new projects	12 hours/year	<i>In-kind</i> 100% RWMG agencies and A-Team members	Contingent on on-going agency staff allocations MOU program fund sharing in place for 20 years from date of execution	<ul style="list-style-type: none"> Initial review and prioritization of new projects: 7 person* 2 hours/year = 14 hours/year A-Team and stakeholder approval of new projects: 0 hours (approval will occur at regular stakeholder and A-Team meetings)
Grant application preparation	40 hours/project application \$20,000/project application	<i>In-kind</i> 90% Project proponents 10% Program manager <i>Funds</i> 100% project proponents or RWMG	Contingent on on-going agency staff allocations MOU program fund sharing in place for 20 years from date of execution	<ul style="list-style-type: none"> Project proponents: 40 hours/project application Consultant assistance: \$20,000/project application
Grant management	620 hours/year	<i>In-kind</i> 25% Project proponents 75% Program manager	Contingent on continued success in grant programs.	Program manager: 40 hours/month = 480 hours/year Project proponent reporting: 12 hours/month = 144 hours/year
Project implementation	Between \$70 million and \$80 million capital costs Between \$1 million/year and \$2 million/year O&M costs	<i>In-kind</i> 100% Project proponents <i>Funds</i> 25% Project proponents 75% State grant assistance	Contingent on on-going agency staff allocations and agency funds. Contingent on continued success in grant programs.	Total capital and O&M costs for implementation projects that have provided cost estimates

8.4 Data Management

This section discusses the importance of collecting, managing, disseminating and utilizing data to create a sustainable integrated plan. A comprehensive data management approach will help to quickly identify data gaps, detect and avoid duplication, support regional data collection, and integrate with other regional and statewide programs.

A wide variety of information is necessary to effectively manage water. The kinds of data needed include information regarding water quality, quantity, population demographics, climate and rainfall patterns, treatment plant effluent, habitat locations and needs, water costs, and more. Data is vitally important to agencies trying to maximize operating efficiency and design projects with

limited budgets. The types of data available, current relevance and trends, and knowledgeable people that can interpret the data are all important. Equally important is the opportunity for Federal and State agencies to view local data for their own monitoring needs and to better understand local conditions.

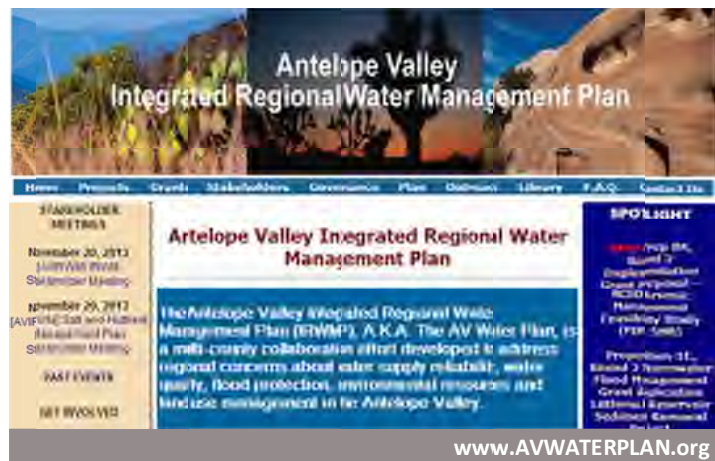
The collection, management, dissemination and utilization of data (e.g., information gathered from studies, sampling events, or projects) are essential elements to creating a sustainable integrated plan. Information needs to be available to regional leaders, stakeholders, and the public to facilitate effective planning and decision-making.

As part of this IRWM Plan, the data management strategies described below will be applied to coordinate data collection between implementation projects, leverage existing data available from ongoing statewide and regional programs, provide timely data to stakeholders and the public, and consolidate information to be used in other state programs. These strategies are explained in more detail below.

8.4.1 Management and Data Reporting

Dissemination of data to stakeholders, agencies, and the general public is integrated into the AV IRWM Plan process to ensure overall success. A requirement of the Proposition 84 Guidelines is the routine reporting on project performance. The routine collection of this data naturally lends itself to the routine collection and reporting that is required as part of the AV IRWM Plan process. The AVSWCA, as the grant contracting entity, will compile the reporting of this IRWM Plan and work individually with the project proponents to receive updates on individual project progress. A standardized reporting format will be created which the AVSWCA could use to compile this data, which will then be uploaded to the project website described in more detail below. Data collected or produced as part of the AV IRWM Plan will then be presented and disseminated during bi-monthly stakeholder meetings.

A public website has been created to store data and information about the AV IRWM Plan process so that the public can find information about public meeting dates, agendas, and notes. The website provides information on the AV IRWM Plan process and posts annual reports and relevant documents. Data collected during the AV IRWM Plan process is available on the website as well. The website also provides links to other existing monitoring programs to promote data sharing between these programs and the AV IRWM Plan. This provides a means to identify data gaps (e.g., information needed to provide a more complete assessment of the status of a specific issue or program) and to ensure that monitoring efforts are not duplicated between programs.



The AV IRWM Plan website, www.avwaterplan.org, provides a mechanism for stakeholders to upload project information regarding water supply, water quality, and other benefits of projects which will be collected in a database to manage, store, and disseminate information to the public. A data collection template will be available on the website in the future so that data collected during the AV IRWM Plan can be stored and managed in a consistent format. This template will be

compatible with those used in state databases, discussed further in subsection 8.4.4. The Region expects that project proponents will ensure the quality of their data prior to upload to the IRWM Plan website.

8.4.2 Regional Data Needs

This subsection identifies regional data needs including information required to evaluate the effectiveness of projects that produce non-traditional data.

As part of this IRWM Plan Update, data sets and reports were reviewed for their applicability to the Antelope Valley Region. This knowledge has provided the information necessary to identify data gaps which represent information crucial to a greater understanding of the Antelope Valley Region and help develop context for future projects (as discussed in Section 8.5 below). Data gaps identified through this IRWM Plan Update include:

- Water demands for users served by small, mutual water companies or private well owners
- Actual agricultural pumping
- Detailed agricultural acreage by crop-type
- Outdoor versus indoor water use
- Consumptive use losses in the basin
- Consolidated regional data on groundwater levels and quality monitoring
- Consolidated regional data on flooding issues, including flood hazard mapping
- Flood mitigation needs identification
- Natural groundwater recharge
- Groundwater return flows (municipal & industrial, agricultural, agricultural reuse)
- Groundwater recharge loss due to septic removal
- Subsurface flow
- Stormwater beneficial use identification
- Water available for recovery from surface water runoff, particularly from Amargosa Creek
- Baseline embedded energy use and GHG emissions emitted by water resources related activities

It is recommended that additional monitoring and studies be conducted to fill in these data gaps.

In the future, the AV IRWM Region will also collect non-traditional data (i.e., summarizing the effectiveness of water conservation programs throughout the Antelope Valley Region) in a comprehensive way that can be a powerful contribution to statewide water management efforts. Comprehensive data collection and measurement of these efforts will provide leadership and guidance to growing metropolitan areas throughout California.

8.4.3 Existing Monitoring Efforts

This subsection will provide the existing surface and groundwater level and quality monitoring efforts in the Antelope Valley Region and will identify opportunities for additional monitoring and/or for partnership.

8.4.3.1 Surface Water

Surface water for the Region comes from the state aqueduct and Littlerock Reservoir. Water from the state aqueduct is monitored by both DWR and by local water purveyors receiving the water. Surface water from Littlerock Reservoir is monitored by PWD. Data on the quantity of surface water

in the Region is available through UWMPs and DWR reporting. See Section 8.4.3.2 below for a discussion of drinking water quality monitoring.

8.4.3.2 Drinking Water

Drinking water quality is monitored through the following means:

- **Safe Drinking Water Act (SDWA) compliance monitoring and reporting:** All public water systems are required to produce water that complies with the SDWA. To this end, specific monitoring information is required and conducted routinely. Results of the monitoring are reported to the California DPH. In addition, monitoring information is required to be published in the annual Consumer Confidence Report (also required by the SDWA).
- **Unregulated Contaminant Monitoring Rule Results:** The 1996 SDWA Amendments mandate that EPA publish a list of unregulated contaminants that may pose a potential public health risk in drinking water. This list is called the Contaminant Candidate List (CCL). The initial 1998 accounting listed 60 contaminants. USEPA uses this list to prioritize research and data collection efforts for future rulemaking purposes. The 1996 SDWA amendments incorporated a tiered monitoring approach. The rule required all large public water systems and a nationally representative sample of small public water systems serving less than 10,000 people to monitor the contaminants. The information from the monitoring program for the Antelope Valley Region will be compiled and submitted to the State as well as be available on the website.



8.4.3.3 Groundwater

AVEK and the USGS have coordinated groundwater monitoring efforts in the Antelope Valley Region for several years. Groundwater monitoring is also required in areas on and surrounding the EAFB as well as regional landfills. The Region's SNMP includes a groundwater monitoring component for tracking of groundwater quality with a focus on water supply wells and areas proximate to large water projects. These data will be reported to the CDPH, and compiled through the State's GAMA program.

8.4.4 Integration of Data into Existing State Programs

Data collected as part of this IRWM Plan can be used to support existing state programs such as:

- California Environmental Data Exchange Network (CEDEN)
- Water Data Library (WDL)
- California Statewide Groundwater Elevation Monitoring Program (CASGEM)
- Surface Water Ambient Monitoring Program (SWAMP)
- GAMA
- California Environmental Information Catalog (CEIC)
- Integrated Water Resources Information System
- California Environmental Resources Evaluation System (CERES)
- California FloodSAFE

To facilitate the integration of the Region's data with state databases, the Region's data collection templates discussed under subsection 8.4.1 will be compatible with state databases. The Region assumes that project proponents will ensure the quality of their data and that project proponents will upload their data to the appropriate state databases.

8.5 Technical Information

This subsection describes the technical information used in the development of the Plan Update which relied on an extensive list of plans, studies, and other documents and information sources. In addition, several technical memoranda were prepared to further study the Region's DAC and flood management related needs and develop a SNMP. These memoranda are included as Appendix D, F, and G, respectively. Table 8-3 provides a summary of the documents and data sources used, the method of analysis, the results derived, and how they were used in the 2013 Plan Update.