

Attachment 3 consists of the following items:

- 1. Introduction**
- 2. Current Status in Meeting IRWM Plan Standards**
- 3. Grant Work Plan**

The Work Plan provides a detailed scope of work for preparation of the USMW IRWM Plan Update, including the following four tasks:

1. Outreach and Communication
2. Planning Studies
3. IRWM Plan Update
4. Grant Administration

4. Additional IRWM Plan Work

5. References

1. Introduction

The Upper Santa Margarita Watershed (USMW) IRWM Region (Region) is committed to preparing valuable and important updates to its adopted 2007 IRWM Plan that will guide the region's stakeholders in managing water resources for the next 20 years. The IRWM planning process allows stakeholders to examine the entire suite of potential solutions to key issues, including improved water supply reliability, protection and improvement of water quality, environmental stewardship, and integrated flood management. Ultimately, the USMW IRWM program provides the Region with a new foundation and opportunity for resolving long standing historical water conflicts and issues.



Figure 3-1: USMW IRWM Region



The USMW IRWM Region contains a diverse yet integrated combination of urban, rural and natural environments which makes IRWM planning critical to water management in the Region. Specifically, the Region is comprised of: urban and suburban areas of moderate to lower density along the I-15 corridor including the cities of Murrieta and Temecula; rural residential and agricultural areas; and forest and open space lands (see **Figure 3-1**). Disadvantaged communities (DACs), as defined by households having income less than 80% of the Statewide median household income geographically cover more than one-third of the Region. Major jurisdictional boundaries within the Region include Rancho California Water District (RCWD), Eastern Municipal Water District (EMWD), Western Municipal Water District (WMWD), and Elsinore Valley Municipal Water District (EVMWD). Additionally, Riverside County Flood Control and Water Conservation District (RCFC&WCD) provides flood management and water conservation management service within the Region. Finally, the County of Riverside manages the Multi-Species Habitat Conservation Plan (MSHCP) within the Region, which includes considerable water-related habitats.

This Work Plan provides a detailed scope of work for the stakeholder outreach, DAC outreach, planning studies, and IRWM Plan Update activities needed to address regional issues while updating the Region’s existing IRWM Plan to be compliant with the California Department of Water Resources (DWR) 2010 IRWM Program Guidelines (Guidelines).



2. Current Status in Meeting IRWM Plan Standards

Although the USMW IRWM Plan was completed in July 2007, it has always been considered a living document, subject to continual change and update. Currently, the USMW IRWM Plan meets Proposition 50 IRWM Grant Program Guidelines. In order to apply for available funding through the DWR, the IRWM Plan must be updated and improved to conform to revised Proposition 84 IRWM Grant Program Guidelines.

In order to begin to bring the IRWM Plan into compliance with the Guidelines, the Region's stakeholders – through the Stakeholder Advisory Committee (SAC) and the Regional Water Management Group (RWMG) – developed an IRWM Plan Addendum (September 2010). The Addendum was approved in accordance with the revised Memorandum of Understanding (MOU) (refer to Attachment 1) by the SAC and RWMG on September 8, 2010. Specifically, the Addendum further describes the process for revising the project matrix and project priority list to add and/or reprioritize projects.

Specific work that will be completed to update the IRWM Plan to meet the Guidelines and incorporate the IRWM Plan Addendum is proposed in *Section 3 Grant Work Plan and Section 4 Additional IRWM Plan Work* below. These efforts are critical to bringing the USMW IRWM Plan up to date with (1) regional priorities and issues for the Region that may have changed since 2007 and (2) Proposition 84 IRWM Grant Program Guidelines.

The Proposition 84 IRWM Grant Program Guidelines include sixteen (16) specific standards that must be met by the USMW IRWM Plan Update. **Table 3-1** below provides a summary of revisions that need to be made to the existing USMW IRWM Plan to meet standards set within the Guidelines. In addition, because the Proposition 84 IRWM Grant Program Guidelines contain new requirements, **Table 3-1** also provides work that needs to be completed in whole to achieve compliance with the Guidelines. Further, **Table 3-1** provides information regarding whether or not given revisions or work will be covered by funds requested as part of this Planning Grant Proposal. Any necessary work not contained within the Grant Work Plan is described in detail in Section 4, *Additional IRWM Plan Work*.

Existing Governance Structure

In 2007, RCWD, RCFC&WCD, and the County signed an MOU by which the three agencies agreed to cooperate and work collaboratively with other stakeholders in the Region toward the completion of the IRWM Plan. In 2010, an updated MOU was signed to extend the geographic boundaries of the Region, allow funding applications to be made by RCWD, and provide for an update of the USMW IRWM Plan. The updated MOU is included in Attachment 1.

The MOU identifies RCWD as the lead funding and contracting agency for planning, applying for funding, and implementing funded efforts throughout the Region on behalf of the RWMG and the other water purveyors to the region—WMWD and EMWD. By adopting and updating the MOU, the three RWMG agencies have committed resources and funding to work collaboratively with the stakeholders of the Region to develop an IRWM Plan and to support its implementation.



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**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

To support the USMW IRWM planning effort, the RWMG established the SAC. Members of the SAC include individuals representing public agencies and stakeholder organizations throughout the Region. Stakeholders act in an advisory role to the RWMG and are not required to contribute funds except in-kind services. The SAC will continue to play an instrumental role in updating the IRWM Plan.

To facilitate collaboration with neighboring regions, the RWMG is also a member of the Tri-County Funding Area Coordinating Committee (Tri-County FACC) as described in Section 5 of the Regional Application Process (RAP) for the Region (RWMG, 2009). Members of the Tri-County FACC include the RWMGs from the regions in the San Diego Funding Area, including the South Orange County IRWM region and the San Diego IRWM region. The purpose of the Tri-County FACC is to collaborate across regions and jurisdictional boundaries on issues, projects, and programs of common interest. In addition, division of Proposition 84 funding allocated to the San Diego Funding Area was agreed to by the Tri-County FACC members.



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**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

Table 3-1: Revisions Needed for USMW IRWM Plan to Meet Proposition 84 Standards

USMW IRWM Plan (2007)	IRWM Plan Standards (DWR 2010)	Revisions and Work Needed	In Planning Grant?
Section 1, Introduction	Governance	Expand discussion of governance structure, public noticing, Plan adoption, decision-making, and collaborative process	Yes
Section 2, Region Description	Region Description	Refine regional description based on new/updated information about the Region, including adding a DAC Element and expanded geographic boundary to cover Upper San Mateo watershed.	Yes
Section 3, IRWMP Objectives and Priorities	Objectives	Expand discussion of process used to determine objectives	Yes
Section 4, Resource Management Strategies	Resource Management Strategies	Expand discussion of process used to identify resource management strategies for IRWM Plan	Yes
	Integration	Expand discussion of stakeholder/institutional and project integration	Yes
	Impact and Benefit	Expand discussion of the impacts and benefits of program implementation	Yes
2010 IRWMP Addendum	Project Review Process	Expand discussion of project submittal, funding application prioritization, and modification	Yes
Section 5, Recommended Regional Implementation Plan	Plan Performance and Monitoring	New discussion of methods to evaluate Plan performance	Yes
	Data Management	Determine the IRWM data management system	Yes
	Finance	Evaluate potential sources and certainty of funding	Yes
	Technical Analysis	New discussion of technical information, analysis, and methods including DAC groundwater study, salt and nutrient management, and runoff water quality study.	Yes
	Relation to Local Water Planning	New discussion of relation to local water and flood management planning	Yes
	Relation to Local Land Use Planning	New discussion of relation to local land use planning, relationships between water managers and planners, and proactive efforts to improve relationships	Yes
	Stakeholder Involvement	Expand discussion of process used to engage stakeholders and DACs, decision-making process, and information access	Yes
	Coordination	Expand discussion of coordination with State and federal agencies, as well as interregional IRWM partners	Yes
Not addressed	Climate Change	New discussion of climate change, anticipated implications and effects, and mitigation opportunities	Yes



Key Regional Issues

Several key water issues have been raised during the stakeholder outreach processes in 2010 and 2011 that need to be addressed in the IRWM Plan Update. A selection of those key issues will be addressed in the planning studies outlined in Task 2 of the Grant Work Plan and include:

- Improving outreach and communication
- Addressing groundwater issues in the Anza DAC Area
- Managing salts and nutrients in the Temecula Valley
- Improving runoff water quality management
- Restoring habitats in the Overlay Areas

By focusing on select key issues through dedicated tasks, the Region's stakeholders will have the opportunity to explore and propose solutions that help them to better manage available water supplies.

Improving Outreach and Communication

The SAC was created as authorized by the RWMG MOU, which is included within Attachment 1. Specifically, the RWMG MOU contains the *Stakeholder Advisory Committee Organization Statement to Conduct Integrated Regional Water Management Planning for the Upper Santa Margarita Watershed* (SAC Organization Statement), which authorized the RWMG to form the SAC, and provides ground rules for participation, dissolution, meetings, and other items relating to the SAC.

Members of the SAC include more than two dozen individuals representing public agencies and stakeholder organizations throughout the USMW IRWM Region, including federal, state, and local agencies and non-governmental organizations (NGOs) involved in water management. Outreach efforts that occurred after development of the first USMW IRWM Plan (after 2007) resulted in the addition of nine (9) new SAC members. **Table 3-2** below lists current members of the SAC.

During ongoing outreach efforts conducted in 2010 and 2011, the participation achieved and feedback the RWMG received demonstrated the need to continue and further increase outreach to ensure that input from regional stakeholders is effectively integrated into future planning efforts. In addition to continued outreach to these stakeholders, additional outreach needs identified included DACs, tribal representatives, other non-governmental organizations, other community organization, other utilities, as well as the general public. Further, the Tri-County FACC will need to meet to coordinate water management activities between the upper and lower watersheds of common water bodies (i.e. the Santa Margarita River and San Mateo Creek). As such, Task 1 of the Grant Work Plan focuses on conducting a variety of outreach efforts, which will collectively ensure that stakeholder involvement and collaboration with adjacent IRWM regions is an integral part of the USMW IRWM Plan Update.



Table 3-2: Current Stakeholder Advisory Committee (SAC) Members

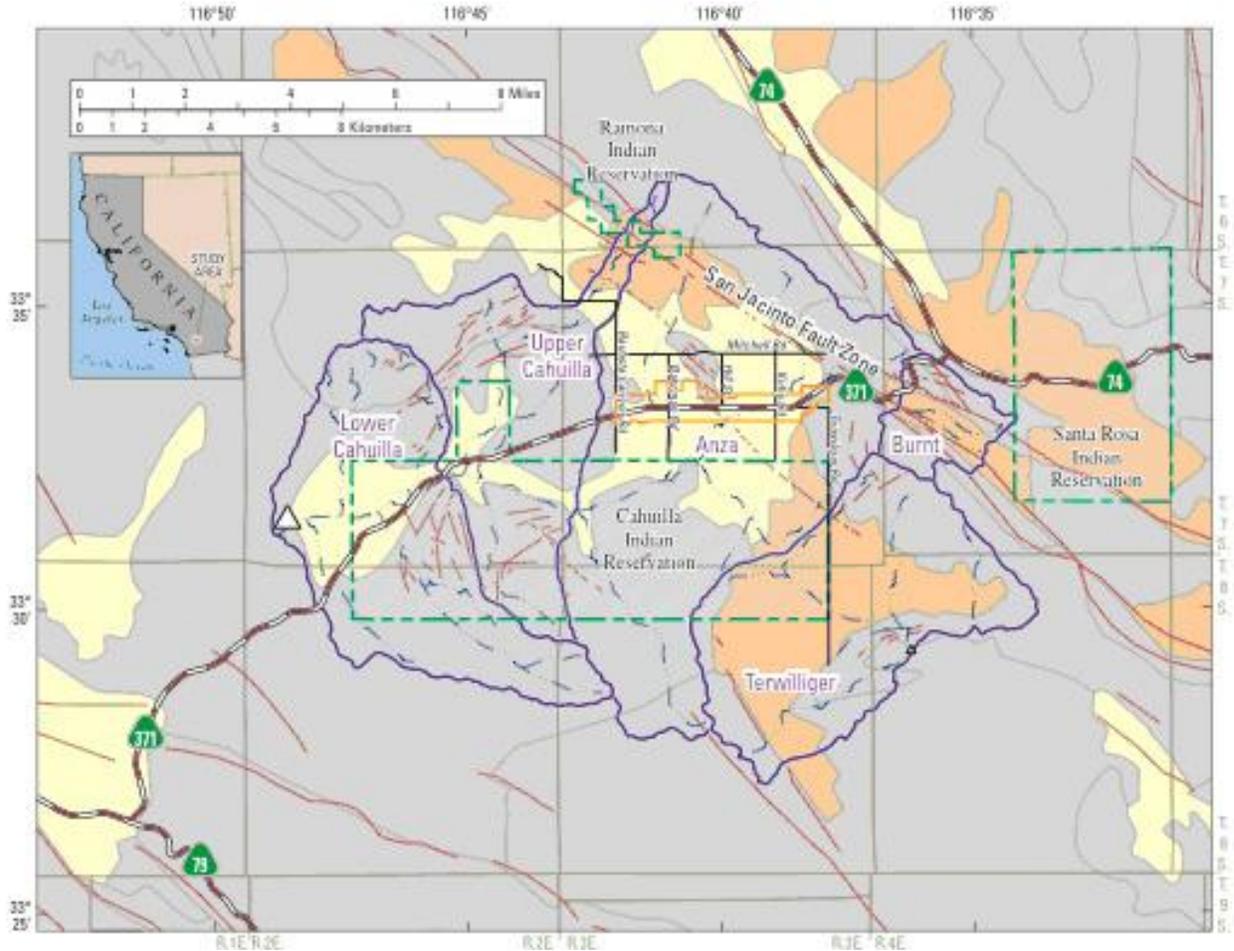
Boojum Institute	County of Riverside	Riverside County Farm Bureau	Trout Unlimited
Butterfield Multi-Use Trails, Inc.	Eastern Municipal Water District	Riverside County Flood Control and Water Conservation District	United States Army Corps of Engineers
Cahuilla Band of Indians	Elsinore Murrieta Anza Resource Conservation District	Riverside Lands Conservancy	United States Department of the Interior, Bureau of Reclamation
California Department of Fish and Game	League of Women's Voters	San Diego Regional Water Quality Control Board	United States Fish and Wildlife Service
Citizens for Quality of Life - Murrieta	Marine Corps Base Camp Pendleton	San Diego State University/Santa Margarita Ecological Reserve	United States Forest Service, Cleveland National Forest
City of Murrieta	Pechanga Band of Luiseno Indians	Southwestern Riverside County Multi-Species Reserve	Western Municipal Water District
City of Temecula	Rancho California Water District	The Nature Conservancy	

Addressing Groundwater Issues in Anza DAC Area

The Anza Area, illustrated in **Figure 3-2** on the following page, overlies a geologically complex groundwater basin located in the upper portion of the Santa Margarita watershed that serves as the sole water supply source for multiple disadvantaged communities (DACs), including the community of Anza and the adjacent Cahuilla and Ramona Indian Reservations. As described in the 2007 IRWM Plan, the groundwater basin in the Anza Area experiences relatively heavy groundwater use and is believed to be impacted from agricultural chemicals and leaking septic tanks. Specifically, the Anza Area overlies the Cahuilla Valley Groundwater Basin (Basin Number 9-06 per DWR’s Bulletin 118). The Cahuilla Valley Groundwater Basin is divided into multiple sub-basins, including the Lower Cahuilla, Upper Cahuilla, Anza, Terwilliger, and Burnt sub-basins (refer to Task 2-1 for more information).



Figure 3-2: Anza DAC Groundwater Study Area



Groundwater use in the Anza Area, coupled with recent droughts, has resulted in unsustainable groundwater conditions such that residential groundwater wells are unable to sustain well water draws. Such conditions have led to substantial water-related conflicts, including water rights lawsuits and resistance to new construction. Despite the issues associated with groundwater in the Anza Area, it has been over twenty years since groundwater within the Cahuilla Valley Groundwater Basin was comprehensively analyzed, and a formal Groundwater Management Plan (GWMP) is not in place. Due to the importance of groundwater to local residents, stakeholders within the Anza Area are taking steps to develop a GWMP to ensure that local groundwater resources can provide a sustainable water supply for all water users. This GWMP planning effort is imperative and timely given that the Anza Area does not have viable options for procuring other sources of water, and would be required to rely on expensive and unsustainable options such as hauling water into the area if local groundwater basins were to become unviable from either a water quality or water supply perspective.



FINAL

**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

Initial steps have been taken toward developing a GWMP; however further planning and stakeholder-outreach related efforts are required before a GWMP can be developed. In November 2011 the South Coast Resource Conservation and Development Council (SCRC&D) completed work under a Local Groundwater Assistance (LGA) Capacity Grant from DWR awarded to the County of Riverside to prepare the *Anza Area Groundwater Management Report* (SCRC&D, 2011). This report, which is included as **Exhibit A**, reached the following conclusions:

1. Significant information is available on the water levels and water quality (of the Anza Area), however significant gaps in areal and temporal water information exist;
2. A large number of wells are in the Anza Area and little is known about many of the wells or their condition or status;
3. Additional efforts are needed to understand contaminant sources and control options, including a better understanding of septic tanks as a potential (contaminant) source;
4. Further coordinated planning and data collection should be a priority to assess current trends in water levels and quality;
5. Continued effort to invite and involve as many members of the community as possible to participate in water issues discussions is useful;
6. Participants gained significant awareness and understanding of water issues through the workshops; and
7. Greater organization and development of governance is needed to ensure groundwater management and local community participation on the future of the Anza Area.

Due to the recommendation from the *Anza Area Groundwater Management Report* that further studies be completed for the Anza Area, Task 2-1 of this Work Plan includes work that will continue groundwater planning efforts and move towards the goal of creating and implementing a GWMP. This effort will improve the quality of the USMW IRWM Plan Update by addressing safe drinking water and water quality issues that affect DACs, and supporting and improving local water supply reliability through comprehensive groundwater management.

Managing Salts and Nutrients in the Temecula Valley

In 2009, the State Water Resources Control Board adopted the Recycled Water Policy (Policy) (Resolution 2009-0011) that requires Salt and Nutrient Management Plans be developed to manage salts, nutrients, and other significant chemical compounds on a watershed or basin-wide basis.

The Policy recognizes that some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives established in the applicable Water Quality Control Plans (Basin Plans), and not all Basin Plans include adequate implementation procedures for achieving or ensuring compliance with the water quality objectives for salt or nutrients. These conditions can be caused by natural soils/conditions, discharges of waste, irrigation using surface water, groundwater or recycled water and water supply augmentation using surface or recycled water. Regulation of recycled water alone will not address these conditions.

In response to the Policy, the Regional Water Quality Control Board San Diego Region (9) endorsed the *Proposed Guidelines for Salinity/Nutrient Management Planning in the San Diego Region (9)*



FINAL

Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region

(SCWC/SDCWA, 2010) in November 2010. These Guidelines provide a standardized approach and framework for developing salt/nutrient management plans within the San Diego Region. RCWD has reviewed the Guidelines and supports the use of the Guidelines for development of the Temecula Valley Basin Salt and Nutrient Management Plan (SNMP).

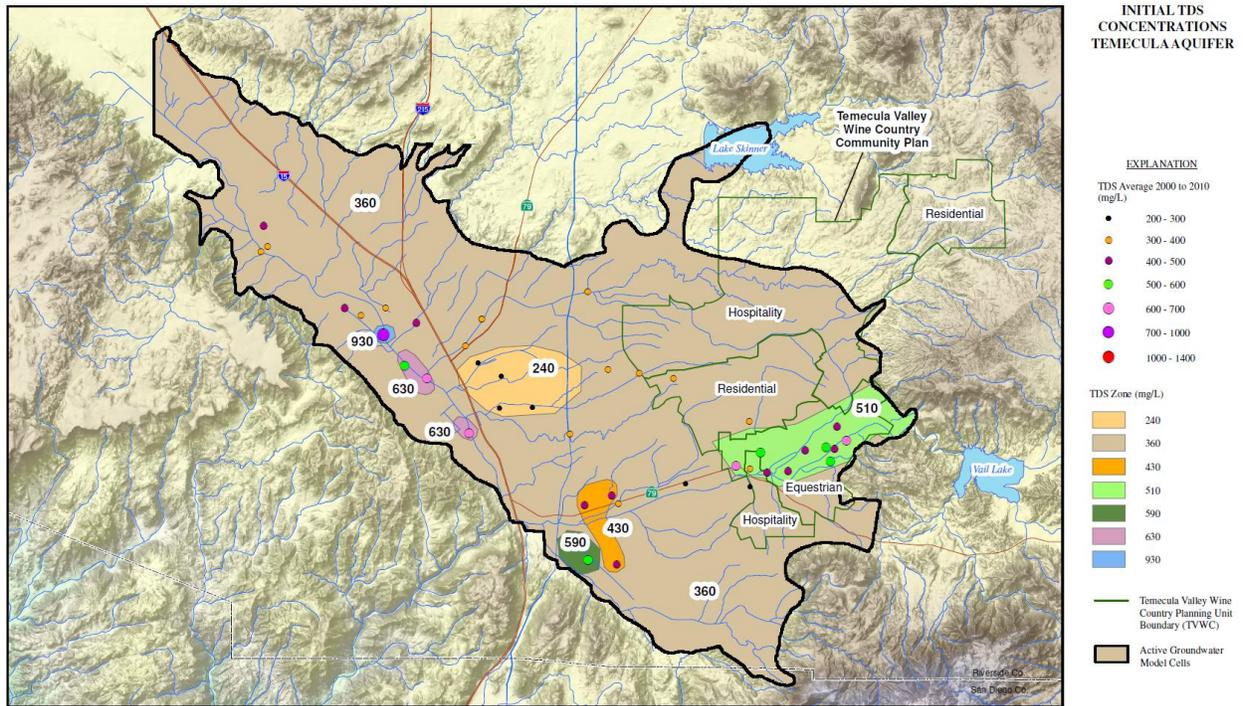
The Temecula Valley Basin is the largest and most utilized groundwater basin in the Region, meeting between 25 and 40 percent of the Region's demands and into which much of the Region's watershed flows. Water quality in the basin, particularly total dissolved solids (TDS) is of critical importance due to use by the Region's agricultural industry. Salt and nutrients are of particular concern for a number of reasons including:

- Little to no wastewater (and thus no salts or nutrients) leaves the basins
- Recycled water use is projected to double in the next 10 years
- Imported water (which contains salts) which is used for direct potable consumption and for groundwater replenishment is expected to continue and possibly increase over the next 25 years
- A number of communities continue to rely on septic systems which contributes salt and nutrients to the groundwater basin

Salt levels in some areas of the basin are already approaching and even exceed the Basin Plan limits for TDS of 500 to 700 mg/l (see **Figure 3-3** below). Based on recent water quality modeling (Geoscience, 2012), overall salt loading to the Temecula Valley Basin is projected to increase by another 10% (300,000 tons) over the next 20 years, further increasing salt levels unless steps are taken to manage salts.



Figure 3-3: TDS Levels and Basin Plan Exceedance in the Temecula Valley Basin



The SNMP, as proposed under Task 2-2, is intended to help streamline the permitting of new recycled water projects while ensuring compliance with water quality objectives and protection of beneficial uses within a basin. Development of the SNMP is critical to water quality and supply management in the USMW and will improve the quality of the USMW IRWM Plan. Specifically, the SNMP will provide greater detail to Regional Water Management Strategies the Region identified in the 2007 IRWM Plan (WQ-5 and WQ-6), which will enhance the Region’s ability to meet water quality objectives and expand recycled water supplies and improve the USMW IRWM Plan’s monitoring and data management efforts. Developing the SNMP will require a collaborative stakeholder process as well as an assessment of strategies and their effectiveness—key reasons why the Region is proposing to incorporate it into the IRWM Plan Update. Development of the SNMP shall be consistent with and information incorporated into the USMW IRWM Plan Update as described in Task 3. In addition, the SNMP will allow the USMW IRWM Region to fully implement Strategy 18, *Salt and Salinity Management*, of the *California Water Plan Update*.

Improving Runoff Water Quality Management

The 2007 IRWM Plan indicates that over the past decade, the Region has seen a substantial amount of land development, which has led to the urbanization of agricultural and open space areas. Such urbanization and associated population increase has impacted water quality by increasing pollutants such as total dissolved solids, metals, nutrients, bacteria, and trash.



FINAL

**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

Due to the nexus between development and water quality concerns, an effort has been made towards redevelopment that would reduce impacts to urbanization on the Region's water quality. However, the current rate of redevelopment within the Region is not sufficient for addressing water quality problems in a timely manner; therefore, there is a need to develop a framework to identify retrofit projects for existing developments that are causing or contributing to pollution to the Region's receiving waters. An education outreach program is also necessary to encourage such retrofit projects and aid in the success of retrofit projects in perpetuity.

Furthermore, findings of the Region's existing Municipal Separate Storm Sewer System (MS4) Permit demonstrate that best management practices (BMPs) need to be modified to increase their effectiveness in preventing negative hydromodification impacts to receiving waters. Such hydromodification impacts include downstream erosion, impaired stream habitat in natural drainages and impaired beneficial uses. Use of low impact development (LID) site design BMPs at new development, redevelopment and retrofit projects will help preserve and restore the natural hydrologic cycle of targeted sites, allowing for filtration and infiltration and thus reducing the volume, peak flow rate, velocity, and pollutant loads of storm water runoff. The MS4 Permit findings also demonstrate that critical water quality problems and corresponding programs to address such problems need to be developed on a watershed basis to efficiently manage runoff that traverses multiple political jurisdictions, land uses, and open space areas.

Development of the Regional Retrofit Opportunities Study under Task 2-3 will address the Region's urban-related water quality issues by identifying targeted sites to implement retrofits, and producing a watershed-based retrofit program that can be implemented on a watershed-level to holistically address water quality concerns across multiple political jurisdictions, land uses, and open space areas. The importance of such a study is identified in the Region's 2007 IRWM Plan in Section 4 (Regional Water Management Strategies WQ-3a, 3b and WQ-4). This study will improve the quality of the USMW IRWM Plan Update by providing valuable detail about these planning strategies which will result in improved runoff water quality management throughout the Region.

Restoring Habitats in the Overlay Areas

Section 2.6 of the 2007 IRWM Plan describes a large amount of important biological and ecological resources in the Region that are largely located within open space and habitat areas such as those covered by the Western Riverside Multi-Species Habitat Conservation Plan and in the overlay areas with neighboring IRWM regions (i.e. the lower Santa Margarita River watershed and the San Mateo Creek watershed). Objective 4 in Section 3 of the 2007 IRWM Plan, notes that there are currently several threats to habitat and associated sensitive species within the Region, including habitat loss, impaired water quality, and invasive species. Specifically related to native fish species within the Region, the IRWM Plan indicates that threats include exotic predator species, habitat degradation and reduced water supplies, and that recovery of these species (including steelhead trout) will require habitat restoration, fish barrier removal, and water quality improvements.

Due to the importance of habitat and sensitive species in the Region, and current knowledge regarding potential efforts that could be completed to restore these species, the IRWM Plan Update will include planning and coordination with the San Diego IRWM region and the South Orange County IRWM region to update available research and planning on habitat restoration efforts in the



FINAL

**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

Region and develop strategies to support these efforts which cross regional boundaries. Such coordination and collaboration is proposed in Tasks 1-4 and 3-1 of the work plan.



3. Grant Work Plan

This scope of work assumes a two-year (24-month) grant contract timeframe through adoption of the USMW IRWM Plan Update in August 2014.

Task 1: Outreach and Communication

The USMW IRWM Plan Update will include activities to support continued close coordination and plan development among the RWMG and stakeholders, including neighboring IRWM Regions. Task 1, Outreach and Communication, will involve the continuation of ongoing stakeholder outreach and coordination among the stakeholders, RWMG, and SAC. The overarching goals of the outreach and coordination activities described in the Task 1 are to:

- understand stakeholder needs and issues for the IRWM Plan Update,
- increase DAC and tribal participation,
- look for opportunities to create integrated water management projects, and
- implement the goals, strategies, and objectives described in the USMW IRWM Plan.

In addition, this task includes coordination on other issues within the San Diego Funding Area, such as climate change and data management.

Task 1-1: RWMG Meetings and Coordination

The RWMG will continue to meet approximately quarterly during the two-year IRWM Plan Update process to discuss program administration, outreach and communication needs such as SAC meetings, tribal and DAC outreach, and other IRWM-related items. This task will include continued support for RWMG activities, including preparation for, facilitation of, and participation in RWMG meetings. This task will also include time required by the RWMG agencies to review deliverables and documents produced within Tasks 2, 3 and 4 below.

Deliverables

- Meeting agendas and meeting notes.

Assumptions

- Approximately 50% of RWMG meetings will be conducted in-person and 50% will be conducted by conference call.
- The RWMG will meet quarterly for the duration of the IRWM Plan Update effort. The RWMG will coordinate over e-mail and phone as needed between formal meetings.
- All RWMG staff time for RWMG meetings are part of the Region's funding match.

Task 1-2: SAC Meetings and Coordination

The SAC will meet approximately quarterly during the two-year IRWM Plan Update process. SAC meetings will be the primary venue for the RWMG to gather input needed to make key IRWM Program decisions, including discussion of IRWM planning topics, regional water management



FINAL

**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

issues, and program recommendations for the IRWM Plan Update. This task will include preparation for, facilitation of, and participation in quarterly SAC meetings.

The SAC also has a working group of stakeholders representing the Region's largest DAC – the Anza Groundwater Management Committee – which meets separately from the SAC to discuss and support water resource planning activities within the Anza area. This group will be responsible for providing leadership and guidance on Task 2-1 below, and will also report back to the SAC at quarterly meetings on their planning progress. Outreach to DACs in the Region is detailed in Task 1-6.

Further, the SAC will also be involved in the development of the *Temecula Valley Basin Salt and Nutrient Management Plan* (refer to Task 2-2) and the *Santa Margarita Region Retrofit Opportunities Study and Program Framework* (refer to Task 2-3), as the responsible parties for each of the aforementioned planning studies will report to the SAC during quarterly SAC meetings.

Deliverables

- Meeting agendas and meeting notes.

Assumptions

- The SAC will meet quarterly for the duration of the IRWM Plan Update effort. The RWMG will communicate over e-mail with the SAC between formal meetings.
- All RWMG staff time for SAC meetings are part of the Region's funding match.

Task 1-3: Public Involvement

This task includes public outreach methods that are designed to increase and maintain public involvement, and ensure that all regional stakeholders have an opportunity to participate in the USMW IRWM Program. Such activities will include public workshops, updating the USMW IRWM website, and maintaining electronic newsletters (E-newsletters).

The RWMG will host at least four (4) public workshops that will occur during the two-year duration of the IRWM Update planning process. The workshops are planned for key IRWM milestones, such as:

1. refinement of the goals/objectives and resource management strategies,
2. refinement of the project selection criteria,
3. discussion of governance and financing, and
4. review and feedback on the draft IRWM Plan Update.

Each meeting will be publically noticed, advertised on the RCWD website, and an email requesting RSVP will be sent to stakeholders. Follow-up correspondence, including meeting minutes and action items will be sent to the stakeholder list.

Targeted fact sheets will also be created and distributed to the stakeholders to advertise public meetings and IRWM activities for DACs, tribal representatives, and NGOs.



FINAL

**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

The USMW IRWM website, located on RCWD's website, will be updated on a quarterly basis to reflect the outcomes of recent public workshops. At a minimum, meeting notes will be available for download; handouts and presentation materials will be posted to the website as appropriate.

Four (4) E-newsletters will be produced and distributed to inform stakeholders about the progress of the IRWM Plan Update. The E-newsletters will be produced and distributed before the public workshops to inform and encourage people to participate in these important events.

Finally, all public noticing required by DWR under the Proposition 84 IRWM Grant Program Guidelines for the planning process will be produced and disseminated.

Deliverables

- At least four (4) public workshops, including preparation of meeting agendas and handouts, presentations (if applicable), coordination of speakers/presenters (if applicable), and draft and final meeting notes.
- Communications and distribution of planning materials over stakeholder email list.
- Targeted fact sheets for outreach to DACs, tribal representatives, and NGOs.
- Update and maintenance of USMW IRWM website.
- Four (4) E-Newsletters providing information about the IRWM Plan Update.
- Public noticing of meetings and press releases at key milestones.
- Consolidated notes summarizing specific information that will be used in the IRWM Plan Update.

Assumptions

- All RWMG staff time for public outreach is part of the Region's funding match.

Task 1-4: Tri-County FACC and Tri-County FACC Overlay Subcommittee

The RWMG will attend Tri-County FACC meetings to be held as-needed, but at a maximum frequency of every other month for a total of up to eight (8) meetings during the two-year IRWM Plan Update timeframe. The RWMG will also attend Tri-County FACC Overlay Subcommittee meetings, as needed. At a minimum, two (2) Subcommittee meetings per year will be held for a total of four (4) meetings during the two-year IRWM Plan Update timeframe. When they occur, Tri-County FACC Overlay Subcommittee meetings will occur in lieu of Tri-County FACC meetings.

Coordination with the Tri-County FACC on Funding Area (inter-regional) issues, such as climate change and data management, will occur at the Tri-County FACC meetings. These meetings will also be a venue through which to discuss potential interregional projects and other coordination activities relevant to the three IRWM Regions within the San Diego Funding Area (Upper Santa Margarita Watershed, South Orange County, and San Diego).

Deliverables

- Action items for the USMW RWMG agencies, including shared IRWM Plan Update chapter text, maps, and other materials.



Assumptions

- Approximately 50% of Tri-County FACC and Tri-County FACC Overlay Subcommittee meetings will be conducted in-person and 50% will be conducted by conference call.
- All RWMG staff time for Tri-County FACC meetings are part of the Region's funding match.

Task 1-5: Outreach to Tribal Communities

Three tribal reservations lie within the USMW IRWM Region, including the Pechanga Reservation, the Cahuilla Reservation, and the Ramona Reservation (refer to **Figure 3-4**). In addition, there are tribal communities within the Anza-Aguanga area within the southeastern portion of the Region. To date, outreach to tribal communities has resulted in partnerships between RWMG agencies and local tribal organizations including the Anza-Aguanga tribal groups, the Cahuilla Band of Indians, and Ramona Band of Cahuilla Indians.

Due to previous success in tribal outreach efforts associated with the USMW IRMW program, it is essential that tribal outreach is maintained throughout development of the IRWM Plan Update. The tasks listed below describe how tribal outreach will be maintained and enhanced throughout the IRWM Plan Update development process.

Direct Coordination

Tribal communities will be invited to all SAC and/or public workshops. Individual phone calls may be made to non-participating Tribal Communities prior to public workshops to extend a personal invitation to each workshop, explain the meeting purpose, answer questions, and solicit information on potential projects to include in the IRWM Plan Update. As part of the USMW IRWM stakeholder group, all tribal representatives will also receive IRWM emails, E-Newsletters, targeted fact sheets, and other planning materials.

Tribal Council Meetings

The RWMG will work with local tribal representatives to secure 1 to 2 presentation opportunities at each of the four Tribal Councils (Anza-Aguanga, Pechanga, Cahuilla, and Ramona). The purpose of these presentations is to facilitate involvement by those who were not readily able to travel to the IRWM Plan meetings. This will ensure that tribal community needs are described in the IRWM Plan Update and that opportunities to create integrated projects, and to implement planning and projects to meet watershed needs, are accomplished.

Tribal Section of Plan Update

The information received at these meetings will provide the basis for the description of local tribes and efforts that could be taken to better sustain tribal and regional water and natural resources in the USMW IRWM Plan Update.

Deliverables

- Direct coordination with tribal representatives on IRWM meetings and planning materials.
- Up to eight (8) Tribal Council meetings, including preparation of draft and final presentations, handouts, and notes.



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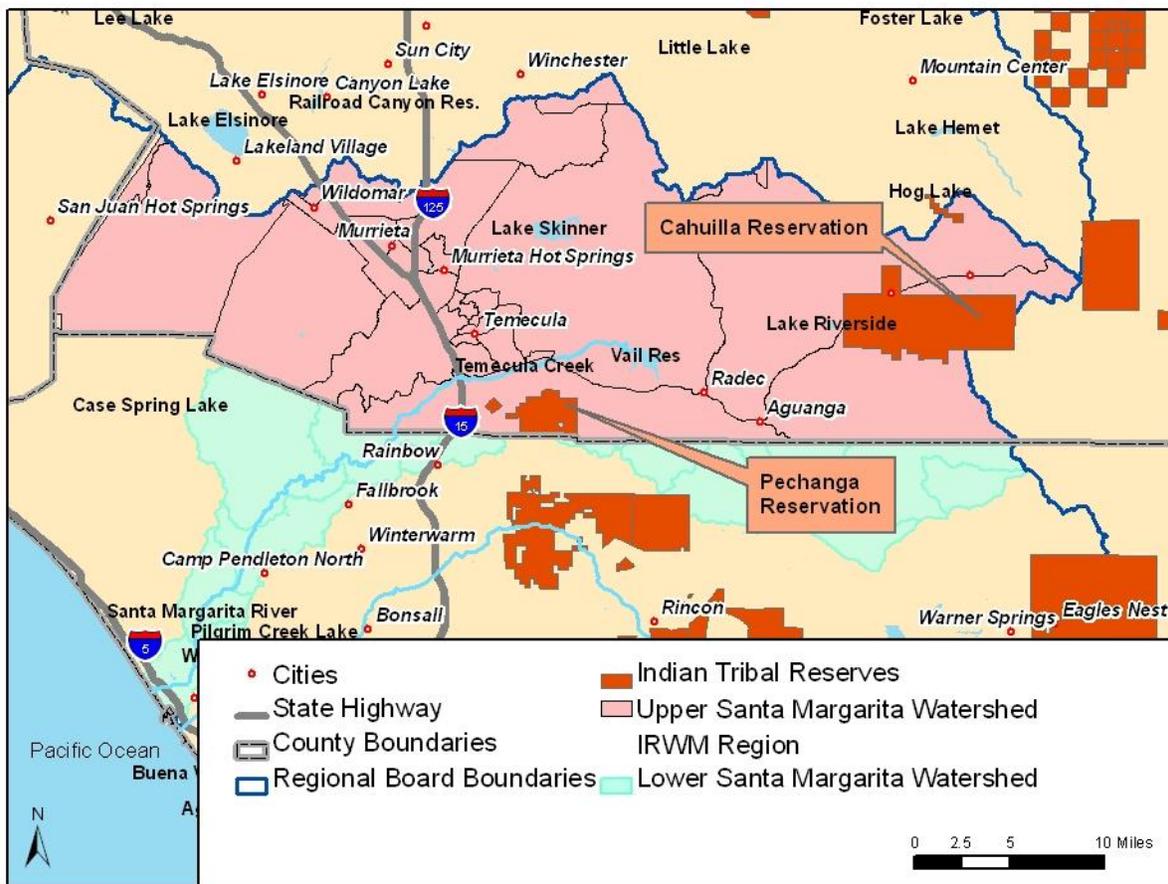
Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region

- Draft and Final IRWM Plan section describing local tribes and articulating their water management needs.

Assumptions

- All RWMG staff time for tribal outreach meetings are part of the Region’s funding match.

Figure 3-4: Tribes within the USMW IRWM Region



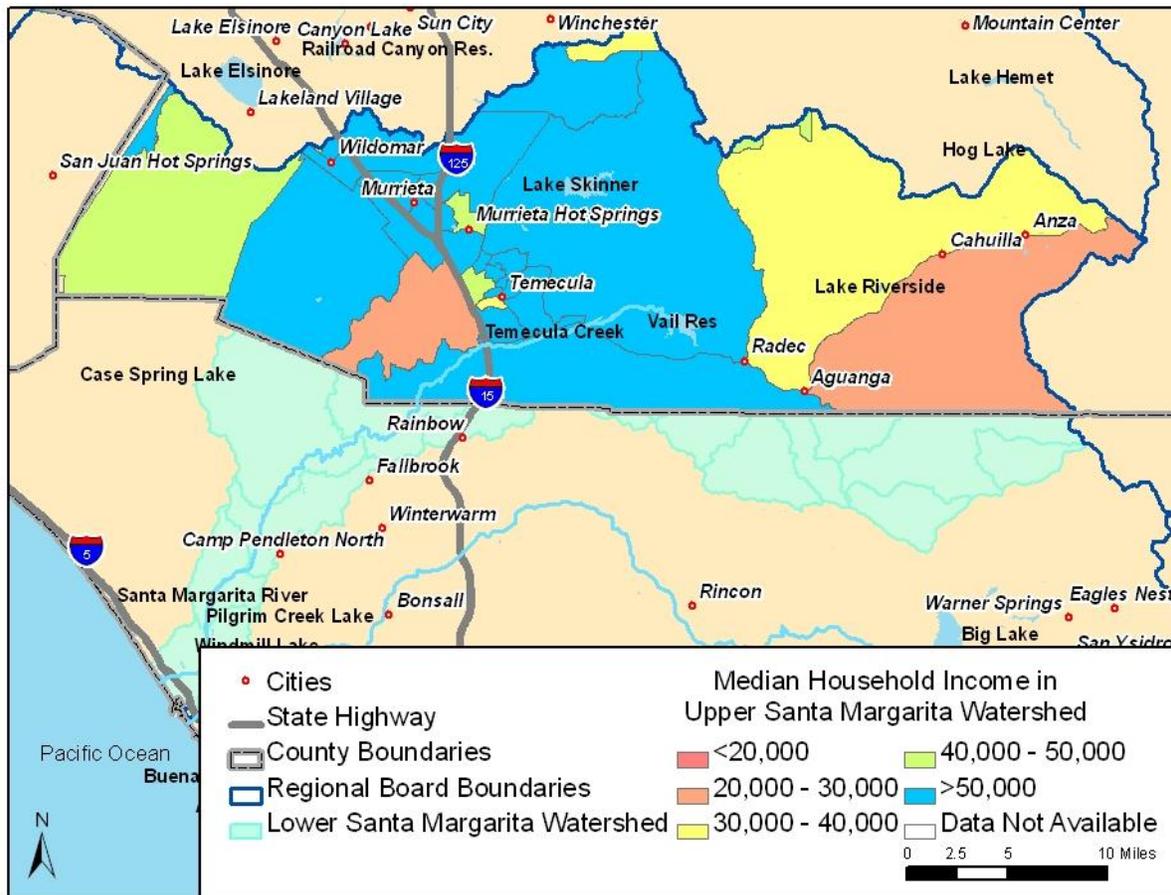


Task 1-6: Outreach to DACs

During recent IRWM planning efforts in 2010, individual phone calls were made to DAC members to engage those not already regularly attending the stakeholder workshops through more personal communications. Callers provided information on the IRWM process, responded to questions, extended invitations to public workshops, and solicited ideas for projects. This intensive outreach effort was successful, as demonstrated by the large attendance at public workshops and renewed interest in IRWM planning.

Due to previous success in DAC outreach efforts associated with the USMW IRMW program, it is essential that DAC outreach is maintained throughout development of the IRWM Plan Update. The tasks listed below describe how DAC outreach will be maintained and enhanced throughout the IRWM Plan Update development process. **Figure 3-5** below demonstrates median household incomes (MHIs) across the USMW IRWM Region. Please note that those communities with MHIs less than \$37,994 qualify as disadvantaged according to DWR.

Figure 3-5: Median Household Incomes within the USMW IRWM Region





FINAL

**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

Direct Coordination

DAC representatives will be invited to all SAC and/or public workshops. Individual phone calls may be made to non-participating DACs prior to public workshops to extend a personal invitation to each workshop, explain the meeting purpose, answer questions, and solicit information on potential projects to include in the IRWM Plan Update. As part of the stakeholder group, all DAC representatives will also receive IRWM emails, E-Newsletters, Fact Sheets, and other planning materials.

DAC Outreach Meetings

Up to six (6) community or other meetings with DAC representatives will be conducted by representatives from the RWMG agencies. The purpose of attending these meetings is to facilitate involvement by those who were not readily able to travel to the IRWM Plan meetings. This will ensure that DAC community needs are highlighted in the IRWM Plan, and that opportunities to create integrated projects, and to implement planning and projects to meet DAC watershed needs and implementation of goals, strategies, and objectives are accomplished. At these meetings, the RWMG will ask participants to clarify critical water supply and water quality issues in the DAC areas, help DAC representatives brainstorm integrated projects that would be competitive for IRWM funding, and provide other information as necessary.

DAC Section of Plan Update

The information received at the DAC outreach meetings will provide the basis for the description of local DAC issues in the USMW IRWM Plan Update.

Deliverables

- Direct coordination with DAC representatives on IRWM meetings and planning materials.
- Up to six (6) community or other meetings with DAC representatives, including preparation of draft and final agendas, presentations, handouts, and notes.
- Draft and Final IRWM Plan section describing DACs and articulating their water management needs.

Assumptions

- All RWMG staff time for DAC outreach meetings are part of the Region's funding match.
- Targeted fact sheets, newsletters and materials used for DAC outreach will be produced under Task 1-3.
- Engagement with the Anza Area DAC community is assumed through Task 2-1.



Task 2: Planning Studies

Task 2-1: DAC Groundwater Study in the Anza Area – Phase I

Task 2-1 will involve the development of a groundwater study within the Anza Area of unincorporated Riverside County (refer to **Figure 3-3**). The Anza Area is located within the upper portion of the Upper Santa Margarita Watershed, and covers approximately 15% of the Region. Addressing the groundwater needs of this community was identified as an objective of the 2007 IRWM Plan.

The purpose of work completed for the *Anza Area Groundwater Management Report* (completed in November 2011) was to begin a community-based program that would assist stakeholders within the Anza Area in developing a Groundwater Management Plan (GWMP) for the Cahuilla Valley Groundwater Basin (Basin Number 9-06, DWR Bulletin 118), and its sub-basins, including the Lower Cahuilla, Upper Cahuilla, Terwilliger, and Burnt sub-basins.

The *Anza Area Groundwater Management Report* provides the technical and political foundation necessary to carry-out subsequent work, which will ultimately lead to development of the formal GWMP.

Due to the complexity of groundwater issues within the Anza Area, it is anticipated that a phased program consisting of multiple studies will be required to develop the formal GWMP. The first phase of this work, the *DAC Groundwater Study in the Anza Area – Phase I*, is designed to carry out various conclusions and recommendations from the *Anza Area Groundwater Management Report*, and will specifically address the fourth (4th) conclusion that “further coordinated planning and data collection should be a priority to assess current trends in water levels and quality.” It is anticipated that the full multi-phased study leading to development of a GWMP will have a total budget of approximately \$2,000,000, of which approximately \$150,000 (7% of total) will be allocated toward Phase I as contained within this Planning Grant Proposal. **Table 3-3** below shows each of the aforementioned groundwater studies that are completed or planned for the Anza Area.

Table 3-3: Anticipated Phasing of Anza Groundwater Studies

Title of Groundwater Study	Sponsor	Budget	Est. Completion Date
Anza Area Groundwater Management Report	South Coast Resource Conservation and Development Council	\$50,000	October 2011
DAC Groundwater Study in the Anza Area – Phase I	High Country Conservancy	~\$150,000	January 2014
DAC Groundwater Study in the Anza Area – Future Phases	TBD	~\$1,800,000	2019

Due to the importance of groundwater and addressing critical water supply and water quality needs of DACs for the USMW IRWM Region, results of the *DAC Groundwater Study in the Anza Area – Phase I* will be incorporated into the USMW IRWM Plan Update (refer to Task 3 below). Specifically, results of this study will be used to update the Region Description, IRWM Plan Objectives and



Priorities, Resource Management Strategies, and Implementation sections. In addition, results of this study will be incorporated into new sections of the IRWM Plan that are anticipated such as the Disadvantaged Community Element (within the Region Description) and the Data Management and Technical Analysis.

Study Partners, Goals, and Objectives

Study Partners for the *DAC Groundwater Study in the Anza Area – Phase I* include the:

- High Country Conservancy (local project sponsor),
- United States Geological Survey (USGS),
- Anza-Aguanga IRWM Plan Community Group,
- Anza Grant Writing Group, which includes the Cahuilla Band of Indians,
- County of Riverside,
- Elsinore-Murrieta-Anza Resource Conservation District, and
- South Coast Resource Conservation and Development Council.

The Study Partners will contribute to existing data collection, review of study results and materials, and generally provide guidance and feedback to the High Country Conservancy during development of the *DAC Groundwater Study in the Anza Area – Phase I*. **Exhibit B** of this attachment includes a commitment letter to RCWD from the High Country Conservancy, which indicates their willingness and ability to act as the Local Project Sponsor for this study.

In addition, the *DAC Groundwater Study in the Anza Area – Phase I* will include meetings that involve the Anza Area stakeholders. A preliminary stakeholder group was convened and formalized as part of work completed for the *Anza Area Groundwater Management Report*. A broad, balanced community steering group, the Anza Groundwater Management Committee, was formed as an outcome of the Capacity Building Local Groundwater Assistance (LGA) Grant representing all community groups and tribes to support local groundwater management and to serve as an advisor to guide studies in the area and to assist with outreach and communication in the disadvantaged community of Anza. The *DAC Groundwater Study in the Anza Area – Phase I* will utilize the Anza Groundwater Management Committee, and rely on the developed stakeholder group, which includes over 100 potential members.

Due to the high-level of community support to develop a GWMP for the Anza Area, there has already been an indication of support for future phases. For example, the USGS has indicated their willingness to serve as a project partner for future phases of the DAC Groundwater Study in the Anza Area, and could potentially provide matching funds up to 30% of the costs for Phase II.

The *DAC Groundwater Study in the Anza Area – Phase I* will include data gathering and analyses necessary to significantly improve understanding of the hydrology and groundwater quality within the Anza Area study area, building upon existing data compiled within the *Anza Area Groundwater Management Report*. Work conducted as part of the Phase I effort will contribute to the construction of a predictive groundwater model, which will be ultimately used by basin managers in the development of the GWMP. As the first phase of a larger multi-phased study, it will provide



the first step in developing accurate and current information that will be used to protect communities that rely on the Cahuilla Valley Groundwater Basin from drought.

The overall objectives of the multi-phased groundwater program are to:

- (1) Define the geohydrologic framework of the Anza Area,
- (2) Quantify the hydrologic budget,
- (3) Determine the character, source(s), and the age(s) of groundwater in the area, and
- (4) Develop tools to help evaluate and manage the water resources of the area.

The main objectives of Phase I are to:

- (1) Hold facilitated workshops among stakeholders within the Anza Area to maintain community involvement and transparency regarding groundwater management;
- (2) Develop a texture model to help characterize the aquifer system of the Anza Area from a groundwater supply perspective;
- (3) Compile data to better characterize groundwater quality within the Anza Area; and
- (4) Develop a preliminary water budget for the Anza Area.

The following subtasks describe the specific work that will be carried out to meet the goals and objectives for Phase I:

Subtask 2-1A: Facilitation for Anza Area Groundwater Meetings

The first step of the *DAC Groundwater Study in the Anza Area – Phase I* is to provide formal facilitation services, which will be utilized at a kickoff meeting and each Anza Area Stakeholder meeting and the public workshop listed within subsequent subtasks. The purpose of this subtask is to continue facilitation services, which were successfully utilized for development of the *Anza Area Groundwater Management Report*. Due to the historically contentious nature of groundwater management within the Anza Area, facilitation services are necessary to maintain stakeholder involvement and ensure that meetings are productive. The USMW IRWM Stakeholder Advisory Committee will also be involved in development of the *DAC Groundwater Study in the Anza Area – Phase I*, as they will be briefed on updates of this planning effort during regularly held SAC meetings (refer to Task 1-2). Results from these meetings will be incorporated into Stakeholder Outreach portions of Section 1 of the IRWM Plan.

This subtask will include:

- A kickoff meeting, during which Study Partners and Anza Area stakeholders will discuss the purpose, goals, study period, and next steps of the groundwater program.
- Facilitation of all Anza Area Stakeholder meetings, kick-off meeting, and public workshop listed within subsequent subtasks (up to nine [9] meetings).
- Produce public outreach materials that will be used to continually educate citizens regarding groundwater issues in the study area as well as current and future work that is anticipated.

**Deliverables:**

- A background summary of the *Anza Area Groundwater Management Report*, which includes a summary of existing data and identified data gaps.
- A proposal for the potential purpose, goals, study period, and next steps for the DAC Groundwater Study in the Anza Area.
- Prepare facilitation exercises and materials prior to each Anza Area Stakeholder meeting, kick-off meeting, and the final public workshop (up to nine [9] meetings), including agendas, presentations, and handouts.
- Follow-up work following Anza Area Stakeholder meetings, including development of meeting notes, ground rules, and other work as appropriate.

Subtask 2-1B: Analyze Available Geophysical Logs

Utilizing existing data analyzed within the *Anza Area Groundwater Management Report*, and any other existing data agreed upon for use by stakeholders, a three-dimensional (3-D) texture model will be developed to help characterize the aquifer system of the Anza Area. The ultimate goal of the texture model is to demonstrate the known regional, spatial, and vertical heterogeneity in the aquifer system. The texture model can be up-scaled to a layered groundwater flow model for use in defining the hydraulic properties of the aquifer system in future phases of the groundwater program. Information compiled on the groundwater basin to generate this model will be used to update the description of the Anza groundwater basin in the Section 2 of the IRWM Plan Update.

This subtask will involve:

- Collecting available drillers' and geophysical logs, which are described in the *Anza Area Groundwater Management Report* and available from the State of California in scanned form. Drill cuttings taken during the designated study period will be compiled, analyzed, and compared to descriptions in drillers' logs in order to ground-truth the logs collected from the State. This ground-truthing process will lead to the identification of local geologic units and will help to refine the geohydrologic framework of the Anza Area.
- Classifying available driller's logs by texture (coarse or fine-grained for deposits and weathered/fractured or competent for bedrock) and then developing a 3-D model of the texture by evaluating the classified logs on a spatial grid at designated intervals (kriging).
- Up to two (2) meetings involving the Study Partners and the Anza Area stakeholders. The purpose of the first meeting will be to discuss existing data that will be utilized to develop the 3-D texture model, and provide recommendations regarding any additional data (not identified within the *Anza Area Groundwater Management Report*) that could be included into the 3-D texture model. A second meeting will take place after development of the 3-D texture model to explain model results to stakeholders.

Assumptions:

- Budget for Subtask 2-1B does not include facilitation services, but rather provision of technical data and results of the 3-D texture model.



FINAL

Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region

Deliverables:

- Digital files for the 3-D texture model.
- Summarize results of the texture model into a technical memo. The technical memo will include a 3-D visualization of the texture model results and copies of the geophysical logs and any other existing data that was utilized to develop the 3-D texture model. The technical memo will be appended to the final report.
- Up to two (2) meetings involving the Study Partners and the Anza Area Stakeholders, including a summary of the proposed data that will be incorporated into the 3-D texture model, and a summary of the results of the 3-D texture model.

Subtask 2-1C: Compile and Analyze Geochemical Data

This subtask includes compiling and analyzing geochemical data to help the region to better understand groundwater quality conditions. Information compiled will be used to update the description of the Anza groundwater basin in the Section 2 of the IRWM Plan Update.

This subtask will involve:

- Identifying potential sources of geochemical (water quality) data based on information from the *Anza Area Groundwater Management Report* and other sources as applicable.
- Compiling and analyzing existing available water chemistry from domestic, municipal, and agricultural supply wells.
- Determining and mapping the areal variation of water quality impacts including natural and man-made potential pollutants.
- Up to two (2) meetings involving the Study Partners and the Anza Area Stakeholders. The purpose of the first meeting will be to discuss existing geochemical data, and provide recommendations regarding any additional data (not identified within the *Anza Area Groundwater Management Report*) that could be utilized. A second meeting will take place after development of the geochemical (water quality) technical memorandum to explain results to stakeholders.

Assumptions:

- Budget for Subtask 2-1C does not include facilitation services, but rather provision of technical data and results of data analysis and mapping of geochemical data within the Anza Area.

Deliverables:

- Summarizing results of the geochemical (water quality) data analysis and associated mapping into a technical memo. The technical memo will include maps of water quality variation as they relate to potential sources of pollution such as various land uses. The technical memo will be appended to the final report.
- Up to two (2) meetings involving the Study Partners and the Anza Area stakeholders, including a summary of the proposed data that will be incorporated into the geochemical



data technical memorandum, and a summary of the geochemical data technical memorandum.

Subtask 2-1D: Preliminary Water Budget

This subtask includes compiling a preliminary water budget for the Cahuilla Valley Groundwater Basin. Information compiled on the water budget will be used to update the description of the Anza groundwater basin in the Section 2 of the IRWM Plan Update.

This subtask will involve:

- Preparing a preliminary water budget to help quantify the amount of infiltration, recharge, evapotranspiration, and runoff occurring within the Anza Area. The water budget will be considered preliminary until it is ground-truthed during later phases of the groundwater program.
- Estimating infiltration by balancing energy and mass budgets of the local snowpack, soil zone, and unsaturated zone. Recharge, evapotranspiration, and runoff will be simulated actively with modeling software such as GSFLOW, which is a USGS numerical model.
- Up to two (2) meetings involving the Study Partners and the Anza Area stakeholders. The purpose of the first meeting will be to discuss data that will be utilized to develop the preliminary water budget. A second meeting will take place after development of the preliminary water budget to explain results to stakeholders.

Assumptions:

- Budget for Subtask 2-1D does not include facilitation services, but rather provision of technical data and results of the preliminary water budget.

Deliverables:

- Summarize results of the preliminary water budget and infiltration estimation into a technical memo. The technical memo will include a preliminary quantification of infiltration, recharge, evapotranspiration, and runoff occurring within the Anza Area. The technical memo will be appended to the final report.
- Up to two (2) meetings involving the Study Partners and the Anza Area stakeholders, including a summary of the proposed data that will be incorporated into the preliminary water budget, and a summary of the preliminary water budget.

**Subtask 2-1E: Report Preparation**

This subtask includes coordinating with the Study Partners and the Anza Area stakeholders to prepare reports for the *DAC Groundwater Study in the Anza Area – Phase I*. This subtask will involve:

- Prepare a draft and final Phase I Report summarizing the results of the three aforementioned technical memoranda described within Subtask 2-1B, 2-1C, and 2-1D, including available groundwater data in the Anza Area, a summary of the 3-D texture model, a presentation of the geophysical logs, a summary of geochemical data and maps, and a presentation of the preliminary water budget. The Phase I Report will also include a presentation of data gaps and next steps that should be taken for subsequent phases of the DAC Groundwater Study in the Anza Area.
- Identify recommended future implementation projects to be part of the DAC Groundwater Study in the Anza Area. Recommendations should include such things as ground-truthing efforts, modeling, identification of future wells and well drillings, and water quality improvement projects. Recommendations will be incorporated into the Final Phase I Report.
- Complete Study progress reports required for inclusion in Planning Grant progress reports to the Department of Water Resources, including a final report that will be submitted upon project completion.
- Hold one (1) meeting with Study Partners and the Anza Area stakeholders to present an outline for the Draft Phase I Report and a preliminary list of future implementation projects. Feedback from this meeting will be incorporated into the Final Phase I Report.
- Hold one (1) public workshop with all interested members of the public to present the Final Phase I Report and associated public outreach materials. The purpose of this workshop is to inform interested parties regarding the outcomes of the *DAC Groundwater Study in the Anza Area – Phase I*, and alert interested parties to the potential activities that will be completed during subsequent phases of this work.
- A summary of relevant findings from the *DAC Groundwater Study in the Anza Area – Phase I* for incorporation within the USMW IRWM Plan Update.

Deliverables:

- Draft and final detailed outline for the Draft Phase I Report.
- Draft and final Phase I Report.
- Summary which will include relevant information from the *DAC Groundwater Study in the Anza Area – Phase I* for incorporation within the USMW IRWM Plan Update. The full Phase I Report will be appended to the IRWM Plan Update.
- One-page summary of the Final Phase I Report on the DAC Groundwater Study in the Anza Area for use in public outreach efforts.
- One (1) meeting with the Study Partners and the Anza Area stakeholders, including development of a presentation, handouts, agenda, and notes (not including facilitation materials).



- One (1) public workshop, including development of a presentation, handouts, agenda, and notes (not including facilitation materials).

Task 2-2: Temecula Valley Basin Salt and Nutrient Management Plan

Task 2-2 will involve the development of a Salt and Nutrient Management Plan (SNMP) for the Temecula Valley Basin (Basin), which is also known as the Temecula/Murrieta Basin.

Study Context

As described previously, the State Board recently adopted the Recycled Water Policy (Policy) (Resolution 2009-0011) that requires Salt and Nutrient Management Plans be developed to manage salts, nutrients, and other significant chemical compounds on a watershed or basin-wide basis. In addition, the 2007 USMW IRWM Plan (Section 3) specifically calls out the following objectives:

- “Reduce salt loading with a goal of salt balance in the watershed and groundwater basin”
- “Reduce water quality impacts of septic tanks”

The goal of all stakeholders in the USMW is to develop a comprehensive SNMP for the Temecula Valley Basin that would identify the problems created by higher than desired concentrations of salt in the watershed, along with opportunities for addressing the problems. The coverage of this SNMP focuses primarily on the portion of the Upper Santa Margarita Watershed within Riverside County and in the Temecula Valley Basin area (the upper watershed). It will also include the small portion of San Diego County that overlies the southeast corner of the Upper Watershed, although this area is largely undeveloped. In addition, a small, sparsely developed area along the far western edge of the RCWD district that borders on the Cleveland National Forest overlies the upper portion of the San Mateo Watershed. That watershed is an overlay area between the South Orange County IRWM Plan and the USMW IRWM Plan. Therefore, to a limited extent, the SNMP would also consider issues relative to impacts on the San Mateo Watershed. There is a significantly larger portion of the upper San Mateo Watershed that also lies within Riverside County, but outside of the RCWD or any other agency boundaries. This additional area is entirely within the Cleveland National Forest and outside of the jurisdiction or control of the local agencies. Therefore, this area will not be included in the SNMP.

Study Partners, Goals, and Objectives

The Policy specifies that development of SNMPS must include a locally-driven and controlled, collaborative process by local water and wastewater entities, together with local salt and nutrient-contributing stakeholders, and that development of these plans must be open to all stakeholders. RCWD anticipates that local recycled water producers, growers that apply fertilizers, septic system users, and wastewater treatment plant operators will participate in development of the SNMP. Additional interested stakeholders may also participate, including other water retailers in the region (EMWD and WMWD), the County of Riverside, local municipalities, NGOs, and the Regional Water Quality Control Board.



FINAL

Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region

Study partners and stakeholders for the *Temecula Valley Basin Salt and Nutrient Management Plan* include the following:

- RCWD (local project sponsor),
- County of Riverside,
- Eastern Municipal Water District,
- Elsinore Valley Municipal Water District,
- Western Municipal Water District,
- Fallbrook Public Utilities District,
- Cities of Murrieta and Temecula,
- Indian Tribes, including Pechanga Band of Luiseño Indians and Cahuilla Band of Indians,
- U.S. Marine Corps, Camp Pendleton,
- Santa Margarita River Watershed Watermaster,
- San Diego Regional Water Quality Control Board, and
- Other stakeholders, such as agricultural grove managers, Temecula Valley Wine Country General Plan Update Group, and small water systems in the Basin.

The purpose of the SNMP is to create a road map to manage salts and nutrients in a manner that ensures compliance with water quality objectives and protection of beneficial uses in the applicable groundwater basin(s) and, as such, is a central part of the USMW IRWM Plan Update. The primary objectives in developing the *Temecula Valley Basin Salt and Nutrient Management Plan* are to:

1. **Ensure a sustainable water supply to the region.** Protect existing and future recycled water programs by demonstrating that high-quality recycled water is not a majority contributor to salts and nutrients, and the use of recycled water is helping to achieve a more sustainable water supply portfolio and contributing to meeting the SBx7-7 goals (i.e. Water Conservation Act of 2009).
2. **Manage salts and nutrients in a technically competent and cost-effective manner.** Create a technically competent and cost-effective process for managing salts and nutrients in the groundwater basin that provides the appropriate level of effort for the conditions in the Basin.
3. **Capitalize on existing partners and stakeholder knowledge.** Develop the SNMP in conjunction with existing partner and stakeholder groups, as listed above, as well as drawing upon existing work and industry standards in order to avoid repeated work.
4. **Achieve stakeholder collaboration and buy-in.** Through the stakeholder process, stakeholder collaboration and buy-in for an operative SNMP will be achieved.
5. **Obtain regulatory acceptance.** Obtain RWQCB acceptance for compliance with the State's Recycled Water Policy.
6. **Develop a comprehensive monitoring strategy.** Develop a comprehensive monitoring strategy that provides meaningful value in managing salt and nutrients.



7. **Identify appropriate projects and BMPs.** Protect and improve upon existing recycled water, groundwater, and agricultural projects, Identify and develop future projects and appropriate, adaptable BMPs to improve water quality in the Basin.
8. **Integrate results and strategies into the USMW IRWM Plan Update.** Provide regional integration with the USMW IRWM Plan Update.

The SNMP will focus on addressing salt and nutrient issues related to the use of recycled water and particularly addressing TDS and nitrogen management relative to protecting the groundwater basins for their use for municipal, industrial and agricultural supply. In order to develop the SNMP, at a minimum, the following subtasks describe the specific work that will be carried out to meet the goals and objectives of this task:

Subtask 2-2A: Develop a Collaborative SNMP Process

The main purpose of this subtask is to develop a stakeholder process that meets Policy requirements. This will occur by developing working groups, developing an outreach plan, coordinating with a technical working group, and conducting salt and nutrient management plan workshops. Work performed under this subtask will be incorporated into Section 1 of the IRWM Plan Update.

This subtask will involve:

- Develop Working Groups: Active participants in the SNMP process are assumed to be part of one of two groups intended to help guide and gain input for the SNMP. Those groups include the following:
 1. **SNMP Technical Working Group.** This group will consist of those who contribute technical information and provide technical review. Staff from local water and wastewater agencies and municipalities, the Watermaster, a member of the San Diego Regional Water Quality Control Board, and other key stakeholders will be included.
 2. **SNMP Advisory Committee.** This group will consist of those whose activities and operations may impact salt and nutrient management in the Basin, including agricultural interests, private well owners, environmental groups, regulatory staff, and the general public.

Work that will be conducted to develop the aforementioned working groups will include: maintaining and updating the stakeholder list when needed, and using the stakeholder list to coordinate all workshop notifications and deliverable distributions to the stakeholders. Work will also include preparation of workshop agendas, presentations and materials, arranging workshop locations, and preparing announcements. The USMW IRWM Stakeholder Advisory Committee will also be involved in the SNMP, as they will be briefed on updates of the Region's salt and nutrient management planning efforts during regularly held SAC meetings (refer to Task 1-2).

- Develop an SNMP Outreach Plan: The SNMP Outreach Plan will be used to obtain stakeholder input and feedback and suggestions on the following: 1) initial planning direction, 2) potential salinity and nutrient management goals, and 3) appropriate means to engage stakeholders.



FINAL

Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region

- Coordinate with SNMP Technical Working Group: Hold up to four (4) conference calls with the Technical Working Group to collect data and coordinate review of deliverables. Calls shall be coordinated to coincide with key data collection, review of major deliverables and follow-up from stakeholder workshops. Conference calls are anticipated at the following project milestones:
 - Project Kick-Off and Source Identification Input
 - Groundwater Data Collection
 - Anti-Degradation Analysis and Monitoring Plan Review
 - Draft Salt/Nutrient Management Plan Review
- Conduct Salt/Nutrient Management Plan Workshops. Develop and hold three (3) 2-hour public workshops for the purpose of presenting information, gathering input from stakeholders, and to provide a forum for discussion of salt and nutrient issues. Prepare and distribute agendas, workshop notifications, presentations, and guide stakeholder discussion and technical presentations. Conduct workshop location coordination, sign-in, and meeting notes for each workshop. The following will be provided in support of each workshop:
 - **Workshop 1** – Following Subtask 2-2C, prepare for and present an overview of the Policy and key elements in developing the SNMP, the SNMP development process, elements and/or sections of the SNMP, salt and nutrient constituents that will be assessed, and an overview of current understanding of salt/nutrient sources in the Basin.
 - **Workshop 2** – Following Subtask 2-2D, results of technical work shall be presented at Workshop 2.
 - **Workshop 3** – During the Subtask 2-2D, Workshop 3 will present the Draft SNMP to public stakeholders after the Stakeholder Advisory Committee has reviewed and commented on the Draft SNMP. Workshop 3 will be a forum to discuss and respond to stakeholder comments on the Draft SNMP. The collaborative process used in development of the Draft SNMP and the SNMP's key components will be presented.

Deliverables:

- Salt and Nutrient Management Plan Stakeholder Working Group Lists
- Four (4) Technical Working Group Conference Calls
- Three (3) Salt and Nutrient Management Plan Stakeholder Workshops
- Conference calls and workshop announcements, agendas, materials, including presentations and handouts, and workshop meeting notes for each call or workshop

***Subtask 2-2B: Conduct Initial Basin Characterization***

This subtask will involve identifying the groundwater basin being assessed and delineate the study area. Work performed under this subtask is expected to be incorporated into Section 2 of the IRWM Plan Update.

This subtask includes five (5) major work items, including the following:

- **Identify the Groundwater Basin Being Evaluated:** Work performed will include definition of the groundwater basin, identification of the areal extent of the basin, and identification of the upstream tributary area that may contribute source loads to the basin. The study area will include all or portions of the Murrieta, Auld, Pechanga, and Deluz groundwater subbasins and tributary streams upstream of the Temecula Gorge. Any tributary lands that are suspected or known to influence groundwater quality in the basin will be included. A determination of basis for the selected study area will be documented, and a Geographic Information Systems (GIS)-based map depicting the areal extent of the groundwater basin, the proposed study area, and the tributary watershed will be prepared.
- **Identify, Collect, and Review Existing Groundwater Studies:** Work performed will include identifying and reviewing prior groundwater management studies, hydrogeologic assessments, or evaluations that have assessed issues relevant to salinity and nutrient planning within the study area. This work will include region-wide and basin-specific studies, as applicable. Local studies will be used as identified and available. Technical data or assessments on which groundwater management studies were based will also be used. Appropriate agencies, groups, and co-permittees will be contacted to assist with identifying and obtaining these studies.
- **Document Beneficial Uses:** Work performed will include identifying and quantifying existing and potential uses of groundwater in the basin. This work will identify and characterize existing and planning municipal supply wells or projects and quantified pumping in the Basin; identify and characterize private groundwater wells and users in the Basin; quantify or estimate irrigation pumping from private wells; and identify areas where groundwater-dependent habitat is known to exist and quantify the amount of groundwater uptake required by the habitat. Existing documentation, where available, will be used, including water agency records, well surveys, DWR well records, County of Riverside permit records, and other relevant data. GIS-based mapping will be used to identify location of municipal and private wells.
- **Characterize Groundwater Quality and Occurrences:** Work performed will include characterizing existing and historic groundwater quality and the distribution of groundwater in the Basin particularly on salinity and mineral constituents and nitrogen data through review of existing studies and contact with agencies or groups engaged in ongoing data collection. This work will also involve identifying and obtaining additional data, as available, to fill in data gaps. As such, this work will include collecting, aggregating, and analyzing historic and current water quality data for the beneficial uses and objectives review and for purposes of completing an anti-degradation analysis. Geographic and depth-dependent distribution of concentrations will be assessed for the salinity and nutrient



parameters of interest. A GIS-based map will be developed that depicts groundwater quality, concentration contours, depth-to-water, groundwater flow directions, and key hydrogeologic features that may affect pollutant transport.

- Identify Salinity and Nutrient Constituents of Concern: Lastly, work conducted under Subtask 2-2B will involve identifying salinity and nutrient parameters to be addressed within the SNMP. The list of constituents of concern will be developed on the basis of prior groundwater studies, collected groundwater quality information, consultation with Regional Board staff, and discussions with study partners and stakeholders. Constituents of concern will include TDS, and may include one or more individual ions such as chlorine, sulfates, or sodium if such constituents are determined to be of concern; nitrate-nitrogen; and potentially iron and/or manganese. Other forms of nitrogen and phosphorus in surface waters leaving the upper basin will not be a focus of this study. During Workshop 1 (refer to Subtask 2-2A), the relevance of the aforementioned and other potential constituents shall be discussed and input regarding other potential constituents will be received.

Deliverables:

- Basin Study Area Map
- List of existing groundwater studies and hydrogeologic assessments in the Basin
- Well Listings in the Basin
- Well Location Map in the Basin
- Quantification of irrigation pumping from private wells
- An identification (list) of groundwater-dependent habitat
- Groundwater Quality and Basin Characteristics Map
- List of Salinity and Nutrient Parameters and Constituents of Concern

Subtask 2-2C: Salt and Nutrient Source Identification

Subtask 2-2C will involve identifying and quantifying salinity and nutrient loads to the Basin for the constituents of concern. Work performed under this subtask is expected to be incorporated into Section 2 of the IRWM Plan Update.

This subtask includes three (3) major work items, including the following:

- Identify Salinity and Nutrient Sources: Work performed will include identifying land use characteristics, and identifying known point sources, non-point sources, and their locations. The type of water used for outdoor irrigation for each parcel shall be defined using available information, and is assumed to be either treated imported water, treated groundwater, and/or recycled water. Other water sources and their places of use shall be identified based on information gathered with appropriate water suppliers, irrigators and stakeholders.
- Quantify Salinity and Nutrient Source Loads: Work performed will include quantifying salinity and nutrient sources in terms of volume, concentration, and/or mass loads based on available information. Work will also involve preparing a preliminary water budget and mass load estimate for the study area, as well as for individual groundwater sub-basins by



updating the mass balance analysis previously prepared for RCWD's Integrated Resources Plan.

- Develop Salinity and Nutrient Source Load Assessment Tools: Work performed will include recommending salinity and nutrient source assessment modeling tools. This effort will involve reviewing existing models developed for the study area including the Integrated Groundwater and Streamflow Model of the Murrieta Temecula Groundwater Basin prepared for RCWD in 2004, and the Watershed Analysis Risk Management Framework (WARMF) model of the Santa Margarita Watershed prepared for the United States Bureau of Reclamation in 2003. In addition, other available modeling tools that could potentially be used to assist in the source assessment and evaluation of management strategies will be reviewed. Based on the reviews described above, an appropriate model(s) will be recommended for use in the SNMP that may include groundwater flow and transport modeling. For some subbasins, it may also be possible that spreadsheet mass balance computations may be adequate. With respect to any utilized models, modeling tools, calibration, and verification will be developed and implemented to the extent possible. Modeling tools will be utilized to assess existing conditions and rank salinity and nutrient load sources relative to their impact on groundwater quality.

Deliverables:

- Salt and nutrient source location and loads map
- Preliminary water budget and mass load estimate
- Source assessment modeling tool
- Salinity and nutrient source load assessment

Subtask 2-2D: Develop Plan for Supplemental Monitoring

This subtask will include identifying additional data needs and developing a plan for collecting the required additional data. Work performed under this task will be incorporated into the Data Management element of Section 5 of the IRWM Plan Update.

Specific work items included within this subtask include the following:

- Develop a Plan for Data Gaps: Work performed will include identifying data gaps in groundwater quality data, groundwater monitoring data, salinity and nutrient source data, and data for hydrogeologic and other modeling parameters needed to complete the characterization of basin groundwater quality. It is assumed that there will not be extensive data gaps in the groundwater basins in the Upper Watershed and that any supplemental monitoring will be relatively short-term and limited. Work will also include developing a plan for obtaining additional data needed, including identifying the responsible parties for collecting the data.
- Collect Data to Refine Basin Characterization: Work performed will include collecting necessary data, incorporating the additional data into the database, and, if necessary, refining the basin characterization based on the updated data inputs.



FINAL

Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region

Deliverables:

- Additional data collection plan
- Refined basin characterization and salinity and nutrient source load assessment

Subtask 2-2E: Assess Salinity and Nutrient Management Strategies

This subtask will include identifying the principal goals to be achieved by the salinity and nutrient management planning process. Work performed under this subtask will be incorporated into Sections 3, 4 and 5 of the IRWM Plan Update.

Specific work items include the following:

- Identify Management Goals: Work performed will include identifying the preferred goals of the key agencies that will implement the SNMP and other stakeholders, including processes for obtaining stakeholder input and resolving potential conflicts.
- Identify Available Management Strategies: Work performed will include identifying available salinity and nutrient management strategies that may include any of the following strategies: wastewater salinity and nutrient source control; public education; source load reduction; source water salinity control; salt export; groundwater recharge; groundwater management; institutional arrangements; land use regulation; landscape conservation; and stormwater/runoff management. Work will also include development of a preliminary list of alternative management strategies that are feasible for implementation in the Basin, and obtaining stakeholder input on the preliminary list.
- Assess Load Reduction and Water Quality Improvement: Work performed will include screening the preliminary list of alternative management strategies, and assessing the load reduction and/or water quality improvement potential for the more viable strategies using the assessment modeling tools developed under Subtask 2-2C. Following this assessment, strategies will be ranked with respect to salt and nutrient load reduction and groundwater quality improvement potential.
- Evaluate Alternative Management Strategies: Work performed will include evaluating and comparing the most feasible strategies on the basis of factors such as: anticipated water quality improvements; local water supply development potential, including increasing the use of recycled waters or enhanced development of groundwater supplies; regulatory compliance; sustainability; costs; funding considerations; ability to implement; and environmental impacts. After this evaluation is complete, a preferred strategy will be selected for implementation using stakeholder feedback (refer to Subtask 2-2A) and a pre-defined decision process.
- Assess Basin Plan Modification Needs: Work performed will include documenting the efforts described in all previous subtasks, and identifying needs for inclusion in a Basin Plan amendment associated with the preferred salinity and nutrient management strategies. This work will involve coordination with Regional Board staff to determine an appropriate approach and information needs for a Basin Plan amendment. Work will also include preparing technical documentation to support the recommended Basin Plan amendment.



FINAL

Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region

- Assess CEQA/NEPA Compliance: Work performed will include assessing how the recommended strategy conforms with California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) requirements. Specifically, this assessment will identify if implementation of the recommended strategy will be subject to review under CEQA or NEPA. If the recommended strategy would be subject to review, work will be completed to identify the appropriate governing body (lead agency), develop a project description and conduct an initial environmental review (Initial Study) to define the scope of necessary CEQA compliance.

Deliverables:

- Salinity and nutrient management plan goals
- Ranked alternative management strategies
- Decision methodology for selecting the preferred strategy
- Recommended Basin Plan amendment and technical documentation
- Required CEQA/NEPA documentation (as necessary)

Subtask 2-2F: Finalize and Assess SNMP Effectiveness

This subtask will involve finalizing the SNMP, identifying the metrics to evaluate effectiveness of selected salinity and nutrient management strategies, and developing, and implementing a monitoring program to measure the effectiveness of the implemented strategies:

- Identify Metrics and Develop Monitoring Program: Work will involve identifying metrics (measureable parameters) that can be used to evaluate the effectiveness of the selected salinity and nutrient management strategies, and developing a monitoring program, including the responsible agency and schedule, to measure the effectiveness of any implemented groundwater management strategies.
- Salinity and Nutrient Management Plan Audit: Work will include establishing the framework and schedule for auditing and periodically updating the Plan and identifying the responsible agency or agencies for implementing the effectiveness assessment.

Finalization of the Plan will include preparing a draft and final *Temecula Valley Basin Salt and Nutrient Management Plan* that summarizes the results of all deliverables described within Subtask 2-2A through 2-2E into a comprehensive planning document that can be incorporated into the USMW IRWM Plan Update. The SNMP will be provided as an appendix to the IRWM Plan Update.

Deliverables:

- Draft and Final *Temecula Valley Basin Salt and Nutrient Management Plan*
- Effectiveness metrics for management strategies
- Management strategies monitoring program
- Salinity/Nutrient Management Plan audit structure



Task 2-3: Santa Margarita Region Retrofit Opportunities Study and Program Framework

The following objectives were identified in the 2007 IRWM Plan as necessary to meet the Region's water quality and supply goals:

- WQ-3: Reduce runoff through projects that implement best management practices
- WQ-4: Minimize hydromodification of the watershed as development increases
- WS-4: Construct, operate and maintain an efficient water supply infrastructure, including water conveyance, treatment, storage and distribution

Initial strategies were identified to begin to address these objectives but it was recognized that further study was needed to provide a more comprehensive and integrated strategy. In response, Task 2-3 was developed which will involve the development of a retrofit opportunities study, and a corresponding retrofit program framework that can be implemented in the future to address regional water quality issues associated with urbanization.

Study Context

The work included under this task includes both a study to identify and prioritize existing areas of development which have the potential to cause water quality impairments as a result of urbanization, as well as the development of a program framework to be used to further refine prioritizations based on water quality data analysis. The goal of this task is to develop a retrofit program that can be implemented throughout the Region to holistically address water quality issues associated with urban development.

The study will involve researching, inventorying and prioritizing existing areas of development (i.e. municipal, industrial, commercial, residential) as candidates for targeted retrofitting that would address the impacts of existing development on the watershed and therefore reduce impacts from hydromodification, promote low impact development (LID), support riparian and aquatic habitat restoration, reduce storm water runoff and pollutant loads, and improve water quality. Potential retrofitting candidates will include but are not limited to areas of development that generate pollutants of concern to a TMDL or an ESA, areas where receiving waters are channelized, hardened and/or eroded, the developments tributary to these receiving waters, and developed areas that generate pollutants to environmentally sensitive areas. The retrofit program framework will become part of the County of Riverside's ongoing stormwater management programs and will serve as guidance for the Region's agencies (e.g. co-permittees) to effectively implement retrofit projects. The retrofit program framework will include a menu of potential retrofit BMPs, and include a tracking mechanism for completed projects and guidance for ongoing evaluation for additional retrofit project candidates.

Study Partners, Goals, and Objectives

The Project Proponent for this study is RCFC&WCD. Objectives associated with the Regional Retrofit Opportunities Study include:



- Encourage the use of LID site design BMPs to reduce negative hydromodification impacts to the existing receiving waters and improve water quality, environmental sustainability and water conservation.
- Incorporate watershed-based programs that will result in more efficient and cost-effective long-term solutions to addressing water quality.

Subtask 2-3A: Research Existing Areas of Development

This subtask involves researching existing areas of development to determine the status of existing development areas for purposes of prioritization, which will occur under Subtask 2-3B. Specifically, this subtask will involve gathering and analyzing various sources of information pertaining to existing areas of development in the Region. It is anticipated that in order to analyze and prioritize existing areas of development as candidates for retrofitting, the following information sources will be necessary: existing land uses and ownership, aerial photography, topographical data, hydrologic and geographic data, and water quality data. Zoning and assessors' parcel information will be used to identify existing land uses and ownership, and this information will be cross-referenced to recent aerial photography for ground-truthing purposes. Topographical information such as natural water courses and hydrologic sub areas will also be combined with MS4 maps to determine overlay zones where these systems interact. Finally, available information about water quality impaired, eroded, or otherwise modified receiving waters, information on public lands, and infrastructure will be reviewed to determine its usefulness when compared to other available data sources. Results from this subtask will be used to update Section 2 (Regional Description) of the IRWM Plan.

Deliverables:

- Comprehensive list of existing development areas and their associated data as available.

Subtask 2-3B: Inventory and Prioritize Retrofit Opportunities

This subtask will involve gathering information from Subtask 2-3A, and comprehensively analyzing this information in a Geographic Information System (GIS) to identify existing areas of development as candidates for retrofitting which would support the following objectives: reduce impacts from hydromodification, promote LID, support riparian and aquatic restoration, reduce stormwater runoff and pollutant loads, and improve water quality. In absence of water quality data, the initial prioritization will be performed using the other criteria, however using program framework the data from the upcoming NAL/SAL receiving water monitoring will be used to further prioritize the identified candidate areas.

Once potential retrofit areas are identified, retrofit opportunities will be assessed on an individual site-level and on a regional-level as appropriate. Potential retrofit opportunities include but are not limited to the following: retrofits of parks and the MS4 systems, water quality retrofits in targeted areas of private development, efforts to encourage water harvesting and conservation, and retrofits of public infrastructure.

The identified potential retrofit opportunities will be conceptually applied to each identified development, and prioritized based on factors such as: the amount of water quality benefits achieved, feasibility, cost effectiveness, pollutant removal effectiveness, tributary area potentially



FINAL

**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

treated, maintenance requirements, landowner cooperation, neighborhood acceptance, aesthetic qualities, efficacy at addressing concern, and potential improvements on public health and safety.

Results from this subtask will be used to update Section 3 (IRWMP Objectives and Priorities) and Section 4 (Regional Water Management Strategies) of the IRWM Plan.

Deliverables:

- Compiled data from Subtask 2-3A into a comprehensive GIS database.
- Guidance document that identifies and prioritizes existing areas of development as candidates for retrofitting.

Subtask 2-3C: Develop the Retrofit Program Framework

Utilizing the deliverables from Subtask 2-3B, this subtask will involve development of a retrofit program framework that can be integrated into the stormwater management programs of relevant agencies, including the County of Riverside.

The retrofit program framework will include a menu of potential retrofit project types that are prioritized based on the issues and types of developments that they would be applied to. The retrofit program framework will also identify potential incentives and partnership programs that could be implemented to augment the retrofit program and increase the program's efficacy. Further, the retrofit program framework will include a proposed tracking mechanism that can be used to evaluate completed projects as well as additional future retrofit projects.

Results from this subtask will be incorporated into Section 5 of the IRWM Plan (Recommended Regional Implementation Plan). Subtask 2-3C will also involve briefing the USMW IRWM Stakeholder Advisory Committee on the final retrofit program framework during at least one (1) regularly held SAC meeting (refer to Task 1-2).

Deliverables:

- Draft and final retrofit program framework, which will be available as an appendix to the IRWM Plan Update.
- Summary which will include relevant information from the Regional Retrofit Opportunities Study for incorporation within the USMW IRWM Plan Update.

Subtask 2-3D: Documentation and Program Management

This subtask will consist of compiling documentation for the Region from Task 2-3 into formats suitable for incorporation into the final appropriate documents. This subtask also includes the preparation of a kickoff meeting, status updates, monthly progress reports and contract invoices to maintain compliance with the task objectives.

Deliverables:

- Project kickoff meeting
- Bi-weekly status updates to the County of Riverside and/or other co-permittees
- Additional status updates, as needed



FINAL

**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

- Monthly progress reports and invoices
- One draft and one final set of documentation suitable for incorporation into a Watershed Workplan which will be appended to the IRWM Plan Update. Subtasks 2-3A, B, and C identify the specific sections of the IRWM Plan Update that will be modified to incorporate information from this task.
- One comment response matrix for comments received on each of the draft sets of documentation identified above.



Task 3: IRWM Plan Update

The existing USMW IRWM Plan was developed in 2007 for the Upper Santa Margarita Watershed under the State of California Proposition 50 guidelines. In 2010, an addendum was created to further update the USMW IRWM Plan to make the region eligible for Proposition 84 funds. Task 3 will update the 2007 USMW IRWM Plan to achieve the following objectives:

- Reflect the changing conditions in the Upper Santa Margarita Watershed since development of the 2007 USMW IRWM Plan;
- Expand the area covered by the IRWM Plan to include the upper San Mateo Creek watershed located in Riverside County, as directed in the 2009 RAP application (RWMG, 2009).
- Achieve compliance with the standards and guidelines put forth in DWR's Proposition 84 IRWM Program Guidelines and to incorporate information released by the State of California since the adoption of the IRWM Plan, including the California Water Plan 2009 Update and the 2013 update, when available, and the water efficiency goals established within the Water Conservation Act of 2009 (Senate Bill x7-7);
- Expand stakeholder involvement to include active engagement by the SAC, additional disadvantaged communities, and tribal communities, and incorporate additional needs and projects into the IRWM Plan Update; and
- Document coordination between the USMW RWMG and the San Diego and South Orange County RWMGs in the San Diego Funding Area through the Tri-County Funding Area Coordinating Committee (FACC).

In order to accomplish these four objectives, the following tasks will be completed under Task 3.

Task 3-1: Prepare and/or Update IRWM Plan Sections

As indicated within Section 2 of this Grant Work Plan, *Current Status in Meeting IRWM Plan Standards*, there are multiple sections of the 2007 USMW IRWM Plan that will be updated to meet the IRWM Program Guidelines (Guidelines) and new sections that will be created in whole to meet the Guidelines. All of the work described below, in addition to all other tasks and subtasks within this Grant Work Plan, are designed to develop a standards-compliant IRWM Plan Update that adheres to the Guidelines and other relevant statutes as required by DWR.

The following sections describe work that needs to be completed and incorporated into the USMW IRWM Plan Update to produce a standards-compliant IRWM Plan. Work completed for each section will involve updating and/or modifying the existing IRWM Plan information to reflect information that has been generated since development of the 2007 USMW IRWM Plan, and to reflect new information that is generated through implementation of Tasks 1 and 2 of this Grant Work Plan.

Governance and Stakeholder Involvement:

The following are specific anticipated updates that will be made to Section 1 of the IRWM Plan:



FINAL

**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

- Define and clearly describe the Region’s governance structure, including the RWMG, SAC, and other stakeholders within the region. Add sections from the Region Acceptance Process (RAP) that discuss processes used to identify stakeholders and involve them in the decision making process.
- Update the list of stakeholders and SAC members. Update IRWM Plan with the dates and other pertinent information for IRWM Plan Update adoption by the SAC and RWMG governing bodies.
- Incorporate discussion on the Anza Groundwater Management Committee within the larger stakeholder group and the manner in which they communicate and coordinate with the RWMG.
- Describe and incorporate outreach efforts associated with SNMP development and the Retrofit Opportunities Study.
- Add language describing adaptive management process for updating the IRWM Plan in response to changing conditions and include language indicating that the IRWM Plan will be formally updated on a frequency established by the RWMG and the SAC. The minimum frequency will be no less than every 5 years, as suggested by the Guidelines.
- Modify IRWM Plan text to reflect the extensive stakeholder outreach undertaken through the IRWM Program since 2007. Documentation will include outreach to tribal and disadvantaged communities in the USMW IRWM Region.
- Document the development of the Tri-County FACC and the MOU that was developed between the three RWMGs participating in the Tri-County FACC. In addition, describe the coordination issues and ongoing collaborative efforts of the Tri-County FACC and the Tri-County FACC Overlay Subcommittee.
- Add a discussion on the RAP process undertaken by the USMW IRWM Region.
- Expand on the collaborative process used to develop and refine information included in the IRWM Plan Update, including goals and objectives, project selection, and other relevant components.

Region Description

The following are specific anticipated updates that will be made to Section 2 of the IRWM Plan:

- Modify IRWM Plan text to include the RWMG’s efforts to include DACs and tribal government representation in the stakeholder group and SAC to better sustain tribal and regional water and natural resources and address critical water supply and water quality needs of DACs. Specifically, information provided by DACs and tribal groups as part of Subtask 1-5 and Subtask 1-6 will be included within the social and cultural makeup of the Region, and other portions of the Region Description as appropriate.
- Expand and enhance mapping and descriptions of disadvantaged communities in the USMW IRWM Region and include those identified but not already included in the IRWM Plan.
- Update and expand the IRWM Plan (text and figures) to illustrate the overlay areas between the USMW IRWM Region and neighboring IRWM Regions. Also update the IRWM Plan to



describe the interregional project that is being completed within the Santa Margarita River Overlay Area through a Proposition 84 Implementation Grant (*Implementing Nutrient Management in the Santa Margarita River Watershed*).

- Update the IRWM Plan to include the San Mateo Canyon Watershed, as agreed with DWR during the RAP and the Tri-County FACC. Explain the updated USMW IRWM boundary and the issues, needs and opportunities associated with this expanded geography.
- Incorporate water rights, including water allocation issues for habitat and infrastructure into the IRWM Plan Update.
- Update the Region Description with the most recent statistics and figures available.
- Update text describing the San Diego Funding Area and the other IRWM regions located within the Funding Area.

Objectives and Plan Performance/Monitoring

The following are specific anticipated updates that will be made to Sections 3 and 5 of the IRWM Plan:

- Review and refine the IRWM Plan objectives as they relate to current water management needs in the USMW region, and develop new objectives as necessary.
- Review and refine the IRWM Plan objectives to verify that the Guidelines and associated regulatory components are being considered: the objectives of the Water Quality Control Plan for the San Diego Basin (Basin Plan), the water efficiency requirements of the Water Conservation Act of 2009, and Section 10540(c) of the California Water Code.
- Add a discussion that describes how objectives were prioritized, or explains why objectives were not prioritized. Although objectives were not prioritized within the 2007 IRWM Plan, the IRWM Plan Update could contain prioritized objectives based on feedback from the SAC, the RWMG, and other stakeholders.
- Develop metrics for each Planning Target to measure the effectiveness of the IRWM Plan Update and to determine if each objective is being met. Metrics will be qualitative or quantitative.
- Clearly define the hierarchy of objectives, sub-objectives, planning targets, and metrics. Review and modify the IRWM Plan Update text such that the terms objectives and goals are not used interchangeably. Implementation projects will be discussed in terms of this hierarchy.
- Verify that the discussion of recommended projects includes frequency for evaluation, performance monitoring, and a recommended phase during which a project-specific monitoring plan will be developed. A brief outline of each project-specific monitoring plan will be included.

Resource Management Strategies

The following are specific anticipated updates that will be made to Section 4 of the IRWM Plan:



- Update the IRWM Plan to consider the Resource Management Strategies (RMS) established within the California Water Plan (CWP) 2009 Update (or 2013 update when available) and the Guidelines.
- Update the discussion of the linkages between the IRWM Plan objectives, planning targets, and RMS from the Proposition 50 Water Management Strategies to reflect the Proposition 84 and CWP 2009 (or 2013) Update. These linkages should be used to describe the implementation and planning projects identified in the IRWM Plan Update.
- Update to incorporate the strategies developed through Tasks 2-1, 2-2 and 2-3.

Integration and Project Development/Review Process

The following are specific anticipated updates that will be made to Section 4 of the IRWM Plan:

- Develop a method for integrating projects to present the highest value to the region.
- Describe the process used to integrate projects submitted by various stakeholders.
- Provide updated information regarding the IRWM Plan Addendum. Include information presented within the Addendum, such as procedures for adding a project to the IRWM Plan, project ranking process, and ranking results.
- Update the project nomination form template and completed project nomination forms for consistency with the Guidelines and IRWM Plan Update. The updated project nomination form will be used for all new projects submitted for the Round 2 and Round 3 Proposition 84 Implementation Grants.

Impacts and Benefits

The following are specific anticipated updates that will be made to Section 4 of the IRWM Plan:

- The benefits of IRWM Plan implementation are described throughout the document; however, impacts resulting from IRWM Plan implementation are not as clearly documented. Include more information regarding the potential impacts that could result from implementation of the IRWM Plan.
- Develop a table similar to Table 4-3 of the IRWM Plan (summarizing environmental impacts) describing the benefits of the IRWM Plan.
- Update the Impacts/Benefits section to include a discussion on climate change as it relates to project implementation.

Data Management and Technical Analysis

The following are specific anticipated updates that will be made to Section 5 of the IRWM Plan:

- Update Data Management Section to include quality assurance/quality control measures that will be implemented by the RWMG for data generated and submitted to the Region's central database.
- Incorporate data management strategies and plan developed in Tasks 2-1, 2-2, and 2-3.



FINAL

**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

- Develop text summarizing Technical Analysis completed during the IRWM Plan Update, such as the climate change analyses and related vulnerability assessment.

Finance

The following are specific anticipated updates that will be made to Section 5 of the IRWM Plan:

- Add a program-level description of the sources of funding that will be utilized for the development and ongoing funding of the IRWM Plan. This discussion will include the certainty and longevity of known and potential funding.
- Add an explanation of the potential funding sources and certainty of operation and maintenance funding to the description of implementation projects, and include a comprehensive funding matrix for all projects to help support and ensure funding opportunities for all priority projects.
- Add information establishing a process for the IRWM region to apply for and contract for funding.

Relation to Local Water and Land Use Planning

The following additions, and/or modifications will be added to the IRWM Plan:

- Review the list of existing local water and land use plans to verify all relevant plans are included, and update the list if necessary.
- Provide a description of the relevant local water and land use plans.
- Add a description of the dynamics and feedback between the IRWM Plan and local planning documents described above.
- Update the IRWM Plan with a description of how water management input is considered in land use planning and vice-versa in the Region. The intent of this section will be to integrate water management and land use planning. This discussion will describe the current relationship between land use planning, regional water issues, and water management objectives, and will include future plans to enhance these relationships.

Climate Change

Climate change analysis will not be a standalone IRWM Plan Update section, but rather relevant climate change-related information described below will be incorporated throughout the IRWM Plan Update. The purpose of the work described below is to update the IRWM Plan to conform to DWR's Climate Change Standard included within the Guidelines.

- Add a description to Section 2 of the potential effects of climate change on the Region, these effects may include the amount, intensity, timing, quality and variability of runoff and recharge. To determine potential climate change effects, existing climate change-related planning documents such as greenhouse gas inventories and climate change analyses will be assessed.



- Add a climate change vulnerability assessment, which defines the areas and characteristics of the Region that are most likely to be impacted by climate change. Prepare an overview of the Region's characteristics, including water demands, water supply sources, current conditions regarding water demand and water supply balance, future water balance projections, and watershed characteristics such as water quality, ecosystems and habitat, flooding and stormwater, hydro-electric power, and coastal areas. The vulnerability assessment will ultimately be comprised of a definition of potential vulnerabilities for each of the watershed characteristics described above, which will be used to rank potential climate change vulnerabilities, if the degree of vulnerability identified is sufficiently different. The vulnerability assessment will be included in the Region Description (Section 2) of the IRWM Plan Update.
- Assess greenhouse gas (GHG) emissions, including an identification of the primary water management activities contributing to GHG emissions in the Region. Utilize information from existing GHG inventories relevant to water management activities within the Region such as those completed by DWR and the Metropolitan Water District of Southern California. Results will be incorporated into Section 4 of the IRWM Plan.
- Discuss temperature and precipitation scenarios using global climate model projections. Work to complete the scenarios will include obtaining data from existing climate change models, scaling the data down as necessary, and creating a database of temperature and precipitation scenarios with projections to the year 2100. Data from the emission scenarios will be utilized to create tables and charts showing the ranges of potential temperature (average monthly and maximum) and precipitation (annual precipitation for a representative area of the region), for each decade, starting in 2030. Results will be incorporated into Section 3 of the IRWM Plan and used to re-visit regional goals and objectives.
- Describe potential climate change impacts through qualitative assessments of potential changes to regional variables identified in the vulnerability assessment, due to changes in precipitation and temperature. The relevant impacts could include changes to water demands, water supply, water quality, flooding and stormwater management, habitat, hydro-electric power, and sea levels. Results will be incorporated into Section 3 of the IRWM Plan and used to re-visit regional goals and objectives.
- Prepare objective statements of benefits related to climate change to the description of the regional management strategies included in the IRWM Plan. After the vulnerability assessment is completed, the RWMG will also request information from project sponsors about project elements that could bring benefits related to climate change adaptation and mitigation in general, and specific benefits related to the identified areas of vulnerability. Results will be incorporated into Section 3 of the IRWM Plan and used to re-visit regional goals and objectives.
- Prepare a simple guideline for implementation of regional strategies given climate change uncertainty. This will include developing a description of the elements of uncertainty associated with climate change predictions and analysis. Based on the elements of uncertainty, a table or diagram will be developed listing the variables that could trigger



decisions about implementing specific strategies or delaying/accelerating some actions related to the regional strategy. Results will be incorporated into Section 4 of the IRWM Plan.

Deliverables:

- Textual summaries of work completed for each of the aforementioned IRWM Plan Update Sections, including:
 - Governance and Stakeholder Involvement;
 - Region Description, Issues, and Needs;
 - Objectives and Plan Performance/Monitoring;
 - Resource Management Strategies;
 - Integration and Project Development/Review Process;
 - Impacts and Benefits;
 - Data Management and Technical Analysis;
 - Finance;
 - Relation to Local Water and Land Use Planning; and
 - Climate Change.

Task 3-2: Prepare DAC IRWM Plan Element

The 2007 USMW IRWM Plan notes that there appears to be a correlation between DACs and water resource management issues in the USMW IRWM Region. Specifically, the 2007 IRWM Plan notes that while water resource management issues occur throughout the Region, there appears to be a geographic link between particular water quality and water supply issues and disadvantaged communities, including tribal communities. The purpose of Task 3-2 is to utilize information compiled as part of Task 1-5 and Task 1-6 (outreach to tribal communities and DACs) to complete further research and produce a robust description of the critical water quality and water supply issues faced by DACs within the Region. Clearly defining critical water quality and water supply issues for DACs within the Region will facilitate and support sustained DAC participation in the USMW IRWM program. For example, this work will allow for a better understanding of DAC-related water quality and water supply issues, which will facilitate project selection and help the Region to focus on implementing DAC projects that will assist in addressing critical DAC water supply and water quality issues.

Deliverables:

- A robust description of critical water quality and water supply issues faced by DACs within the Region.
- Textual summaries of key DAC water quality and water supply issues for incorporation into the IRWM Plan Update.



Task 3-3: Incorporate Planning Studies into IRWM Plan Update

The planning studies included within Task 2 of this Grant Work Plan will address critical planning issues within the Region, including DAC groundwater issues (Task 2-1), salt and nutrient planning (Task 2-2), and development of a retrofit program that addresses water quality issues (Task 2-3). Due to the importance of these issues to the USMW IRWM Region, it is critical that the outcomes and results of the planning studies are incorporated into the IRWM Plan Update. The following describes work that will be completed under Task 3-3 to incorporate the planning studies into the IRWM Plan Update.

- Develop crosswalk for how the planning studies fit into the IRWM Plan Update outline.
- Incorporate the summary of the *DAC Groundwater Study in the Anza Area – Phase I* (Task 2-1) into the IRWM Plan Update.
- Incorporate the summary of the *Temecula Valley Basin Salt and Nutrient Management Plan* (Task 2-2) into the IRWM Plan Update.
- Incorporate the summary of the *Regional Retrofit Opportunities Study* (Task 2-3) into the IRWM Plan Update.

Deliverables:

- Three (3) crosswalks for how the planning studies fit into the IRWM Plan Update outline, one for each planning study listed within Task 2.
- Textual summaries of relevant information from the *DAC Groundwater Study in the Anza Area – Phase I* (Task 2-1), the *Temecula Valley Basin Salt and Nutrient Management Plan* (Task 2-2), and the *Santa Margarita Region Retrofit Opportunities Study* (Task 2-3) into the IRWM Plan Update.

Subtask 3-4: Draft IRWM Plan Production

Based on all of the work completed in Tasks 3-1 through 3-3 above, in addition to the work completed within Task 1 and Task 2, the RWMG will prepare an administrative draft IRWM Plan Update for internal review. The administrative draft IRWM Plan Update will contain the following sections:

- Introduction
- Region Description
- Governance and Stakeholder Involvement
- Vision, Mission, Goals and Objectives
- Resource Management Strategies
- Integration Opportunities
- Project Evaluation and Prioritization
- Data Management and Technical Analysis



FINAL

**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

- Framework for Implementation
- References

As part of the IRWM Plan Update development process, the RWMG will document how the IRWM Plan Update meets State goals and priorities. The IRWM Plan Update will contain a clear description outlining the location of all content as required by the Guidelines. The IRWM Plan Update will also clearly articulate steps for evaluation and measurement of Plan success.

The RWMG will then prepare a Public Review Draft IRWM Plan Update for review and consideration by the SAC and other interested parties. This task will involve two public workshops to present and discuss the Draft IRWM Plan Update (see Task 1). The RWMG will facilitate review and discussion of the draft IRWM Plan Update with stakeholders, including collecting and compiling their comments into a comments matrix.

Deliverables:

- Administrative draft IRWM Plan Update, in accordance with State Guidelines.
- Public Review Draft IRWM Plan Update.

Subtask 3-5: Final IRWM Plan Production

Following public review of the draft IRWM Plan Update, the RWMG will review comments, present IRWM Plan Update changes in response to comments, and solicit agreement from the SAC on the proposed changes. Based on the comments reviewed from the SAC and general public, the RWMG will prepare an Administrative Final IRWM Plan Update.

Upon receiving comments on the administrative final IRWM Plan Update, the RWMG will make one round of revisions to the IRWM Plan Update. Following one round of revisions based on final comments, the RWMG will prepare a Final IRWM Plan Update for presentation to the SAC and other interested parties.

Following completion of the IRWM Plan Update, the RWMG will prepare an IRWM Plan Update Executive Summary that will provide a short, visually appealing overview of the IRWM Plan Update and related activities. The Executive Summary will showcase and communicate IRWM Plan Update benefits and milestones to the general public, stakeholders, and relevant governing bodies. The Executive Summary will serve as an educational and public outreach document for the USMW IRWM program that describes the program and explains the value that IRWM planning provides to the USMW IRWM Region.

Lastly, the RWMG will facilitate adoption of the IRWM Plan Update by their respective governing boards.

Deliverables:

- Compiled response to comments matrix.
- Administrative final IRWM Plan Update.
- Final IRWM Plan Update.
- Draft and final IRWM Plan Update Executive Summary



FINAL

Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region

- IRWM Plan Update adoption resolutions

Task 4: Grant Administration

Task 4 addresses administration of the Planning Grant Contract between RCWD and DWR. This task will include labor necessary for preparation of the contract materials, invoices, progress reports, and project performance documentation.

Deliverables

- Planning Grant contract, invoices, progress reports, and project performance documentation.



4. Additional IRWM Plan Work

In 2010 and 2011, additional work has been conducted that will be incorporated into the IRWM Plan. These activities include the following.

Stakeholder Meetings

The SAC and the RWMG has met every 2-3 months for the past 2 years and will continue to do so in 2012. Information on these meetings has been maintained on the Region's IRWM page at www.ranchowater.com/irwmp. The schedule of recent and upcoming meetings is illustrated in the schedule provided in Attachment 5. Stakeholders have provided valuable input to the process during this time which has helped to shape the IRWM Plan Update work plan, ongoing DAC outreach, ongoing studies such as the Retrofit Opportunities Study, as well as implementation projects identified in the 2007 IRWM Plan and the 2010 IRWM Addendum. This participation will be noted specifically in Section 1 and throughout the IRWM Plan Update.

Anza Area Groundwater Management Report

The County of Riverside received a grant from the State of California Department of Water Resources-Local Groundwater Assistance Fund. The grant was used to begin a program to develop capacity for groundwater management, collect existing information, evaluate, and plan groundwater monitoring in the Anza-Terwilliger Area. Riverside County contracted through South Coast Resource Conservation and Development Council to collaboratively engage local, regional, federal and tribal stakeholders to participate in review and planning for future monitoring and management. Together through data collection, public outreach and workshops and stakeholder participation, they assisted the local area with efforts to plan, fund and develop a Groundwater Management Plan to assure the region has a sustainable future for all water users.

The outcomes of this process have been described in Section 2 of this Attachment. The results from this effort, completed in November 2011 (and shown on the schedule provided in Attachment 5), will be incorporated into the sections of the IRWM Plan Update addressing stakeholder outreach, regional description, water management strategies, and implementation.



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Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region

5. References

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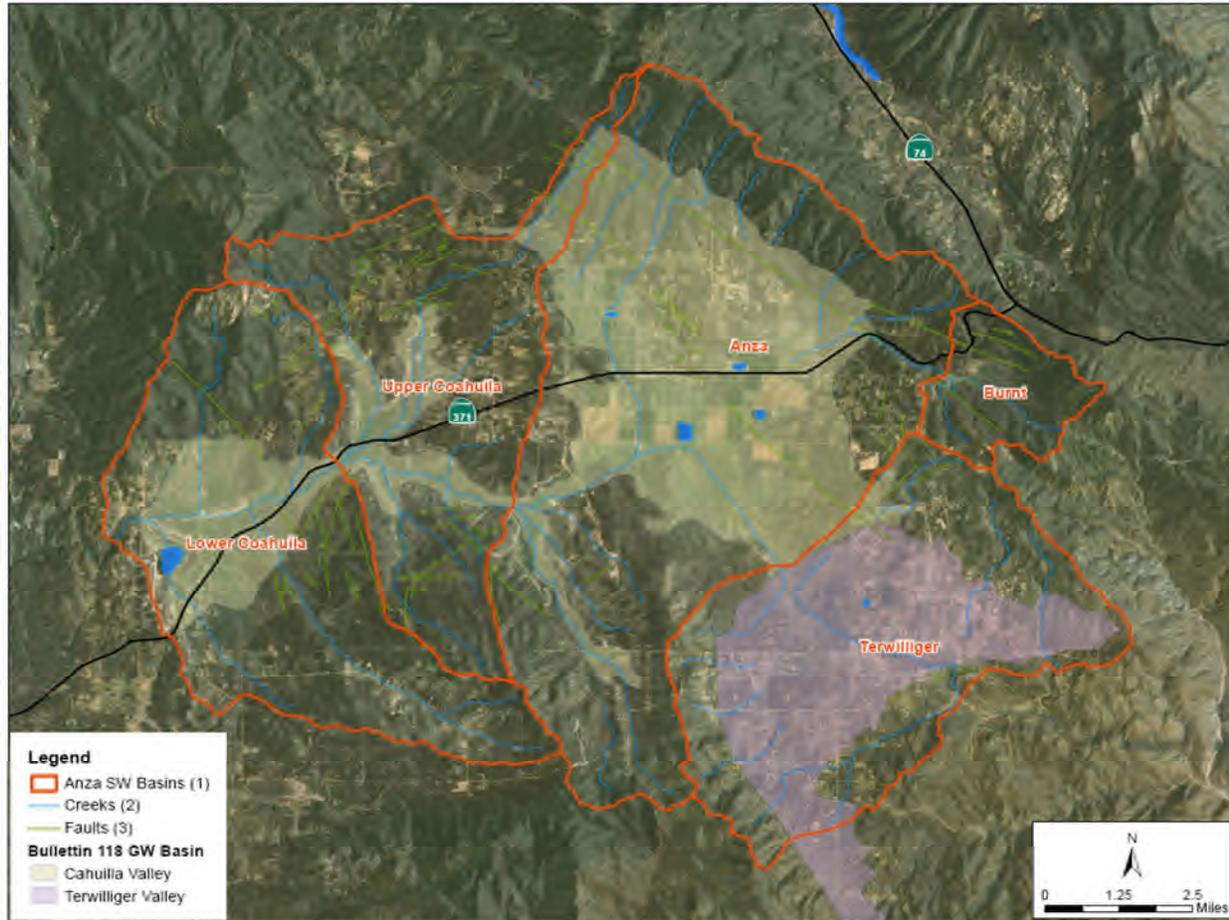
**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

Exhibit A

Anza Area Groundwater Management Report

Anza Area Groundwater Management Report

November 2011



Prepared on behalf of the Community of Anza

Prepared for

South Coast Resource Conservation and Development Council

County of Riverside and the California Department of Water Resources

Prepared by

Integrated Planning and Management Inc.



Toward Managing Anza's Valley Water Future for Its People, Economy and Environment

Project Contracts and Acknowledgements

Produced Under Grant Agreement: 4600008196

From the **California Department of Water Resources**
To the **County of Riverside**



Produced Under Subagreement

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Period of Performance July 1 2011 to November 15, 2011

Report Link www.intpln.com/Docs/AnzaGWMReport.pdf or
<https://sites.google.com/site/anzawatermgt/documents> this site also contains appendices and
other information referenced in this report.

Disclaimer

This publication is a planning report prepared by independent consultant under contract with the South Coast RC&D for the County of Riverside and the California Department of Water Resources; however no policy, direction or regulation is either expressed or intended. The report is produced to assist the people of Anza and not intended for any other purpose.

Report Acknowledgements

This report acknowledges the considerable help, assistance, advice, review and thoughtful participation of the staff, directors and management of the South Coast RC&D, County of Riverside and California Department of Water Resources and the following organizations and groups:

- **Upper Santa Margarita Integrated Regional Water Management Planning Group**
- **RMC Water and Environment, Subconsultant to IPM.**
- **Anza Community Hall for workshop locations**
- **Anza Municipal Advisory Committee and Grant Writing Committee**
- **Stakeholders participating in the workshops in the Anza Area.**

Exhibit A

Table of Contents

1	Executive Summary.....	5
1.1	The Purpose of the Document	5
1.2	Grant Scope	5
1.3	Outreach Efforts and Community Involvement.....	6
1.4	Available Data and Assessment	6
1.5	Governance and Organization	6
1.6	Conclusions Recommendations	6
1.6.1	Report Conclusions	6
1.6.2	Recommendations	7
2	Grant Purpose and Scope	8
2.1	Purpose.....	8
2.2	Tasks	8
2.3	Schedule and Budget.....	10
3	Outreach and Community Involvement	11
3.1	Organizations and Project Committee	11
3.2	Community Outreach and Stakeholder List.....	11
3.3	Focus Group and Planning	11
3.4	Community Workshops and Feedback	12
3.4.1	September 21, 2011 Workshop.....	12
3.4.2	October 12, 2011 Workshop.....	12
3.4.3	October 25, 2011 Workshop.....	13
4	Community Data Availability, Accumulation and Assessment.....	14
4.1	History of Water Data in the Area.....	14
4.2	Informational Reports	14
5	Groundwater Data and Assessment	16
5.1	Existing Available Data	16
5.1.1	Groundwater Level Data	17
5.1.2	Groundwater Quality Data.....	19
5.2	Monitoring Activities and Data Gaps	25
5.2.1	Monitoring	25
5.2.2	Data Gaps.....	25
5.3	Conceptual and Analytical Model Tools.....	25
5.3.1	Data Management System	25
5.3.2	Groundwater Model	26
6	Groundwater Management Plan	28
6.1	GWMP Outline	28
7	Governance and Organization Alternatives Feedback	29
7.1	Community Interest and Current Structures	29
7.2	Organizational Models Discussed	30
7.2.1	Organizational Development Stages	31

Exhibit A

7.3	Community Recommendations and Feedback	32
7.4	Organizational Recommendations.....	33
8	Report Recommendations and Studies	35
8.1	Summary Report Conclusions	35
8.2	Study and Project Opportunities.....	35
8.3	Potential Funding Sources and Efforts.....	36
8.4	Recommendations	36
9	References	38
10	Appendices.....	39
10.1	Appendix 1 Initial Contracted Work Plan	39
10.2	Appendix 2 Initial and Final Project Schedule	42
10.3	Appendix 3 Project Budget.....	43
10.4	Appendix 4 Groundwater Planning Flyer	44
10.5	Appendix 5 Project Related Community Press and News Articles.....	45
10.6	Appendix 6 Stakeholder List	62
10.7	Appendix 7 Workshop 1 Materials September 29, 2011	68
10.8	Appendix 8 Workshop 2 Materials October 12, 2011	78
10.9	Appendix 9 Workshop 3 Materials October 25, 2011.....	96
10.10	Appendix 10 Data and Assessment Tables and Figures	109
10.11	Appendix 11 Outline for a Groundwater Management Plan	141
10.12	Appendix 12 Organizational Structures and California Public Water Types	144
10.13	Appendix 13 Groundwater Management Planning Committee	148
10.14	Appendix 14 Anza Area Groundwater Project in USMIRWM Grant	149
10.15	Appendix 15 Response to Comments on Draft Report	155

1 Executive Summary

The Anza Area Valley is a high elevation rural valley in the mountainous areas bisected by California Highway 371, and includes the unincorporated communities of Anza and Terwilliger and the Cahuilla and Ramona Indian Reservations. The purpose of the Local Groundwater Assistance is to help communities plan and manage groundwater in a comprehensive manner. The people of Anza Area shown below have worked for many years to take steps toward managing their water. As individuals and groups they have made steps toward coherent planning but do not have a Ground Water Management Plan (GWMP). The Department of Water Resources provided a Capacity Building Grant to help the community come together to be prepared to develop a GWMP.

From the separate groups and individuals, the Anza Area Community came together in collaborative workshops to take significant steps in understanding their groundwater, and organizing to begin to plan for sustainable groundwater management. It was the pleasure of the project team to be able to assist them. This report documents the outreach, planning, data compilation and organizational development efforts and recommendations for next steps.

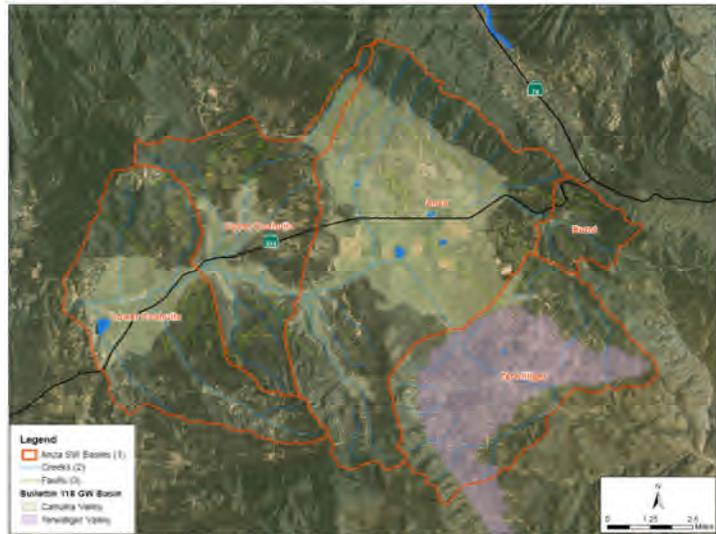


Figure 1 Anza Area Basins

1.1 The Purpose of the Document

The purpose of this report is to document the efforts, opportunities and options for the community in groundwater management planning and to document the project activities.

1.2 Grant Scope

The County of Riverside received a grant from the State of California Department of Water Resources-Local Groundwater Assistance Fund. This grant will be used to begin a program to develop capacity for Groundwater Management, collect existing information, evaluate, and plan groundwater monitoring in the Anza-Terwilliger Area. Riverside County has contracted through South Coast Resource Conservation and Development Council to Integrated Planning and Management to collaboratively engage local, regional, federal and tribal stakeholders to participate in review and planning for future monitoring and management. Together through data collection, public outreach and workshops and stakeholder participation, they will assist the local area with efforts to plan, fund and develop a Groundwater Management Plan to

Exhibit A

assure the region has a sustainable future for all water users. The Grant Workplan is shown at Appendix 1 and posted on the project website.

1.3 Outreach Efforts and Community Involvement

This grant succeeded in significant outreach for and with the Community of Anza. Many of the stakeholders helped with distribution of emails, flyers and information to friends, neighbors and to their groups in the community. Additionally all the local and regional press and news organizations carried the workshops as events or did stories on the workshops discussed in Section 3. Many press had reporters attend each workshop. This resulted in detailed articles in the local and regional press. Several community members scribed opinion editorial documents for their local papers. The project resulted in involvement, learning and bringing together differing opinions to find common ground.

1.4 Available Data and Assessment

Section 4 of this report details the information that is available and loaded to the website for the community review. Additionally Section 5 details the electronic data available and provides analysis for analytical and water level data as well as trends and data gaps for future work.

1.5 Governance and Organization

The workshops especially workshop two covered the issues of organization and governance needed for groundwater management. In workshop two after various alternatives were discussed and questions answered the community provided feedback indicating they were not ready to decide on ultimate governance for water but understood the need for it. They also expressed approval of a steering committee configured of the stakeholders and the AVMAC to organize the next steps with IPM.

1.6 Conclusions Recommendations

This report documents many conclusions and provides planning roadmaps for the committees and other critical efforts. The conclusions drawn from this public process help document approach and build agreement. They also help provide a basis and background for future participants and actions.

1.6.1 Report Conclusions

While many conclusions and observations are made in the report, the following are deemed to be important.

- Significant information is available on the water levels and water quality, however significant gaps in areal and temporal water information exist
- A large number of wells are in the Anza Area and little is known about many of the wells or their condition or status
- Additional efforts are needed to understand contaminant sources and control options and including a better understanding of septic tanks as a potential source

Exhibit A

- Further coordinated planning and data collection should be a priority to assess current trends in water levels and quality
- Continued effort to invite and involve as many member of the community as possible to participate in water issues discussions is useful
- Participants gained significant awareness and understanding of water issues through the workshops
- Greater organization and development of governance is needed to ensure groundwater management and local community participation on the future of Anza

1.6.2 Recommendations

While recommendations are made in each section throughout the report, several areas are specifically identified as important to the achievement groundwater management are shown below:

- Continue to support Stakeholder group development through Committee and projects
- Pursue Long-term and Near-term study, monitoring and projects
- Continue communication on water issues for the community
- Pursue the funding opportunities for planning and projects
- Use the foundation from this project to complete a Groundwater Management Plan

2 Grant Purpose and Scope

The scope of the project and its basic organization are described in the following sections. Elements of this scope have been adjusted as planned in accordance with the period of performance and the needs of the Department and Stakeholders. Some differences exist in elements listed in the original scope of work and those produced in this report and were identified in the kickoff meeting. The contractual scope of work is shown in Appendix 1.

2.1 Purpose

The County of Riverside received a grant from the State of California Department of Water Resources-Local Groundwater Assistance Fund. This grant will be used to begin a program to develop capacity for Groundwater Management, collect existing information, evaluate, and plan groundwater monitoring in the Anza-Terwilliger Area. Riverside County has contracted through South Coast Resource Conservation and Development Council to Integrated Planning and Management to collaboratively engage local, regional, federal and tribal stakeholders to participate in review and planning for future monitoring and management. Together through data collection, public outreach and workshops and stakeholder participation, they will assist the local area with efforts to plan, fund and develop a Groundwater Management Plan to assure the region has a sustainable future for all water users.

Riverside County with this grant begins these first efforts of a multi-year program to collect, evaluate and coordinate groundwater monitoring in the Anza-Terwilliger area. The County will engage local, regional, federal and tribal stakeholders to participate in review and planning for future monitoring and management. Through data identification, collection, public outreach and stakeholder participation the County through the South Coast Resource Conservation and Development Council (SCRC&DC), will assist the local area with efforts to plan, fund and develop a groundwater management plan. The SCRC&DC contracted with IPM Inc. to undertake efforts to fulfill the scope and grant purpose described below.

2.2 Tasks

The Grant is separated in to the following tasks

Task 1. Coordinate with Tribal and Non-tribal stakeholders to identify opportunities

- Establish a community stakeholder program utilizing the existing Municipal Advisory Committee and or other outreach meetings to assess cooperative management and funding opportunities.
- Develop approaches and framework for local, state, federal and tribal partnerships to conduct monitoring and modeling for the groundwater management plan
- Document technical and policy issues including, study area, data requirement and quality, monitoring frequency

Exhibit A

- Conduct outreach to assist understanding of issues and opportunities and solicit open participation
- Create groundwater management plan outline with phasing and funding plan to coordinate with other grants, studies and funding for groundwater study or management

Activities

- Conduct up to 3 Workshops/Meetings with the communities to increase education, coordinate and review funding and phasing and concepts for Groundwater Management.
- Document Groundwater Management issues and needs with potential organization alternatives for community review

Deliverable

- Groundwater Management Planning document containing the materials and information developed in the task and an outline for future groundwater management efforts and funding, and organization structure.
- Deliverable will be presented in components as prepared and complete draft will be presented in October 2011.

Task 2. Plan and Collect existing available groundwater data

- Plan, identify and locate existing groundwater monitoring data
- Work with partners to characterize monitoring data for plan use
- Identify study area and critical features and wells
- Coordinate with partners any ongoing monitoring or data sources
- Identify areas where additional groundwater data may be needed
- Identify conceptual and analytical model tools for management

Activities

- Identify and characterize existing data and sources for groundwater management documenting in web based location for community access where possible.
- Document Groundwater Management study area, features and significant wells Incorporate into deliverable and review with community under task 1.

Task 3. Develop a Preliminary Organizational Structure

- From Stakeholders and local, state, federal and tribal input identify preliminary elements of agreement for cooperative development and funding of a groundwater management plan

Exhibit A

- Through stakeholder cooperation develop draft goals and terms as the basis of an organizational structure that could assist with planning and funding.
- Develop draft structure for coordination and communication
- Document structure options and incorporate community comments and recommendations

Task 4. Prepare Progress Reports and a Final Report

- Progress reports will be submitted to the DWR quarterly in August and October.
- A final report will be prepared by November 1, 2011.
- Coordination with other studies and grants will be documented

2.3 Schedule and Budget

Schedule was developed in cooperation with the Project Team and Focus Group. The initial and final schedules are shown in Appendix 2. The project was delayed when workshops recommended by stakeholders were canceled or determined not to be appropriate for the type of meeting needed for the workshops. This delay compressed the time available for completion of the efforts and the development of the report. Additionally, this put additional pressure on the review and we appreciate the team being responsive and helping us produce the draft and final report in accordance with the period of performance.

The Budget for the project remained the same throughout the project and is shown in Appendix 3. IPM sought and received approval to subcontract \$12,000 for assistance with data acquisition and assessment from RMC Water and Environment. This allowed the tasks to be performed simultaneously and accomplish the tasks and meet deadlines in the period of performance.

3 Outreach and Community Involvement

3.1 Organizations and Project Committee

Outreach to the community and their involvement at the Community Workshops was a critical component to this project. To spread the word about the workshops and invite the Anza community to participate took many forms. A custom flyer shown at right and in Appendix 4 was created, printed and circulated via email to the initial stakeholder list and then was forwarded to several other organizations email lists. In addition, the flyer was posted throughout the community. Letters were mailed to all 15 local community organizations and 11 well drillers. In addition to inviting them to attend the workshops, groundwater data was requested.

The local newspapers were also contacted and the public was informed of the workshops in the High Country Journal, Anza Valley Outlook and Press Enterprise. See Appendix 5 for all the related notices and various articles written about the workshops.

3.2 Community Outreach and Stakeholder List

The initial stakeholder list was taken from the Upper Santa Margarita Watershed IRWMP Stakeholder Contact List and then narrowed down to those interested in the Anza area. The initial list consisted of 67 stakeholders, 15 community organizations and 11 well drillers. The focus group provided additional stakeholders and the list was updated after each workshop with new contact names and emails of all those attending workshops. Several phone calls were received and contact names and emails were also added to the stakeholder list. At the end of October, the stakeholder list now has 112 stakeholders along with the community organizations and well drillers. The Stakeholder list is shown in Appendix 6.

3.3 Focus Group and Planning

Two planning conference call meetings took place to plan and develop the community meetings. The first meeting on July 18, 2011 consisted of the project team from South Coast Resource Conservation and Development Council, RMC and Integrated Planning and Management Inc. The main focus of the initial kick-off meeting was to discuss workshop locations, potential dates, outreach to community, and coordination with “special groups”, project web repository and IRWM coordination. A focus group was identified of core partners and a focus group meeting was scheduled.

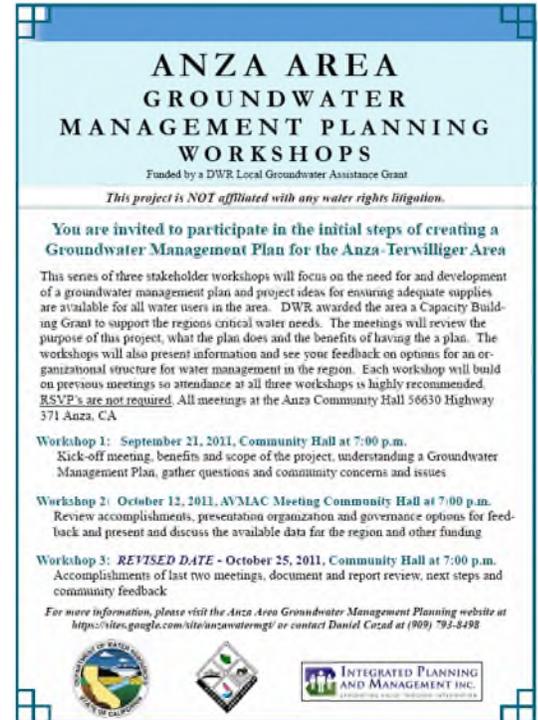


Exhibit A

The Focus Group meeting was held on August 31, 2011 and main goal was to discuss possible workshop locations and dates and discuss what would be covered in each of the three outreach workshops. Data collection, website repository, stakeholders and outreach to community was discussed. Attendees agreed to post flyer throughout community, send emails out to their organization lists etc.

3.4 Community Workshops and Feedback

For each of the three outreach workshops the following efforts were performed place:

- Coordination of the workshop site, logistics etc.
- Flyer created and distributed
- Newspapers contacted for upcoming workshop information
- Agendas created and distributed
- Materials and handouts developed
- PowerPoint presentations created
- Notes taken, compiled and distributed following each workshop

Each workshop was separate but built on the prior workshops. Attendance was significant at all workshops and built from the first workshop.

3.4.1 September 21, 2011 Workshop

The September 21st workshop was held at the Anza Community Hall at 7:00 p.m. with approximately 25 people in attendance. Topics covered in this workshop included an introduction of project and team, background and history, grant purpose, water planning and self-determination, who the stakeholders are and the collection of groundwater data, solicitation for any available data and the Anza Area Groundwater website. Feedback and concerns were expressed and questions asked and answered. The notes, agenda and presentation can be found on the project website and are attached as Appendix 7.

3.4.2 October 12, 2011 Workshop

The second workshop was held in conjunction with the AVMAC meeting on October 12 at 7:00 p.m. at the Anza Community Hall with approximately 50 people in attendance. An overview was given along with the accomplishments of the last workshop for those who did not attend the first workshop. This workshop's main focus was on organization, governance and structure.



Figure 2 Workshop Participants in Anza Community Hall

Exhibit A

Handouts were given out describing the services different type of water districts can provide and then the pros and cons for possible organizational structures for water management in California. The brief and impassioned discussion ensued. The stakeholders were broken in to



two groups to discuss and provide feedback, issues and concerns. The notes, agenda and presentation can be found on the project website and are attached as Appendix 8.

Figure 3 Workshop Organization and Governance

3.4.3 October 25, 2011 Workshop

The third workshop was held October 25 at 7:00 p.m. at the Anza Community Hall with approximately 40+ people in attendance. Introductions and a brief overview of the last two workshops and accomplishments were presented. The main focus of the third workshop was a review of the groundwater data collected to date with an overview and conclusions from RMC review. The next steps of the Local Groundwater Assistance Grant was presented by Ed Pech from DWR and included an overview of application periods and deadlines. The workshop ended with an overview of the report recommendations, feedback and questions. The notes, agenda and presentation can be found on the project website and are attached as Appendix 9.

4 Community Data Availability, Accumulation and Assessment

The Anza Area has significant information on water though history and no attempt was made to catalog all information. Some historic information and informational reports by USGS and other are discussed below. In all cases information identified or received is posted to the Project Website, shown to the right. This site was developed to store water information for broad public use and to act as a community library on the web for future studies and efforts.

This report and all associated materials will be stored on the site.



Figure 4 Project Information Website and Repository

4.1 History of Water Data in the Area

Initial Anza water development began for cattle ranching in 1880's and history continues to at least the 1920's¹. Litigation over water in the watershed dates back at least to the 1940's including settlements in the 1960's².

4.2 Informational Reports

One of the more complete informational reports on the Anza Area is the USGS WRI 88-4029 shown in References³. The Anza Area Basins are in Riverside County about 90 miles southeast of Los Angeles. They cover approximately 96 square miles in the Upper Santa Margarita River and includes the 29 square mile Cahuilla Indian Reservation. The Anza-Terwilliger area is drained by two ephemeral creeks, Cahuilla Creek and Coyote Creek. Anza, Burnt, Cahuilla, Durasna, and Durasno Valleys are drained by Cahuilla Creek.

The main aquifer is composed of unconsolidated alluvial deposits that are bounded by consolidated rocks in the San Jacinto Mountains on the east and northeast, Cahuilla Mountain on the northwest, and low hills on the south. The alluvial deposits are dissected near the mountains, resulting in an undulating topography. Toward the center of the valleys, the deposits are less dissected and the relief is lower. The Anza-Terwilliger area slopes from

¹ Hamilton Museum Water Related photos and information available on the web at <http://www.hamiltonmuseum.org/site/main?page=be672b99165aba5c1648da83ea764838&r=4387847ee6ccc40114c73735b2f5857f&desc=Adequate+Water+Supply+Meant+Survival>

² USA VS Fallbrook PUD 1962 Available at <https://sites.google.com/site/anzawatermgt/documents/release-1-0/USAvsFallbrookPublicUtilityDistFindingsofFact1962.pdf?attredirects=0&d=1>

³ Ground-Water Conditions in the Anza-Terwilliger Area, with Emphasis on the Cahuilla Indian Reservation, Riverside County, California, 1973-86, **U.S. GEOLOGICAL SURVEY**
Linda R. Woolfenden and Daniel J. Bright, Water-Resources Investigations Report 88-4029
Available at http://pubs.er.usgs.gov/djvu/WRI/wrir_88_4029.djvu

Exhibit A

east to west, and land-surface altitudes range from 6,890 feet above sea level on Thomas Mountain at the northern edge of the study area to 2,260 feet in the west where Cahuilla Creek exits the study area.

The study area has a semiarid climate, with warm, dry summers and cool winters. Most precipitation, partly snow, occurs during November-April; the rest of the precipitation, generally insignificant in comparison, occurs as scattered summer thundershowers. Precipitation data for Anza from California Department of Forestry from January 1943 to December 1986 average 14.51 inches. The Anza-Terwilliger area is primarily an agricultural community in 1984-1986. Land-use was irrigated apple trees, irrigated potatoes, irrigated pasture, water limited grain crops, and natural pasture.

More than 10 additional references were sourced and indexed on the Project site at <https://sites.google.com/site/anzawatermgt/documents/release-1-0>.

5 Groundwater Data and Assessment

To accomplish the Technical Review of groundwater data in the Anza Area, IPM contracted with RMC WRIME to conduct data collection and assessment. The following text is adapted and copied from a technical memorandum prepared for this project. All Figures, referenced in the text are shown in Appendix 10.

This section presents the results of an effort to identify, compile, and display available electronic data relevant to ongoing groundwater management activities in the Anza Terwilliger area. Figures 1 and 2 show the project area and the surface water basin within the project area. The section is presented in three subsections.

- Subsection 1 describes and displays the data compiled as part of this project.
- Subsection 2 summarizes ongoing monitoring activities and identifies data gaps.
- Subsection 3 identifies conceptual and analytical model tools that may be useful for management of the groundwater basin

The compiled electronic data are also being provided with this section, in the following formats:

- Microsoft Excel files
- Text files
- ESRI ArcMap files

This Project is supported by a grant from the Department of Water Resources Local Groundwater Assistance program to help the Anza Terwilliger area develop the capacity to plan and manage their groundwater resources. Stakeholder participation and the development of a common understanding of basin conditions are critical for the success of ongoing or future groundwater management. The data and information compiled through this effort are intended to inform stakeholders and to form the foundation of groundwater management. All files will be loaded to the project website to assist the following projects.

5.1 Existing Available Data

Based on the sources of information identified by IPM in the Task 1 stakeholder meeting(s) and provided to RMC by IPM, RMC located and compiled the following electronic data summarized in Table 1.

The watershed shapefile is downloaded from the California Natural Resources Agency's Cal-Atlas webpage. The shapefile is a part of the California Interagency Watershed Map which was last updated in 2004. The groundwater basins shapefile is obtained from the California Department of Water Resources' Bulletin 118 which was last updated in 2003. The land use shapefile is downloaded from Southern California Association of Government's webpage. The 2005 update of their land use data was downloaded. The faults shapefile is downloaded from

Exhibit A

the U.S Geological Survey (USGS) Water Resources National Spatial Data Infrastructure (NSDI) Node webpage. The groundwater level and quality data are collected from the USGS National Water Information System (NWIS). The electronic data from this webpage is used to create necessary tables, time series plots and maps. Finally, stakeholders provided a hand drawn map of groundwater quality and coordinates, logs, and data for two production wells which were mapped onto base maps for display. Additional data may exist for the area but was not identified by the stakeholders during the project.

Table 1. Available Electronic Data

Data	Source	Type	Figure	Table
Watersheds	DWR	ArcGIS Shapefile	Figures 1 and 2	-
Groundwater Basins	DWR	ArcGIS Shapefile	Figure 3	-
Land Use Data	SCAG	ArcGIS Shapefile	Figure 4	-
Faults	DWR	ArcGIS Shapefile	Figure 2	-
Groundwater Level Data	USGS	Electronic Data	Figures 5 to 23	Tables 2 and 3
Groundwater Quality Data	USGS	Electronic Data	Nitrate: Figures 25 to 30 TDS: Figures 31 to 38	Nitrate: Tables 5 and 6 TDS: Tables 7 and 8
Groundwater Quality Data	Stakeholders	Drawn Map	Figure 39	-
Groundwater Well Location and Data	Stakeholder	Coordinates	Figure 40	-

5.1.1 Groundwater Level Data

The USGS NWIS contains groundwater data for the Anza Terwilliger area. Generally, the groundwater database consists of records of wells, springs, test holes, tunnels, drains, and excavations. Available descriptive information includes well location information such as latitude and longitude, well depth, and aquifer data.

The NWIS Database has 339 wells with groundwater level data within the Anza Terwilliger area.

The wells have varying numbers of measurements in their records with varying beginning and ending dates. The earliest groundwater level data available are from the spring of 1946 and the latest data are from the spring of 2008. The records of 95% of the wells have less than 10

Exhibit A

groundwater level measurements. Only 25% of the wells have groundwater level measurements after 2004 and there is a gap in the measurements from 1990 to 2004 for these wells. The rest of the wells have measurements prior to 1990.

Groundwater level hydrographs for 13 selected wells are created. Figure 5 shows the wells with hydrographs in purple and the site names next to the wells. The wells are selected according to the number of measurements in their record and their locations within the project area to give a good spatial distribution of the hydrographs created. Table 2 summarizes the wells selected for hydrograph generation along with figure numbers for their corresponding hydrographs. As can be seen from the selected hydrographs, there was almost no groundwater level measurement from the early 1990s to the early 2000s.

Table 2. Selected Wells for Groundwater Level Hydrograph Generation

Site Name	USGS Station Number	Number of Records	Record Start Date	Record End Date	Figure Number
0440007S003E34E001S	333122116394001	165	4/19/1946	3/26/2008	Figure 6
008S003E02K001S	333012116380801	141	6/1/1972	3/26/2008	Figure 7
007S003E31Q001S	333044116422501	109	6/11/1970	10/1/1987	Figure 8
008S003E02D001S	333038116384401	107	7/25/1960	5/26/2005	Figure 9
007S003E07C002S	333501116424601	85	10/11/1962	4/30/2007	Figure 10
007S003E14P003S	333327116382101	56	11/1/1969	5/2/2007	Figure 11
007S003E10R002S	333421116390001	32	10/14/1955	3/30/1979	Figure 12
007S003E15P001S	333321116392401	25	5/22/1953	5/20/2005	Figure 13
007S003E21L003S	333240116403201	22	8/1/1960	3/26/2008	Figure 14
007S002E13D001S	333359116440501	13	11/29/1951	4/30/2007	Figure 15
007S002E23K001S	333243116442201	11	11/29/1951	5/27/2005	Figure 16
007S002E28Q001S	333145116463501	7	6/10/1970	5/27/2005	Figure 17
008S003E17C001S	332904116413601	5	7/1/1969	5/1/2007	Figure 18

Spatial distribution of the groundwater levels for 5 selected years are shown in Figures 19 to 23. The years and the seasons within those years with the highest numbers of records are chosen. The locations of the wells and their corresponding groundwater levels are displayed. Table 3 summarizes the distribution of the number of records for the selected years and identifies the corresponding figure numbers in which the data is displayed. The Selected seasons are highlighted with light green. Figures 19 to 23 show that the spatial distribution of the available ground water level data covers the groundwater basins shown in Figure 3.

Exhibit A

Table 3. Selected Season/Year for Mapping Spatial Distribution of Groundwater Levels

Year	Season	Number of Records	Figure Number
1973	Spring	11	
	Summer	30	Figure 19
	Fall	10	
	Winter	9	
1986	Spring	19	
	Summer	65	Figure 20
	Fall	0	
	Winter	20	
2004	Spring	0	
	Summer	1	
	Fall	91	Figure 21
	Winter	4	
2005	Spring	107	Figure 22
	Summer	2	
	Fall		
	Winter	10	
2007	Spring	49	Figure 23
	Summer	3	
	Fall	4	
	Winter	2	

5.1.2 Groundwater Quality Data

The USGS collects and analyzes water quality data from the Anza Terwilliger area. The collected data is published on NWIS webpage. At selected surface-water and groundwater sites, the USGS maintains instruments that continuously record physical and chemical characteristics of the water including pH, specific conductance, temperature, dissolved oxygen, and percent dissolved-oxygen saturation. Supporting data such as air temperature and barometric pressure are also available at some sites. Table 4 summarizes the types of data that can be downloaded from NWIS web page.

The NWIS Database has 95 wells within the Anza Terwilliger area with groundwater quality data. These wells are displayed in Figure 24. Nitrate as NO₃ and total dissolved solids data are presented as part of this project.

Exhibit A

Table 4. Water Quality Data Types from NWIS Database

Water Quality Data Type
Sampling depth, feet
Temperature, water, degrees Celsius
Temperature, air, degrees Celsius
Agency analyzing sample, code
Flow rate of well, gallons per minute
Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius
Hydrogen ion, water, unfiltered, calculated, milligrams per liter
Dissolved oxygen, water, unfiltered, milligrams per liter
pH, water, unfiltered, field, standard units
pH, water, unfiltered, laboratory, standard units
Carbon dioxide, water, unfiltered, milligrams per liter
Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter as calcium carbonate
Bicarbonate, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter
Carbonate, water, unfiltered, fixed endpoint (pH 8.3) titration, field, milligrams per liter
Bicarbonate, water, filtered, inflection-point titration method (incremental titration method), field, milligrams per liter
Total nitrogen, water, filtered, milligrams per liter
Organic nitrogen, water, filtered, milligrams per liter
Ammonia, water, filtered, milligrams per liter as nitrogen
Nitrite, water, filtered, milligrams per liter as nitrogen
Nitrate, water, filtered, milligrams per liter as nitrogen
Nitrate, water, unfiltered, milligrams per liter as nitrogen
Ammonia plus organic nitrogen, water, filtered, milligrams per liter as nitrogen
Nitrate plus nitrite, water, filtered, milligrams per liter as nitrogen
Orthophosphate, water, filtered, milligrams per liter
Phosphorus, water, filtered, milligrams per liter as phosphorus
Orthophosphate, water, filtered, milligrams per liter as phosphorus
Hardness, water, milligrams per liter as calcium carbonate
Noncarbonate hardness, water, unfiltered, field, milligrams per liter as calcium carbonate
Noncarbonate hardness, water, filtered, field, milligrams per liter as calcium carbonate
Noncarbonate hardness, water, filtered, lab, milligrams per liter as calcium carbonate
Calcium, water, filtered, milligrams per liter
Magnesium, water, filtered, milligrams per liter
Sodium, water, filtered, milligrams per liter
Sodium adsorption ratio, water, number
Sodium fraction of cations, water, percent in equivalents of major cations

Exhibit A

Water Quality Data Type
Potassium, water, filtered, milligrams per liter
Chloride, water, filtered, milligrams per liter
Sulfate, water, filtered, milligrams per liter
Fluoride, water, filtered, milligrams per liter
Silica, water, filtered, milligrams per liter as SiO ₂
Arsenic, water, filtered, micrograms per liter
Arsenic, water, unfiltered, micrograms per liter
Barium, water, filtered, micrograms per liter
Boron, water, filtered, micrograms per liter
Cadmium, water, filtered, micrograms per liter
Chromium, water, filtered, micrograms per liter
Copper, water, filtered, micrograms per liter
Iron, water, unfiltered, recoverable, micrograms per liter
Iron, water, filtered, micrograms per liter
Lead, water, filtered, micrograms per liter
Manganese, water, filtered, micrograms per liter
Silver, water, filtered, micrograms per liter
Vanadium, water, filtered, micrograms per liter
Zinc, water, filtered, micrograms per liter
Selenium, water, filtered, micrograms per liter
Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate
Bicarbonate, water, filtered, fixed endpoint (pH 4.5) titration, field, milligrams per liter
Depth to water level, below land surface datum (LSD), meters
Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, field, milligrams per liter as calcium carbonate
Alkalinity, water, filtered, inflection-point titration method (incremental titration method), field, milligrams per liter as calcium carbonate
Dissolved solids dried at 180 degrees Celsius, water, filtered, milligrams per liter
Dissolved solids, water, filtered, sum of constituents, milligrams per liter
Dissolved solids, water, filtered, tons per acre-foot
Ammonia, water, filtered, milligrams per liter as NH ₄
Nitrate, water, unfiltered, milligrams per liter
Nitrate, water, filtered, milligrams per liter
Nitrite, water, filtered, milligrams per liter
Mercury, water, filtered, micrograms per liter
Altitude of land surface, feet
Depth of hole, feet below land surface datum
Pump or flow period prior to sampling, minutes

Exhibit A

Water Quality Data Type
Depth of well, feet below land surface datum
Depth to top of sample interval, feet below land surface datum
Depth to water level, feet below land surface
Filter pore size, micrometers
Potassium-40, water, filtered, picocuries per liter
Deuterium/Protium ratio, water, unfiltered, per mil
Oxygen-18/Oxygen-16 ratio, water, unfiltered, per mil
Sampling method, code
Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter at 25 degrees Celsius
Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate
Noncarbonate hardness, water, milligrams per liter as calcium carbonate

5.1.2.1 Nitrate Data

The NWIS Database has 48 wells with nitrate concentration data within the Anza Terwilliger area. Figure 25 displays these wells.

The wells have varying numbers of measurements in their records with varying beginning and ending dates. The earliest nitrate concentration data available are from 1950 and the latest data are from 1979. All of the wells have 10 or fewer nitrate concentration measurements in their record and 92% of the wells have less than 5 measurements.

Nitrate concentration chemographs for 3 selected wells are created. Figure 25 shows the wells with chemographs in purple with the site names next to the wells. The wells are selected according to the number of measurements in their record. Table 5 summarizes the wells selected for nitrate chemograph generation along with figure numbers for their corresponding chemographs.

Table 5. Selected Wells for Nitrate Concentration Chemograph Generation

Site Name	USGS Station Number	Number of Records	Record Start Date	Record End Date	Figure Number
007S002E13D001S	333359116440501	10	9/13/1955	12/3/1964	Figure 26
007S002E32J001S	333101116471401	9	12/9/1953	12/3/1964	Figure 27
007S002E26B001S	333224116443301	7	11/22/1957	12/3/1964	Figure 28

Spatial distributions of the nitrate concentrations for 2 selected years are shown in Figures 29 and 30. The years and the seasons within those years with the most records are chosen. Then,

Exhibit A

the location of the wells and their corresponding nitrate concentrations are displayed on the maps. Table 6 summarizes the distribution of the number of records for the selected years and identifies the corresponding figure numbers in which the data is displayed. The selected seasons are highlighted with light green. Figures 29 and 30 show there are not enough monitoring wells to represent the nitrate concentration distribution in the groundwater basins within the project area.

Table 6. Selected Season/Year for Mapping Spatial Distribution of Nitrate Concentrations

Year	Season	Number of Records	Figure Number
1951	Spring	1	
	Summer	0	
	Fall	8	Figure 29
	Winter	0	
1962	Spring	0	
	Summer	5	
	Fall	7	
	Winter	12	Figure 30

5.1.2.2 Total Dissolved Solids Data

The NWIS Database has 85 wells with total dissolved solids concentration data within the Anza Terwilliger area. Figure 31 displays these wells.

The wells have varying numbers of measurements in their records with varying beginning and ending dates. The earliest total dissolved solids concentration data available are from 1950 and the latest data are from 2007. All of the wells have 13 or fewer total dissolved solids concentration measurements in their record and 90% of the wells have 5 or fewer measurements. Only 18% of the wells have total dissolved solids concentration measurements after 2004 and there is a gap in the measurements from 1991 to 2004 for these wells. The rest of the wells have measurements prior to 1990.

Total dissolved solids concentration chemographs for 4 selected wells are created. Figure 31 shows the wells with chemographs in purple with the site names next to the wells. The wells are selected according to the number of measurements in their record and how recently the measurements were made. Table 7 summarizes the wells selected for total dissolved solids chemograph generation along with figure numbers for their corresponding chemographs.

Exhibit A

Table 7. Selected Wells for Total Dissolved Solids Concentration Chemograph Generation

Site Name	USGS Station Number	Number of Records	Record Start Date	Record End Date	Figure Number
007S003E34E001S	333122116394001	13	7/7/1976	7/16/1991	Figure 32
007S002E13D001S	333359116440501	11	9/13/1955	1/17/1986	Figure 33
008S003E02K001S	333012116380801	11	9/22/1977	7/16/1991	Figure 34
007S003E21L001S	333244116402801	5	5/27/1953	8/23/2007	Figure 35

Spatial distribution of the total dissolved solids concentrations for 3 selected years are shown in Figures 36 to 38. The year and the season within that year with most number of records are chosen. Then, the location of the wells and their corresponding total dissolved solids concentrations are displayed on the maps. Table 8 summarizes the distribution of the number of records for the selected years and identifies the corresponding figure numbers in which the data is displayed. The selected seasons are highlighted with light green.

Table 8. Selected Season/Year for Mapping Spatial Distribution of Nitrate Concentrations

Year	Season	Number of Records	Figure Number
1962	Spring	5	
	Summer	0	
	Fall	18	Figure 36
	Winter	1	
1986	Spring	6	
	Summer	0	
	Fall	0	
	Winter	22	Figure 37
2007	Spring	0	
	Summer	9	Figure 38
	Fall	0	
	Winter	0	

5.2 Monitoring Activities and Data Gaps

5.2.1 Monitoring

The USGS developed a monitoring network that includes about 50 wells, to document water-level conditions in the Anza-Terwilliger area. In addition, continuous water-level records were collected at four sites in the study area. All water-level data were entered in the USGS database, which is accessible at <http://waterdata.usgs.gov/ca/nwis/gw>.

The USGS collected water-quality samples from three surface-water sites during the winter of 2005 and 10 wells in the Anza-Terwilliger area during the summer of 2007 to document surface-water and groundwater quality. The samples were analyzed for major ions, nutrients, selected trace elements, and the stable isotopes of oxygen and hydrogen. The data were entered into the USGS database, and can be assessed at http://ca.water.usgs.gov/gmaps/wq_map.html.

There is no ongoing monitoring being performed by the USGS. Groundwater production data is reported by groundwater producers and reported to the Watermaster for the Santa Margarita River Watershed pursuant to a US District Court Order. These data are compiled in Annual Watermaster Reports for each water year. Note that the data from these reports were not available electronically and thus were not summarized in this Chapter.

5.2.2 Data Gaps

The summary of available data presented in Subsection 1 suggests the need to continue to monitor wells with relatively extensive historical datasets for water level and water quality. Specifically, there is a need to increase the number of sites monitored for nitrates and there is a need for monitoring with dedicated short-screened monitoring wells that can capture the vertical variability in groundwater levels and groundwater quality through the aquifer. Future groundwater management may include Basin Management Objectives to manage groundwater levels and groundwater quality. Adequate baseline data is critical for both a scientific basis for the objectives as well as to gain stakeholder buy-in on the implementation of the groundwater management plan to meet the objectives.

5.3 Conceptual and Analytical Model Tools

Groundwater data is often complex and voluminous. Numerous tools are used to more efficiently utilize data for management purposes. Two such tools are described below: a data management system and a groundwater model.

5.3.1 Data Management System

A data management system (DMS) is a comprehensive software environment that enables a user to store, query, display, and analyze hydrologic and water resources data for a specific area or region. The types of data that can be used in the DMS include:

- Groundwater level,
- Groundwater production,

Exhibit A

- Groundwater quality,
- Streamflow,
- Diversions
- Imports/Exports
- Surface water quality,
- Water rights,
- Well log, and
- Land use data

The DMS allows the user to query the database. In addition, the map based data such as land use and contours of groundwater levels can be displayed in map form, and time series data such as streamflow and groundwater levels can be displayed in chart form at various data frequencies, with summary charts to analyze long-term and short-term trends. A DMS can assist in generating summary reports and can help in the preparation of presentation quality material for future groundwater management reporting. If the DMS is available on the internet, it can also assist in the efficient direct sharing of data with stakeholders, while maintaining data security through defined access levels.

The development of a DMS for the Anza-Terwilliger area can ease the management of data from mixed sources. Currently, the bulk of all data are available from the USGS, which maintains their own data mapping and querying tools. However, future needs may require displaying and querying local data together with USGS or other data. Additionally, in a groundwater management plan framework, a DMS can allow for efficient development of regular reporting documents and can assist in implementing Basin Management Objectives through graphical displays of the status of those BMOs. Compliance with DWR's CASGEM program can also be streamlined through the usage of a DMS.

5.3.2 Groundwater Model

A groundwater model can be a useful tool to refine the conceptual understanding of a groundwater basin and to test the ability of various operational scenarios to meet groundwater management goals and objectives.

The process of development of a groundwater model refines the understanding of the basin as it requires data representing the full groundwater system. Through the calibration process, difficult to quantify items such as recharge from the surface and subsurface are estimated. Data gaps are more clearly identified through the careful incorporation of data into the model. Ideally, the model would be developed in an open manner with stakeholder participation, to lead to agreement on the conceptual model and on the capability of the groundwater model to be used as a tool for meeting groundwater management goals of the basin.

Once developed, the groundwater model may be used to estimate a groundwater budget for the basin, including the volume of water entering the basin (e.g., precipitation, underflow from

Exhibit A

other basins, recharge from irrigation, recharge from lakes and streams), the volume of water leaving the basin (e.g., groundwater production, springs, recharge to streams, underflow to other basins), and the net change in storage in the basin. These values are important when considering sustainable levels of pumping.

Further, the model can be used to develop hypothetical scenarios to test various management options. Combinations of changes in production, addition of artificial recharge, changes in irrigated lands, conservation, or other efforts may be analyzed through the model to determine regional impacts and benefits.

For the Anza-Terwilliger area, the groundwater model can be a useful tool to analyze potential impacts as decisions are made that may lead to growth in population and water use, putting stress on the groundwater system which is the sole source of water supply. The model can be used to evaluate alternatives in conjunction with a groundwater management plan to move toward meeting goals and objectives.

6 Groundwater Management Plan

The development of a GMWP for the Anza Area is a goal of the community in order to better understand, manage, and enhance valley groundwater resources. This plan should follow a common outline so that it is understandable to the community and to those from other communities. The funding should be pursued from the LGA Grant program or other sources for completing a GWMP and filling any data gaps needed to complete the plan and prepare a monitoring plan for the community.

6.1 GWMP Outline

IPM and RMC have prepared a GWMP Detailed outline for the Anza area, this outline is shown in Appendix 11. This outline was reviewed with the community and incorporates suggestions and changes made in this review.

7 Governance and Organization Alternatives Feedback

This section presents the established and potential organizations which may be involved and lead a GWMP and project developed from that plan. It also reviews the major feedback the community provided on the organizational structures and the critical factors for development.

7.1 Community Interest and Current Structures

Community interest in water planning is high. The community Vision and Goals, shown below, as well as the Riverside County General Plan amendments⁴ for the area indicate significant focus on water sustainability. Significant public member turnout at all three workshops also indicates significant interest and willingness to participate. The Rural Village Overlay Area describes the Goal for water as follows:

“Manage Anza Valley’s finite groundwater supply to ensure that an adequate amount of safe water will always be available for existing users and to accommodate the community’s future needs and growth.”

Current organizations in the Anza Valley provide significant and adequate structures for their purpose shown in the list below:

- Anza Municipal Advisory Committee
- Anza Electrical Co-op
- Anza Community Hall Association
- Several Local Mutual Water Companies
- High Country Garden Club
- Mountain Communities of Resilience
- High Country Conservancy
- Anza Grant Writing Committee

These organizations could be modified or amended to include water or groundwater management but no current organization includes everything needed for groundwater management.

Other regional organizations may be of assistance in the formation stages and support projects but are not likely to be able to be focused on Anza Groundwater for the longer term.

- Elsinore Murrieta Anza Resources Conservation District
- South Coast Resource Conservation and Development Council

ANZA COMMUNITY VISION & GOALS
November 15, 2005

COMMUNITY VISION STATEMENT
Anza shall continue to develop as a rural community that fosters a safe lifestyle, and promotes the feel and sociability of a small ranch town.

GOAL 1: Obtain a new comprehensive groundwater basin study for the Anza/Terwilliger Valleys, to be performed by United States Geological Survey.

- A. Maintain a balanced water basin.
- B. Allow only as much new development as can be sustained by annual ground water recharge.
- C. Ensure water rights are secured.
 - a) Provide a wastewater treatment facility to serve the village overlay area including infrastructure for the use of reclaimed water for landscape irrigation.
 - b) Ensure that septic systems do not result in groundwater pollution.
 - c) Provide adequate solid waste disposal/recycling.

⁴ Anza Rural Village Overlay Policy Area, Proposal September 2009

Exhibit A

- Upper Santa Margarita Integrated Regional Water Management Group
- County of Riverside

While the County of Riverside generally may not be a long term water manager for the Anza Area, the County supports 62 Community Service Areas⁵ which may be an organization option.

7.2 Organizational Models Discussed

IPM presented a variety of models used around the state for planning, managing and overseeing long term water and wastewater. Such organizations range from informal ad-hoc groups to nonprofit organizations to Special Act Districts and there are many options. Generally these groups begin more informally and become more formal as need, trust, comfort and sophistication progress. A committee, task force or other group could be formed to coordinate and organize efforts including funding. Appendix 12 contains tables which describe types of entities that may be suitable for organizing such a group and public water entities under California law. The most likely of the options are shown below listed from informal to formal.

- Committee or Task Force with representative stakeholders in cooperation with a regional entity
- Memorandum of Agreement or Understanding
 - Non-binding agreement
 - Agreement with cost sharing
 - Cooperative Agreement binding parties beyond funding
- Non-profit mutual benefit corporation or 501-c (6)
- Non-profit public benefit corporation or 501-c (3)
- Community Service Area
- Community Services District
- Special legislative act district, agency or authority

There are many advantages and tradeoffs between the different types of organizations. These include issues of governance, independence, representation, taxation or revenue and flexibility. Some types of groups are more able to accept a variety of members and some are more representative. Other types can accept different sources of grant funding, but some have restrictions on the ways funds can be spent for items such as lobbying. All but a few do not have directly elected representation. Each can be useful for groundwater management, water and waste water planning, projects and services.

The Riverside County General Plan amendments describe the water organization goal as follows:

“Encourage the formation of the appropriate public entity (community services district or other public entity) in the Anza Rural Village Overlay area...”

⁵ Riverside County Budget 2011-12 for County Special Districts including 62 CSAs
http://www.countyofriverside.us/export/sites/default/government/budget/2011-2012RBudget/10_Schedule_15.pdf

Exhibit A

While this is not intended to apply to the larger Anza Area, but the Overlay along Highway 371, it signals general thinking where greater organization is needed.

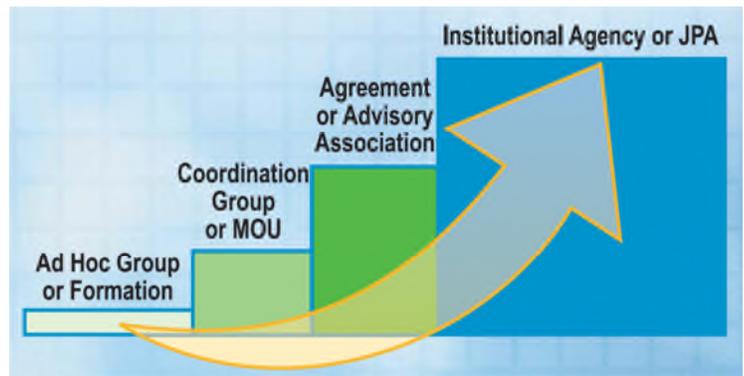
Frequently “the organization” moves from one type of less formality to another type with greater formality and powers when the need exists and with the will of the stakeholders and community. Recommendations are to utilize strategies that move for simpler and less formal to more formal and structured. As an initial group forms, outreach and collaboration can be expanded to bring more groups by area or topic into this effort. This concept is described further in the section below.

7.2.1 Organizational Development Stages

Various stages are common in the progression of groups and organizations with water related purposes. The stages can be thought of on a continuum. This discussion borrows experience and information from Integrated Regional Water Management Planning, community development and water conservation efforts over many years.

7.2.1.1 Conceptual/Preliminary

The vision or concept phase provides the preliminary concepts and passion for generating a group to address water issues. It often begins with gathering people and organizations of like mindedness together to begin acting in concert to their mutual benefit or to pursue funding. The preliminary efforts are often time intensive and somewhat chaotic. Anza Area has progress through several of these and has this experience as a basis for the next steps.



7.2.1.2 Initial Formation

This phase is preliminary and often less organized and more flexible than any other phase in the process. After the stakeholders are identified and brought together, the majority of effort is in deciding what needs to be done first and how to best organize the efforts. Formation of the organization is often not the primary focus of the effort but is always a factor in the ability of the efforts to move forward. The IRWM efforts and the LGA funded Capacity Building Grant funded efforts to help the Anza Area begin to move through this phase.

7.2.1.3 Organized and Productive

A major effort of the early steps in organizing is the development of work focus of the group. Additionally, the ability to be productive hinges on having a focused mission and direction. In

Exhibit A

this phase the group would be organized for both process and efforts and be accomplishing its mission within the constraints of its resources. Organization is critical for gaining additional funding for the next steps.

7.2.1.4 Self-Managed and Funded

In the next step beyond basic organization and accomplishment of tasks studies and efforts, is achieving self-management. For a group addressing water planning this requires them taking some control over the scope of efforts and progress of their efforts. At this stage the group would be providing internal and external control and direction for its efforts and cooperating with others. Governance is required in this stage and can take many forms described above. The form of organization is less important than its documented function and capabilities. The ability to determine direction, collect funds, direct work, and accomplish tasks is essential.

7.2.1.5 Responsible Authoritative Partner

This level of organization begins to provide a stable and responsible partner for stakeholders and the community. The organization has accomplished working governance, funding and program management. They have a clear mission and direction and are accomplishing tasks and efforts. They are developing a reputation as a responsible and consistent source for participation, feedback and input to areas within their purview. They have the ability to take on larger, more difficult or longer term programs because of settled and consistent leadership and funding.

7.2.1.6 Institutional

At the institutional level the organization has become a fixture in its area. This is not necessarily a governmental function. Organizations may have diverse structures to fit their purpose but have become counted on as playing their role with consistency and advocating for their causes or mission. These organizations change over time as the needs to accomplish their mission change.

7.3 Community Recommendations and Feedback

Workshop 2 focused primarily on the organization and its uses and needs to bring the Stakeholders up to the same level of information and to provide an opportunity for the community to discuss its needs and limitations. After a presentation and discussion of the alternatives and other suggestions from the community the large group was separated into two working groups to identify specifically what would be acceptable and what was to be avoided. The summarized points from both groups are shown below:

- Self-governance options preferred - Community based governance
- No more taxes – participants wanted to ensure no additional taxes were obligated
- Water rights in our hands – organization should not address water rights and the organization should be in the hands of the stakeholders in Anza

Exhibit A

- Ideal structure would be voluntary or linked to those who get the benefit from the efforts
- The community will need some jurisdiction to move forward – without it there will be more years of lost opportunities and debate rather than fixing the problems
- A steering committee with participation from community would be ideal and could continue to function as watchdogs
- 501-c (3) could be a good start, the steering committee could form an initial board of directors
- EMARCD could be an interim partner for the group as it forms and transitions to a more permanent structure. Elsinore Murrieta Anza Resource Conservation District offered to help.
- Eventual organization structures the group recommended included:
 - CSA (County Service Area)
 - CSD (Community Services District)
 - 501 c (3) Non-profit or Mutual/Co-op
 - Local and elected body is strongly preferred; otherwise others will make decisions for Anza

This discussion and feedback was excellent and while there was significantly pointed discussion, the civil discourse allowed all to be heard and there was agreement with the general feedback and these points when presented in Workshop 3. Additionally, the Group agreed without descent and requested IPM work with the AVMAC to recommend the formation of a representative committee that would formalize and take the next steps toward a groundwater management plan and application for funding⁶.

7.4 Organizational Recommendations

The ultimate organization for Anza Water was not determined in the workshops presented however consensus was reached without descent on the formation of a Groundwater Management Committee to address the next steps for efforts on organizations and groundwater planning.

The stakeholder groups that should make this up include the Anza Municipal Advisory Committee and the following:

- Residents - 2 at large members and AVMAC 1 members
- Agriculture - 2 members
- Community Groups – 2 members

⁶ Anza Area Workshop 3 Notes Summary on line at <https://sites.google.com/site/anzawatermgmt/updates/october25thagendaandpresentationposted/MeetingnotesOct25Workshopv-1.pdf>

Exhibit A

- Tribes - Cahuilla and Ramona 2 members
- Business/Development - 2 members

IPM has offered, outside their current contracts to assist the community with selection and the first few workshops to insure progress is maintained. Many individuals have offered to participate in the committee and expressed opinions about others participation. A recommendation of individual representatives will be made based on:

- Local Anza Area understanding
- Participation in the Capacity Building efforts
- Technical or Policy knowledge
- Representation of Anza Area Stakeholder groups
- Thoughtfulness and willingness to act on behalf of the community without undue conflict

Committee participants when finalized will be shown in Appendix 13

8 Report Recommendations and Studies

The Anza Valley is large, diverse and complex from a water management standpoint. Developing any strategies will require flexible and collaborative methods to accomplish studies and develop projects that assist the management of water quality and quantity.

8.1 Summary Report Conclusions

While many conclusions and observations are made in the report, the following are deemed to be important to achieving the goals of the stakeholders:

- Significant information is available on the water levels and water quality, however significant gaps in areal and temporal water information exist
- A large number of wells are in the Anza Area and little is known about many of the wells or their condition or status
- Additional efforts are needed to understand contaminant sources and control options and including a better understanding of septic tanks as a potential source
- Further coordinated planning and data collection should be a priority to assess current trends in water levels and quality
- Continued effort to invite and involve as many members of the community as possible to participate in water issues discussions is useful
- Participants gained significant awareness and understanding of water issues through the workshops
- Greater organization and development of governance is needed to ensure groundwater management and local community participation on the future of Anza

8.2 Study and Project Opportunities

As presented during the workshops the work to be completed during a GWMP can be completed while filling data gaps.

During this time developing projects need not wait for the plan to be completed if adequate data is available to support the projects.

Stage 1 shows the phase the Anza Area is in for planning and projects during the capacity building phase.

Stage 2 and 3 build on the development of information from Stage 1 and Stage 3 to provide the information for the

completion of the GWMP and



Figure 5 Study and Project Succession

Exhibit A

approval of the plan. From Stage 4 on many options are available depending on the priorities and goals of the GWMP and the projects to be pursued.

8.3 Potential Funding Sources and Efforts

Just as with the studies and projects the sources of funding progress from one type to another over time. The currently funded LGA Capacity Building Grant will expire shortly but be followed shortly by the IRWM Planning Project which will take next steps in the Groundwater Management efforts in Anza. The draft scope of this project is shown as Appendix 14. Other funding sources such as IRWM Implementation funding are possible through the IRWM programs at DWR. The next grant opportunity will be the final Local Groundwater Assistance Grants from the Department of Water Resources. This grant can provide funding for the development of the Groundwater Management Plan and filling of data gaps needed to facilitate the plan.

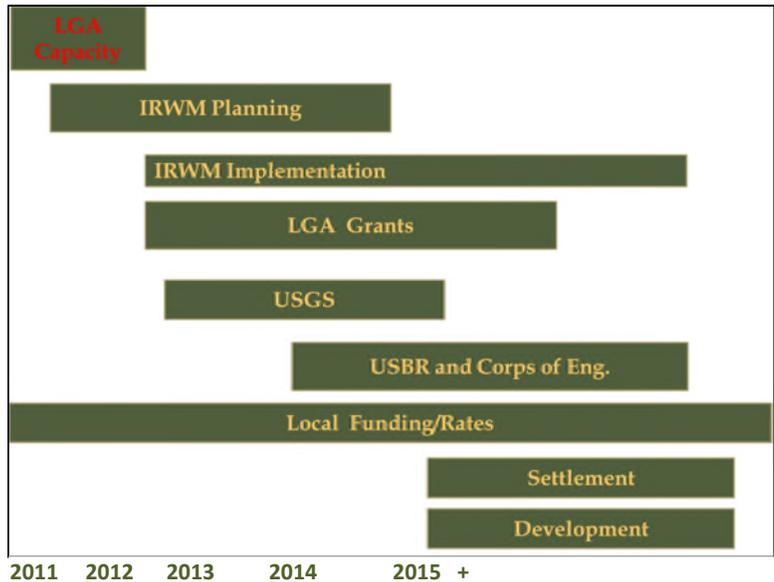


Figure 6 Funding for Groundwater through Time

The USGS, USBR, and Corps of Engineers all have funding for projects that may be helpful to the Anza Area. Also those making land use proposals for development may have an interest in assisting with the GWMP and implementation. Finally the result of any Water Rights Settlement may be an opportunity to fund water related projects for the benefits of water users. USGS Water Study and Modeling is a long standing study proposal intended to be definitive as to Anza basin waters⁷. The Study budget at the time was approximately \$1.3 million.

8.4 Recommendations

While recommendations are made in each section throughout the report, several areas are specifically identified as important to the achievement groundwater management are shown below:

- Continue to support Stakeholder group development through Committee and projects
- Pursue Long-term and Near-term study, monitoring and projects

⁷ USGS Proposal for Anza Groundwater on the web at https://sites.google.com/site/anzawatermgt/documents/anza_usgsproposal.pdf?attredirects=0&d=1

Exhibit A

- Continue communication on water issues for the community
- Pursue the funding opportunities for planning and projects
- Use the foundation from this project to complete a Groundwater Management Plan

9 References

1. Anza Rural Village Overlay Policy Area Proposal, **Riverside County Planning Department September 2009**
Available at [https://sites.google.com/site/anzawatermgt/documents/PagesfromAnzaVGPpolicyarea Sept3%2709.pdf?attredirects=0&d=1](https://sites.google.com/site/anzawatermgt/documents/PagesfromAnzaVGPpolicyareaSept3%2709.pdf?attredirects=0&d=1) Accessed 11/2/2011
2. Ground-Water Conditions in the Anza-Terwilliger Area, with Emphasis on the Cahuilla Indian Reservation, Riverside County, California, 1973-86, U.S. GEOLOGICAL SURVEY
Linda R. Woolfenden and Daniel J. Bright, Water-Resources Investigations Report 88-4029 Available at http://pubs.er.usgs.gov/djvu/WRI/wrir_88_4029.djvu accessed 11/1/2011



FINAL

**Planning Grant Proposal
Upper Santa Margarita Watershed IRWM Region**

Exhibit B

Commitment Letter from the High Country Conservancy

Exhibit B



PO Box 391454 Anza, CA 92539

Phone (951)541-4503

Email: thccanza@gmail.com

February 27, 2012

Upper Santa Margarita Watershed IRWM RWMG
Rancho California Water District
P.O. Box 9017
Temecula, CA 92589-9017

Upper Santa Margarita Watershed IRWM Regional Water Management Group:

It is the intent of The High Country Conservancy (THCC) to be The Local Project Sponsor for the proposed Anza Groundwater Study- Phase I planning project that will be included in the Proposition 84 Integrated Regional Water Management (IRWM) Planning Grant Round 2 proposal to be submitted to the California Department of Water Resources (DWR) by March 9, 2012. The High Country Conservancy is a California Public Benefit Corporation with a pending 501c(3) non-profit status.

The board of THCC has reviewed the Local Project Sponsor Criteria requirements and both understands and agrees to faithfully and expeditiously complete all project work agreed to in the Work Plan, Budget and Schedule submitted to DWR within the two year timeline requirement from execution of the DWR IRWM Implementation Grant, which is understood will be approximately 18 months from the time of execution of the IRWM Planning Grant Agreement.

The members of the board of THCC will perform or cause to be performed, required responsibilities that include, if required, submitting environmental permits, documents and providing copies as required. All reports including deliverables and all invoices will be prepared and submitted to Rancho California Water District, grantee with the DWR, including receipts and supporting documentation. All permits, documents, reports and invoices will be provided in the format, with the content and timeline required by the DWR and the state.

Exhibit B

THCC agrees to allow inspection of work being performed, including all records with respect to the grant and also agrees to make public all work produced in the performance of the grant through a website in the public domain.

THCC will work with South Coast Resource Conservation and Development Council to procure and manage bridge loans in order to fulfill needs for up front funds. THCC understands that the funding match will be covered within the overall cost of the total grant. THCC intends to work with SCRC&D, and SCRC&D has agreed, to provide THCC with assistance and expertise as needed for completion of the Study and fulfillment of the grant requirements.

Sincerely,

Marea Stinnett-Levine

President, The High Country Conservancy