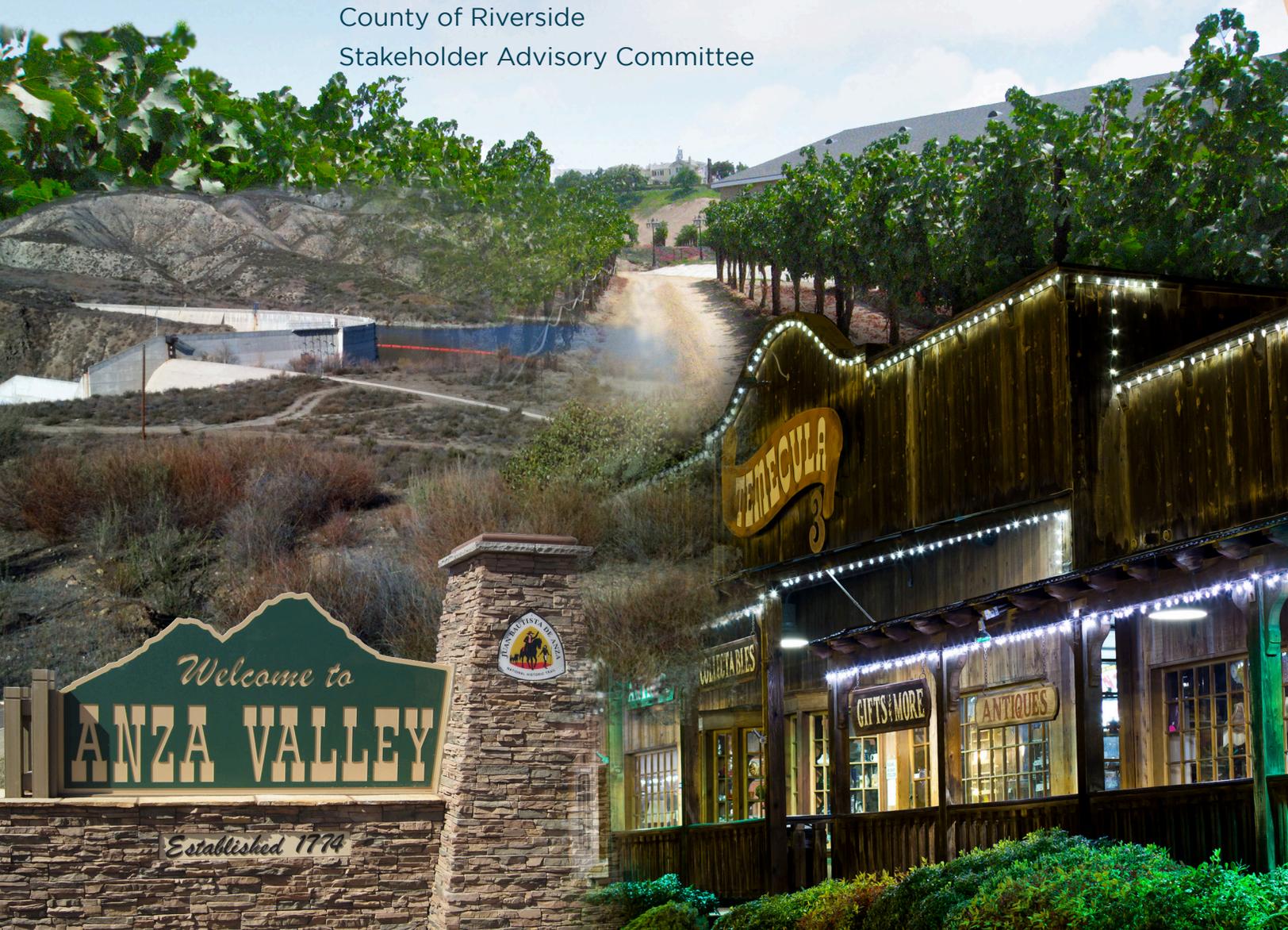


# Upper Santa Margarita Watershed Integrated Regional Water Management Plan Update

Final  
April 2014

Prepared by: Rancho California Water District  
Riverside County Flood Control and Water Conservation District  
County of Riverside  
Stakeholder Advisory Committee



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# List of Acronyms

ACS	American Community Survey
AF	Acre-feet
AFY	Acre-feet per year
AGR	Agricultural supply
AGWA	Anza Groundwater Association
ASBS	Areas of Special Biological Significance
AVMAC	Anza Valley Municipal Advisory Council
BDCP	Bay-Delta Conservation Plan
BMP	Best Management Practice
CASGEM	California Statewide Groundwater Elevation Monitoring Program
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEDEN	California Environmental Data Exchange Network
CEQA	California Environmental Quality Act
CERES	California Environmental Resources Evaluation System
cfs	Cubic feet per second
CNRA	California Natural Resources Agency
COLD	Cold freshwater habitat
CRA	Colorado River Aqueduct
CVP	Central Valley Water Project
CWP	California Water Plan
DAC	Disadvantaged Communities
DPS	Distinct population segment
DWR	California Department of Water Resources
EMWD	Eastern Municipal Water District
EMWD-TVP	Eastern Municipal Water District's Temecula Valley Pipeline
ET <sub>o</sub>	Evapotranspiration
EVMWD	Elsinore Valley Municipal Water District
FACC	Funding Area Coordinating Committee
FEMA	Federal Emergency Management Agency
FPUD	Fallbrook Public Utilities District
FRSH	Freshwater replenishment
GAMA	Groundwater Ambient Monitoring and Assessment Program

GHG	Greenhouse gas
GIS	Geographic Information Systems
GPCD	Gallons per capita day
GWR	Groundwater recharge
IBA	Important Bird Area
IID	Imperial Irrigation District
IND	Industrial service supply
IRWM	Integrated Regional Water Management
IWRIS	Integrated Water Resources Information System
IWRP	Integrated Resource Plan
LID	Low impact development
MCL	Maximum Contaminate Level
mg/L	Milligrams per liter
mgd	Million gallons per day
MHI	Median household income
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
MSHCP	Multiple Species Habitat Conservation Plan
MTBE	Methyl tert-butyl ether
MUN	Municipal and domestic supply
MWD	Metropolitan Water District of Southern California
NDMA	N-nitrosodimethylamine
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NNE	Nutrient numeric endpoint
NO <sub>3</sub>	Nitrate
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Management
PROC	Industrial process supply
QSA	Quantification Settlement Agreement
RAP	Regional Acceptance Process
RARE	Rare, threatened, or endangered species
RCFC&WCD	Riverside County Flood Control and Water Conservation District
RCHCA	Riverside County Habitat Conservation Agency
RCIP	Riverside County Integrated Project

RCWD	Rancho California Water District
REC-1	Contact water recreation
REC-2	Non-Contact water recreation
RMS	Resource Management Strategies
RWC	Recycled Water Contribution
RWMG	Regional Water Management Group
RWQCB	Regional Water Quality Control Board
RWRF	Regional Wastewater Reclamation Facility
SAC	Stakeholder Advisor Committee
SAMP	Special Area Management Plan
SCAG	Southern California Association of Governments
SMC	Stormwater Monitoring Coalition
SNMP	Salt and Nutrient Management Plan
SPWN	Spawning, reproduction, and/or early development
SRF	State Revolving Fund Loans
SWAMP	Surface Water Ambient Monitoring Program
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
USACE	United States Army Corps of Engineers
USBR	United State Bureau of Reclamation
USGS	United States Geological Survey
USMW	Upper Santa Margarita Watershed
USEPA	United States Environmental Protection Agency
UWMP	Urban Water Management Plan
VDC	Valle de Los Caballos
WARM	Warm freshwater habitat
WILD	Wildlife habitat
WMWD	Western Municipal Water District
WQO	Water Quality Objective
WRF	Water Reclamation Facility
WUE	Water Use Efficiency

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## Preface

The Upper Santa Margarita Watershed (USMW) Integrated Regional Water Management (IRWM) Region's (Region) open spaces, beautiful landscapes, and treasured biological resources make up a region of unique character. The Region is a model of opportunity for planners, managers, and leaders to invest in sustainable water management strategies that will preserve and protect these valuable resources for future generations.

The Region's growing population and housing needs challenge water resources managers to work collaboratively to meet increasing demands while protecting water resources. Achieving a balance between support for a rapidly growing economy and preservation of the Region's rural character and unique sense of place requires a careful strategy to integrate diverse priorities and gain support from stakeholders and the public. In 2007, the Region prepared its first IRWM Plan to develop local water supply sources while addressing the need for water quality, environmental protection, and recreational and open space opportunities. As a result of development of the 2007 IRWM Plan, the Region was awarded a Proposition 84, Round 1 Implementation Grant in 2011 for implementation of the following projects: Vail Lake Stabilization and Conjunctive Use Project, Agricultural Irrigation Efficiency Program, Water Quality Enhancements in Riverside County, and Implementing Nutrient Management in the Santa Margarita River Watershed – Phase 1. Collectively, the project benefits include more than 6,000 acre-feet per year in conserved water, water quality enhancements, and sustainable agriculture. In addition, the Region's stakeholders continued to meet as a part of the IRWM Program to coordinate planning efforts on a Regional level.

In 2012, the Region received a Proposition 84, Round 2 Planning Grant to update its 2007 IRWM Plan in accordance with new Plan guidelines and standards issued by the California Department of Water Resources (DWR) in 2012. This 2014 IRWM Plan Update was prepared to better reflect the Region's current issues, objectives, and strategies, as well as to satisfy the requirements of DWR's Planning Grant award and the November 2012 *IRWM Proposition 84 and 1E Program Guidelines*. The 2014 IRWM Plan Update documents the current IRWM Program and processes that have evolved since the 2007 Plan was developed, and is organized according to the table on the next page.

The 2014 IRWM Plan Update process built upon and enhanced the Region's collaborative efforts to ensure a sustainable water supply through more efficient use of water, protect and improve water quality, and promote environmental stewardship by accomplishing the following:

- Include the newly added portion of the San Mateo Watershed in the Region's planning
- Enhance and improve outreach to disadvantaged communities and Tribal stakeholders to help the Region to develop an increased understanding of the needs and interests of these communities
- Increase overall stakeholder participation in the IRWM Plan Update
- Improve the IRWM Program website to facilitate Regional information sharing

- Increase inter- and intra-regional collaboration through integrated project development
- Update and refine Regional needs, goals and objectives
- Improve understanding of Regional climate change vulnerabilities and identify adaptation and mitigation strategies
- Refine and enhance project development, selection and prioritization
- Establish a better understanding of the Region's water resources through implementation of technical studies

<b>DWR Plan Standard</b>	<b>2014 IRWM Plan Update Chapter</b>
Governance	Chapter 1: Regional Planning, Governance, Outreach and Coordination
Region Description	Chapter 2: Region Description
Objectives	Chapter 3: Objectives and Priorities
Resources Management Strategies	Chapter 4: Regional Water Management Strategies
Integration	Chapter 1: Regional Planning, Governance, Outreach and Coordination Chapter 5: Projects
Project Review Process	Chapter 5: Projects
Impacts and Benefits	Chapter 4: Regional Water Management Strategies
Plan Performance and Monitoring	Chapter 6: Implementation
Data Management	Chapter 6: Implementation
Finance	Chapter 6: Implementation
Technical Analysis	Chapter 1: Regional Planning, Governance, Outreach and Coordination
Relation to Local Water Planning	Chapter 1: Regional Planning, Governance, Outreach and Coordination
Relation to Local Land Use Planning	Chapter 1: Regional Planning, Governance, Outreach and Coordination
Stakeholder Involvement	Chapter 1: Regional Planning, Governance, Outreach and Coordination
Coordination	Chapter 1: Regional Planning, Governance, Outreach and Coordination Chapter 6: Implementation
Climate Change	Chapter 1: Regional Planning, Governance, Outreach and Coordination Chapter 2: Region Description Chapter 3: Objectives and Priorities Chapter 4: Regional Water Management Strategies Chapter 5: Projects Chapter 6: Implementation

The 2014 IRWM Plan Update is intended to be used as a tool by the Region's stakeholders to take on the challenge of turning the opportunities provided by this unique Region into sustainable water management practices. Implementation of the projects and strategies identified in the Plan will benefit residents and businesses of the Region and improve quality of life and natural resource management. The 2014 IRWM Plan Update is a living document that is expected to be updated periodically, and allows the Region to adapt to changes in needs, regulations, resources and climate. The success of this Plan relies on the continued participation of stakeholders in the IRWM Program throughout the 25-year planning horizon.

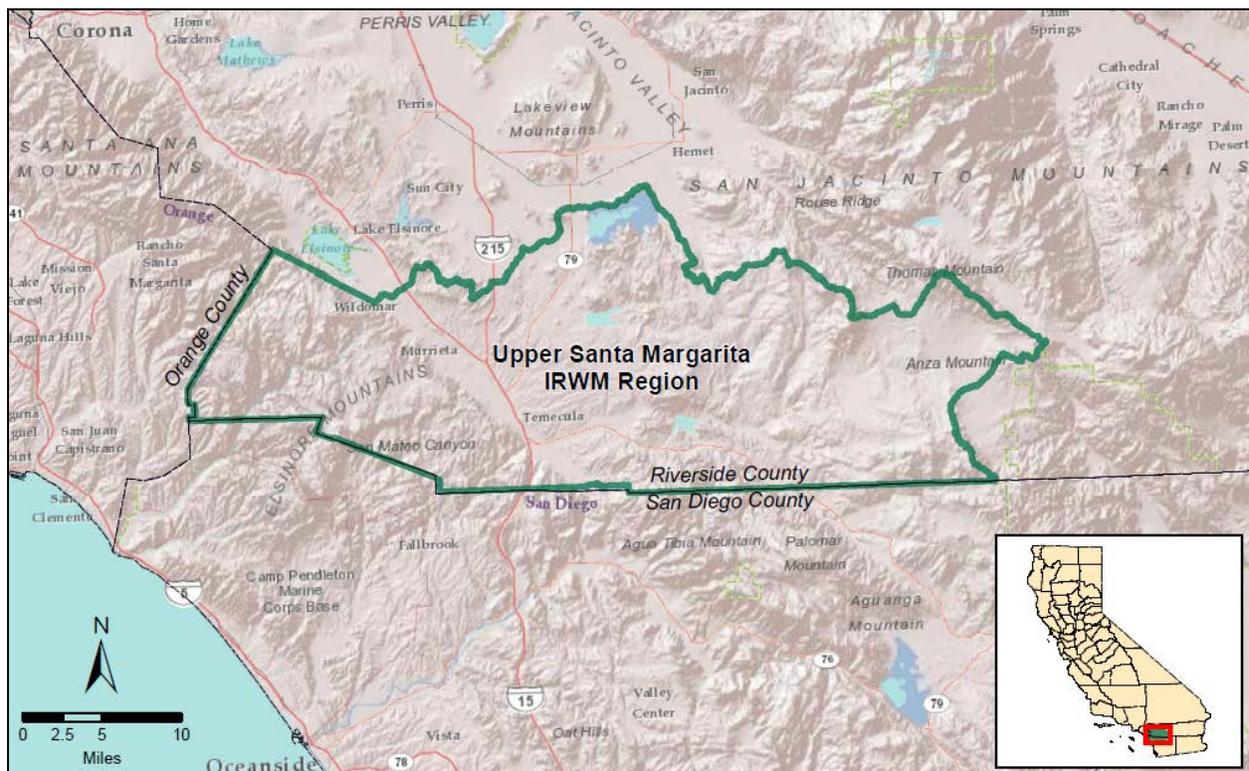
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# 1 Regional Planning, Governance, Outreach and Coordination

## 1.1 Regional Acceptance Process

The Upper Santa Margarita Watershed (USMW) Integrated Regional Water Management (IRWM) Region (Region), located in southwestern Riverside County (Figure 1-1), was approved through the California Department of Water Resources (DWR) Regional Acceptance Process (RAP) in 2009. The RAP was required to ensure that IRWM regions met the requirements of Public Resource Code Sec 75026(b)(1) which states that a region is defined as a contiguous geographic area encompassing the service areas of multiple local agencies, is defined to maximize the opportunities to integrate water management activities, and effectively integrates water management programs and projects within a hydrologic region. As part of the RAP, the Region was required to include the upper portion of the San Mateo Watershed within Riverside County in addition to the portion of the Upper Santa Margarita Watershed within Riverside County that originally made up the Region.

**Figure 1-1: USMW Region**



## 1.2 2007 IRWM Plan

The Region's first IRWM Plan was completed and adopted in 2007 according to the guidelines of Proposition 50 Chapter 8. The 2007 IRWM Plan has since then provided the framework and procedures used to govern, collaborate, and plan activities, as well as pursue funding opportunities, within the USMW IRWM Program.

As the 2007 Plan highlighted, the Region has a significant reliance on imported water supply and faces local water resource issues. In particular, water quality issues have arisen from excessive inputs of nutrients and salts, sedimentation from agricultural areas, habitat loss, flooding, and scour. As a result of these issues, the Region faces a number of challenges, including the following:



- Decreasing reliability and increasing cost of imported water supplies
- Continuing to meet water demands for urban, agriculture and the environment in a reliable and sustainable manner
- Protecting the natural environment and habitats considering development
- Improving water quality for both upstream and downstream uses
- Protecting the Region's public health and safety from flooding
- Addressing uncertainty related to climate change
- Seeking funding for water resources projects from multiple sources, as financial resources are limited locally

As with any challenges, there are opportunities. Development of the 2007 IRWM Plan was a collaborative, open, and accessible process, whose main objectives include:

- Improving water supply reliability
- Protecting and improving water quality
- Ensuring sustainability through environmental stewardship
- Promoting multiple benefits
- Promoting integration and regional planning

Since 2007, the Region's water agencies, flood control districts, counties, cities, federal, state and local agencies, and other stakeholder groups have been working across jurisdictional

boundaries to develop and implement water resource management projects that have multiple benefits. This cooperative group has developed the following vision statement for the USMW IRWM Program:

*The Integrated Regional Water Management Program will take a balanced and consensus-based approach that will provide for the protection and sustainability of the Upper Santa Margarita Watershed's water resources, natural resources, and habitats.*

As a result of these efforts, the Region received a Proposition 84, Round 1 Implementation Grant award in 2011 for the implementation of the following projects included in the 2007 IRWM Plan:

- *Vail Lake Stabilization and Conjunctive Use Project:* Completed in October 2013, this project is expected to store 4,521 acre-feet per year (AFY) of imported water during wet years for use during dry years. To accomplish this, a pipeline was built from an imported water turnout to Vail Lake for seasonal storage and conjunctive use storage at spreading basins downstream.
- *Agricultural Irrigation Efficiency Program:* This program is currently being implemented, and promotes sustainable agriculture by reducing agricultural water requirements for 2,000 acres of irrigated land. Benefits have already started to be realized, and will continue for the life of the project (15 years) to reduce agricultural water requirements by 2,115 AFY.
- *Water Quality Enhancements in Riverside County:* This project has been completed, and will reduce impacts from hydromodifications, promote low impact development (LID), support riparian and aquatic habitat restoration, and reduce the discharges of stormwater pollutants and improve water quality.
- *Implementing Nutrient Management in the Santa Margarita River Watershed – Phase 1:* This project is currently being implemented, and will study and address nutrients in the watershed to refine the water quality objectives for the watershed in light of the desire to recharge recycled water.

### 1.3 2014 IRWM Plan Update

In 2012, the Region received a Proposition 84, Round 2 Planning Grant to update its 2007 IRWM Plan in accordance with new Plan guidelines and standards issued by DWR in 2012. The 2014 IRWM Plan Update was prepared to satisfy the requirements of DWR's Planning Grant award and the November 2012 IRWM Proposition 84 and 1E Program Guidelines. The 2014 IRWM Plan Update documents the current IRWM Program and processes that have been implemented since the 2007 IRWM Plan was developed. The 2014 IRWM Plan Update was also

developed to reflect the current and projected challenges, opportunities, goals and strategies of the USMW IRWM Region.

In accordance with Section 6066 of the Government Code, a public notice of intent to prepare an IRWM Plan was published on July 26, 2013 and August 2, 2013 (Appendix A), and public notices of intent to adopt the IRWM Plan were published two weeks prior to IRWM Plan adoption by each of the RWMG agencies (Appendix A).



### 1.3.1 Planning Accomplishments

The planning activities necessary to obtain, develop, and confirm required information to update the 2007 IRWM Plan began in October 2012 and were generally complete by November 2013. Draft IRWM Plan Chapters were prepared between August 2013 and December 2013, and final development of the IRWM Plan occurred between January and May 2014.

The update process used the existing IRWM Program governance, outreach, and coordination described in this chapter to generate the input and review necessary to meet DWR update requirements, as well as the needs of the Region.

The 2014 IRWM Plan Update process built upon and enhanced the Region's collaborative efforts to ensure a sustainable water supply through more efficient use of water, protection and improvement of water quality, and environmental stewardship including habitat restoration.

The 2014 Plan Update process recommitted the Region to the vision established in 2007 by achieving several new accomplishments, including the following:

- Include the newly added portion of the San Mateo Watershed into the IRWM Plan
- Enhance and improve outreach to disadvantaged communities (DAC) and Tribal stakeholders
- Increase overall stakeholder participation in the IRWM Plan Update
- Improve IRWM Program website to facilitate Regional information sharing
- Increase inter- and intra-regional collaboration through integrated project development
- Update and refine Regional needs, goals and objectives
- Improve understanding of Regional climate change vulnerabilities and identify adaptation and mitigation strategies
- Refine and enhance project development, selection and prioritization for inclusion in the Plan

- Improve understanding of the Anza groundwater resources through the *DAC Groundwater Study in the Anza Area*
- Establish salt and nutrient solutions through development of the *Temecula Valley Basin Salt and Nutrient Management Plan (SNMP)*

### 1.3.2 Technical Analysis

Various technical datasets and studies were used to develop the 2014 IRWM Plan Update, a selection of which is shown in Table 1-1. Table 1-1 also shows how the data were analyzed, the relevant results from the analysis, and how the data were used in the IRWM Plan Update. Much of the technical information used in the creation of the Plan stems from the Urban Water Management Plan development process for water suppliers in the region, since these documents are updated frequently (most recently in 2010), and undergo extensive public review. Other planning efforts that were used also include public review and stakeholder participation. This participation, along with the local and regional focus of these documents, helps to ensure an accurate source of information for local and regional planning. While it is not always possible to identify how data were analyzed in order to write these planning documents, an effort has been made to further define the data that were used in preparation of the documents that form the basis for the planning decisions made in the 2014 IRWM Plan Update.

**Table 1-1: Technical Data and Studies Used in the IRWM Plan Update**

Data or Study	Analysis Method	Results/Derived Information	Use in IRWM Plan
2006-2010 American Community Survey (US Census Bureau)	Review of census block groups and designated places	Population, housing, and income data for the 5-year period from 2006 to 2010	Used to estimate median household income for the Region, and locations of DACs
2010 Census (US Census Bureau)	Review of census block groups and designated places	Population and housing data for the year 2010	Used to estimate current population for the Region, and calculate demand
2010 Urban Water Management Plans (Rancho California Water District, Eastern Municipal Water District, Western Municipal Water District, Elsinore Valley Municipal Water District)	Review of current and projected drinking water supplies and demands, and facilities	Current and projected supplies and demands, quality concerns, and facility descriptions	Used to describe current and projected supplies and demands in the Region, and discuss drinking water quality concerns, and facilities. Also used to establish water supply issues and needs
2010 Integrated Report and 303(d) List (SWRCB)	Review of 303(d) listed water bodies	Listing of quality impaired waters throughout the State	Used to describe current water quality impairments

Data or Study	Analysis Method	Results/Derived Information	Use in IRWM Plan
2011 Climate Change Handbook for Regional Planning (DWR)	Review of climate change studies	Summary of climate change impacts, methods for assessing climate change in individual regions	Used to describe the threats to local and regional water resources from climate change in the Region. Methodologies used to assess climate change vulnerabilities in Region
2014 DAC Groundwater Study in the Anza Area	Collection and review of groundwater quality and level data	Summary of groundwater quality and level in the Anza area	Used to describe groundwater issues and assess needs in the Cahuilla Valley Groundwater Basin, as well as to identify steps to address needs
2013 Municipal Separate Storm Sewer System Stormwater (MS4) Permit (San Diego RWQCB)	Review of discharge permit terms	Discharge permit limitations	Used to describe water quality management responsibilities
2012 Regional Transportation Plan Growth Forecast (Southern California Association of Governments [SCAG])	Growth analysis	Population, housing and employment projections	Used to estimate population and housing growth in the Region
1986-1989 Riverside County Master Drainage Plans (County of Riverside)	Flood analysis, review of drainage planning	Current drainage facilities and needs, as well as flood planning in Riverside County	Used to describe the Region's flood control facilities and needs.
2013 Santa Margarita Region Retrofit Program Study	Land use and surface water quality analysis and BMP review	Tools for determining types of and locations for stormwater BMPs in the watershed	Used to describe current surface water quality issues and needs, determine strategies and implementation steps for water quality improvement
2014 Temecula Valley Basin Salt and Nutrient Management Plan	Groundwater quality data analysis and modeling	Current and projected groundwater quality, as well as recommended management strategies and future planning	Used to describe the Region's current groundwater quality, define needs and objectives, identify strategies, and implementation steps to address needs

Data or Study	Analysis Method	Results/Derived Information	Use in IRWM Plan
2005 Rainbow Creek Total Nitrogen and Total Phosphorus Total Maximum Daily Loads (TMDL) (San Diego RWQCB)	Review of TMDLs in the Region	TMDL studies of 303(d) listed waters	Used to discuss progress on establishing TMDLs in the Region
2012 Water Quality Control Plan for the San Diego Basin (San Diego RWQCB)	Water quality sampling results analysis , review of beneficial uses, and review of water quality objectives	Beneficial use designations and water quality objectives	Used to describe current water quality impairments, beneficial uses for surface waters, and quality objectives for surface and ground waters
2004 Western Riverside County Multiple Species Habitat Conservation Plan (County of Riverside)	Review location of sensitive habitats	Locations of habitat areas, and conservation needs	Used to describe the species habitat areas in the Region, conservation areas, and to establish habitat issues and needs

## 1.4 Regional Governance

A multi-agency, multi-jurisdictional framework forms the basis for the Region’s governance structure, and is the context of the IRWM Plan’s implementation. This structure provides for management of project implementation, grant funding, communication, Plan revisions and updates, and general coordination among stakeholders.

The Region’s governance structure features an inclusive process that encourages stakeholder involvement in the IRWM planning process. As shown in Figure 1-2, the Region’s governance structure is comprised of three key groups that work together to provide the Region with focused direction, while allowing for effective and comprehensive inter- and intra-regional collaboration.

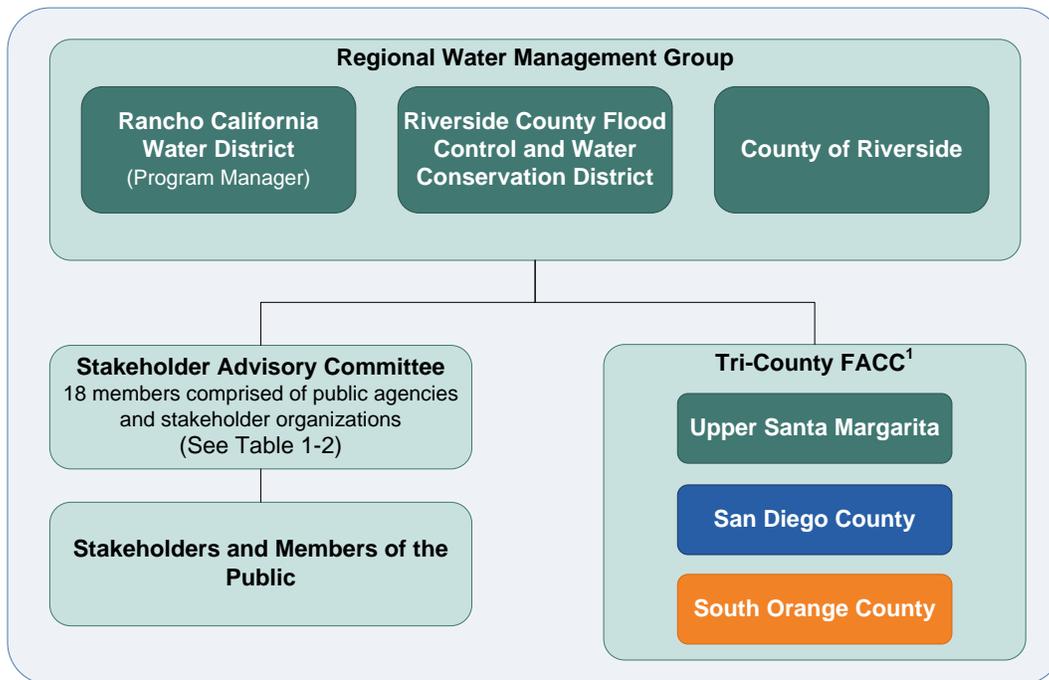
### 1.4.1 Regional Water Management Group

In 2007, Rancho California Water District (RCWD), Riverside County Flood Control and Water Conservation District (RCFC&WCD), and the County of Riverside signed the Memorandum of Understanding (MOU) to Conduct IRWM Planning for the Upper Santa Margarita Watershed by which the three agencies agreed to cooperate and work collaboratively with other stakeholders in the Region toward the completion of the watershed’s IRWM Plan. This MOU forms the basis of the USMW IRWM Regional Water Management Group (RWMG). A copy of the MOU is provided in Appendix B. The RWMG agencies, collectively with the Stakeholder Advisory Committee (SAC), represent all entities significant to water management planning in the planning area, and have the institutional and fiscal capacity and systems to carry out IRWM planning and implementation efforts. Withdrawal of RWMG agencies or addition of other agencies is allowed with the concurrence of the MOU parties and upon execution of the MOU

terms by the new members’ governing board. The MOU directs the General Manager or Chief Executive of each agency as the Regional representatives responsible for reviewing and approving the IRWM Plan; approving and executing documents; submitting funding applications to the State; contracting to accept grants funds and disburse funds to grantees; and making changes as needed to contracts or other documents needed to implement the IRWM Plan process. The RWMG selected RCWD as its program manager who is the lead funding and contracting agency for planning, applying for funding, and implementing funded efforts on behalf of the RWMG.

The RWMG meets on a quarterly or as-needed basis to discuss ongoing management of the Region, IRWM Plan updates, and upcoming stakeholder meetings. Items requiring decisions are discussed and agreed upon by consensus of all members of the RWMG.

**Figure 1-2: Upper Santa Margarita Watershed IRWM Governance Structure**



### 1.4.2 Stakeholder Advisory Committee

The SAC was created as authorized by the MOU and the SAC Organizing Statement (Appendix C). Members of the SAC include individuals representing public agencies and stakeholder organizations throughout the Region. SAC members were selected by consensus of, and serve on behalf of, the RWMG to inform and advise the RWMG agencies on regional needs, goals, priorities, strategies, and projects. SAC members represent nonprofit organizations as well as federal, state, and local agencies involved in watershed management, as identified in Table 1-2. The SAC meets on a quarterly or an as-needed basis.

The SAC also has the ability to create subcommittees to conduct specific activities as required for Plan update and implementation. As a part of the 2014 IRWM Plan Update process, a Project

Review Subcommittee of the SAC was created to review existing and new projects for inclusion in the IRWM Plan. The subcommittee provides recommendations to the RWMG on project lists and prioritization, as well as how best to facilitate project development and integration.

The existence of the SAC encourages and does not inhibit other stakeholders and members of the public from participating in the planning process and submitting goals, priorities, and projects.

**Table 1-2: Upper Santa Margarita Watershed IRWM Region Stakeholder Advisory Committee**

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

### 1.4.3 Tri-County Funding Area Coordinating Committee

The USMW RWMG is signatory to the *Memorandum of Understanding for Integrated Regional Water Management Planning and Funding in the San Diego Sub-Region Funding Area* (Appendix D). Agencies collectively under this agreement are the Tri-County Funding Area Coordinating Committee (Tri-County FACC). The Tri-County FACC is comprised of the neighboring IRWM Regions of San Diego County and South Orange County for the purposes of coordination within DWR’s San Diego Funding Area (see Figure 1-4 for the locations of these regions). The USMW IRWM Program Manager is the USMW representative on the Tri-County FACC, while other RWMG members also participate. The Tri-County FACC makes decisions through discussion and consensus on issues of concern. Additional information on how the RWMG interacts with the Tri-County FACC is provided in Section 1.6.1.

## 1.5 Stakeholder Involvement

Stakeholders have been active in ongoing efforts in the Region to provide information and recommendations for the IRWM Plan Update and overall IRWM Program. The main opportunity for participation is through the periodic SAC meetings and workshops. Stakeholders do not need to be SAC members to participate in the IRWM planning process and efforts, and may submit their goals, priorities, and projects to the IRWM Region.



As part of the 2014 Plan Update process, the Region's existing outreach program was further enhanced to ensure that the USMW IRWM Program and IRWM Plan Update reflects regional needs, resolves existing conflicts, promotes the formation of new partnerships, and encourages further inter-regional, intra-regional and statewide coordination.

Public hearings were held by each of the agencies comprising the RWMG to adopt the IRWM Plan on the following dates: May 15, 2014 at RCWD and May 6, 2014 at Riverside

County. Stakeholders and project sponsors were invited to adopt the IRWM Plan following adoption by the RWMG.

### 1.5.1 Stakeholder Identification

There has been a history of strong interest by a diverse group of stakeholders in the Region to develop local water supply sources and improve resilience in the event of drought and emergency conditions, while addressing the need for water quality, environmental protection, and recreational and open space opportunities. Many stakeholders (beyond the current SAC membership) have been involved in the IRWM Program and represent the Region's diverse population and water needs, as shown in Table 1-3.

During the 2007 IRWM planning process, the RWMG identified a preliminary list of stakeholder groups and individuals with an interest in watershed planning efforts representing geographical areas of the Region. DACs within the Region were identified through evaluation of Census data. Organizations representing these communities were then personally contacted by phone and email to participate in the IRWM planning process. A stakeholder distribution list was developed to send and receive regular email updates and requests regarding the USMW IRWM Program. The stakeholder distribution list is maintained by the Region's Program Manager, RCWD.

**Table 1-3: USMW IRWM Stakeholders**

Entity Type	Agencies and Entities	
<b>Federal Agencies</b>	<ul style="list-style-type: none"> <li>• Camp Pendleton Marine Corp Base</li> <li>• NOAA Marine Fisheries Service</li> <li>• US Army Corps of Engineers</li> <li>• US Bureau of Land Management</li> <li>• US Bureau of Reclamation</li> <li>• US Bureau of Indian Affairs</li> </ul>	<ul style="list-style-type: none"> <li>• US Department of Agriculture (Natural Resource Conservation Service)</li> <li>• US Environmental Protection Agency</li> <li>• US Fish and Wildlife Service</li> <li>• US Forest Service</li> </ul>
<b>State Agencies</b>	<ul style="list-style-type: none"> <li>• California (CA) Department of Toxic Substances Control</li> <li>• CA Department of Fish and Wildlife</li> <li>• CA Department of Food and Agriculture</li> <li>• CA Department of Water Resources</li> <li>• CA Department of Parks and Recreation</li> </ul>	<ul style="list-style-type: none"> <li>• San Diego Regional Water Quality Control Board</li> <li>• San Diego State University</li> <li>• Southern California Wetlands Recovery Project</li> <li>• State Water Resources Control Board</li> <li>• Wildlife Conservation Board</li> </ul>
<b>State Conservancies and Commissions</b>	<ul style="list-style-type: none"> <li>• Biodiversity Council</li> <li>• California Energy Commission</li> <li>• Coastal Commission</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal Conservancy</li> <li>• State Lands Commission</li> </ul>
<b>Local Agencies</b>	<ul style="list-style-type: none"> <li>• City of Murrieta</li> <li>• City of Temecula</li> <li>• City of Wildomar</li> <li>• County of Riverside</li> <li>• Eastern Municipal Water District</li> <li>• Elsinore/Murrieta/Anza Resource Conservation District</li> <li>• Elsinore Valley Municipal Water District</li> <li>• Metropolitan Water District of Southern California</li> <li>• Mission Resource Conservation District</li> <li>• Western Riverside County Regional Conservation Authority</li> </ul>	<ul style="list-style-type: none"> <li>• Rancho California Water District</li> <li>• Riverside County Farm Bureau</li> <li>• Riverside County Flood Control and Water Conservation District</li> <li>• Riverside Land Conservancy</li> <li>• Santa Margarita River Watershed Watermaster</li> <li>• Southern Riverside County Multi-Species Preserve</li> <li>• Western Municipal Water District</li> <li>• Anza Water Companies</li> <li>• South Coast Resource Conservation and Development Council</li> </ul>
<b>Tribes</b>	<ul style="list-style-type: none"> <li>• Pechanga Band of Luiseno Indians</li> <li>• Cahuilla Band of Mission Indians</li> <li>• Ramona Band of Cahuilla Indians</li> </ul>	
<b>Non-Profit Organizations</b>	<ul style="list-style-type: none"> <li>• Anza Groundwater Association</li> <li>• Anza Valley Chamber of Commerce</li> <li>• Anza Valley Municipal Advisory Council</li> <li>• Boojum Institute</li> <li>• California Chaparral Institute</li> </ul>	<ul style="list-style-type: none"> <li>• Citizens for Quality of Life - Murrieta</li> <li>• Endangered Habitat League</li> <li>• Riverside Lands Conservancy</li> <li>• The High Country Conservancy</li> <li>• Trout Unlimited</li> <li>• Wildomar Multi-Use Trails</li> </ul>

For the 2014 Plan Update, enhanced outreach to facilitate increased involvement from other DACs in the Region was conducted. The existing stakeholder list was reviewed and updated relative to revised DAC regions based on data from the 2006-2010 American Community Survey, historical stakeholder representative attendance and participation, and stakeholder geographic or interest coverage. As a result of this list review, new stakeholder agency/organization representatives were identified and added upon confirmation of their interest. Since 2007, the number of DACs in the Region has grown to include portions of the cities of Temecula and Murrieta, as well as the communities of Anza and Aguanga.

### 1.5.2 Stakeholder Outreach

Stakeholders included on the IRWM Distribution List receive notification of and agendas for upcoming SAC meetings, requests for information or input on IRWM planning activities, notification of funding opportunities, and IRWM-related announcements. While distribution of information is primarily done via email and through the program’s website, stakeholders and other interested members of the public can request that materials be distributed in other formats to accommodate their needs by contacting the Region’s Program Manager (listed on the Region’s website at <http://www.ranchowater.com/index.aspx?nid=200>). Stakeholders are invited and encouraged to attend SAC meetings to participate in and provide input into the IRWM Program. IRWM SAC meetings include IRWM Program announcements, status reports on IRWM projects, status of IRWM grant funding awarded and opportunities, and current activities, including IRWM Plan Update activities such as updating goals and objectives, identifying needs and strategies, determining climate change vulnerabilities, developing and reviewing projects, and updating the regional description.

To increase stakeholder involvement in the 2014 IRWM Plan Update, four E-Newsletters were developed and distributed. These newsletters (located in Appendix E) were prepared to inform and solicit input and involvement from stakeholders at various stages of the IRWM Plan development:

- Kick-off to 2014 Plan Update and how stakeholders can get involved
- 2013 “Call for Projects” to be included in the 2014 Plan Update
- Announcing Climate Change Workshop
- Release of the Draft IRWM Plan for public review



USMW IRWM Plan Update Fact Sheets were also developed (included as Appendix E) with specific information on specialized IRWM Plan topics tailored to key stakeholder audiences. Additional outreach efforts were conducted to encourage participation by DACs and tribal communities, as described below.

### 2014 IRWM Plan Update Fact Sheets

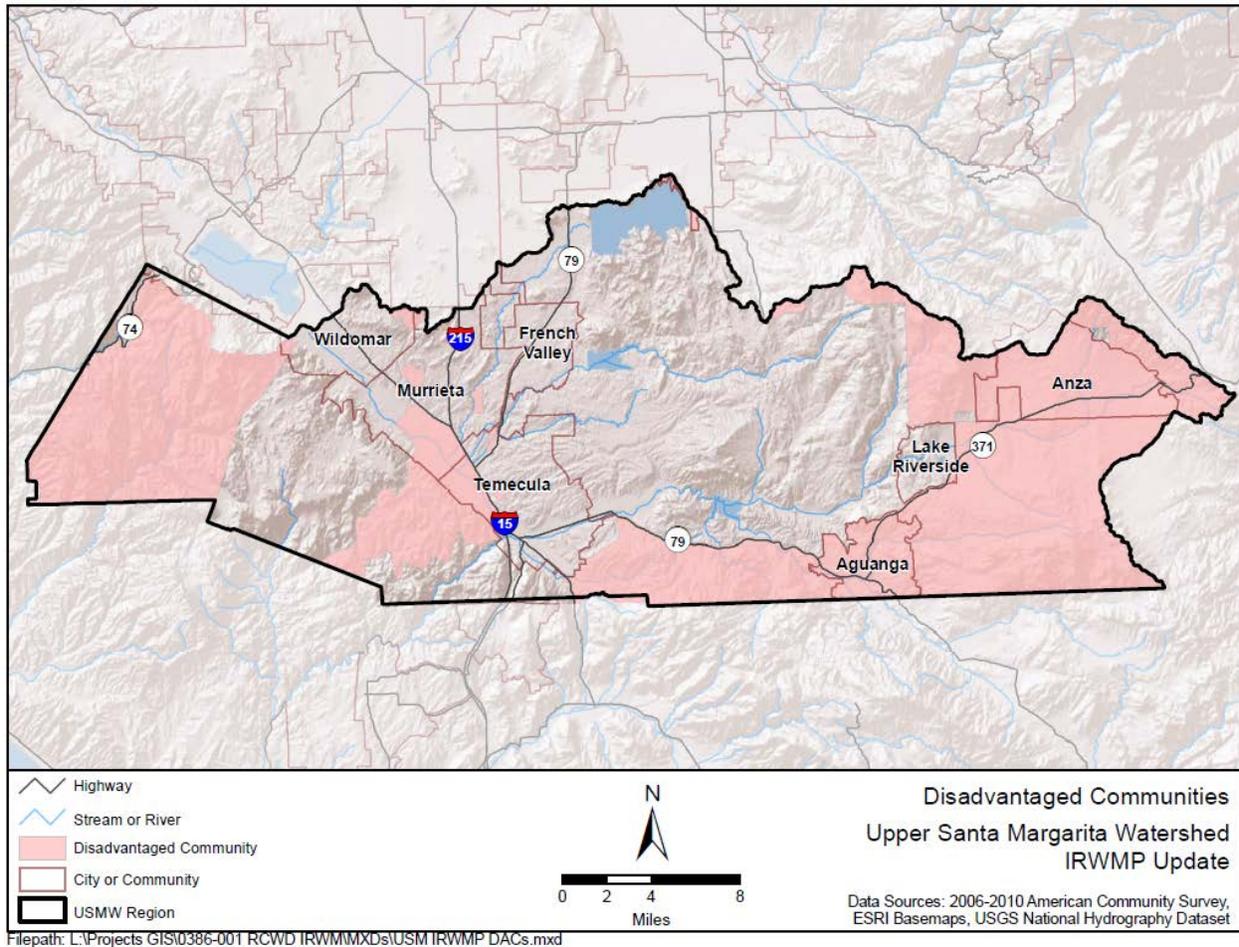
- **What is an Integrated Regional Water Planning Project?** Provides details on the newly revised IRWM project development, review, and selection process for the USMW Region, including IRWM project definitions and examples.
- **Is your Disadvantaged Community on the Map Below? IRWM can help!** Provides targeted messaging on specific DAC-related elements of the IRWM Program and how the Region can facilitate and support project development and funding to meet water resources needs.
- **Is your Tribal Community on the Map Below? IRWM can help!** Provides targeted messaging to Tribes on how the IRWM Program can facilitate and support project development and funding to meet water resources needs.
- **2014 IRWM Plan at a Glance** Provides an overview of the 2014 IRWM Plan, including its governance, issues, objectives, projects, and implementation.

### DAC Outreach

The USMW Region has several communities and areas that have been identified as DACs according to DWR's guidance. These areas include the communities of Anza and Aguanga and portions of the cities of Murrieta and Temecula, which are further described in Chapter 2 Regional Description and shown in Figure 1-3.

When the initial 2007 IRWM Plan was developed, representatives from the IRWM Plan development team met with stakeholders in the Anza area and attended the Anza Valley Municipal Advisory Council (AVMAC) meetings to explain the IRWM Plan process. The AVMAC was formed to facilitate public involvement in community development topics such as water, transportation, and land use.

AVMAC's groundwater efforts, assisted through the IRWM Program, led to the creation of the Anza Groundwater Association (AGWA). The purpose of the AGWA is to pursue opportunities that expand and share knowledge relating to the quality and quantity of groundwater in the Anza area. AGWA representatives are regular participants in the SAC and the Project Review Subcommittee.

**Figure 1-3: Disadvantaged Communities in the USMW Region**

DAC representatives are included on the IRWM Distribution List and receive all stakeholder communication, as noted in the Stakeholder Outreach section above. To further engage participation from representatives in these areas, the RWMG assigned Regional representatives to personally contact potential DAC representatives at both the city and community level. In particular, an effort to outreach to any special community based organizations of “pocket” groups that might best represent DAC interests was conducted.

A fact sheet, included in Appendix E, was also prepared that targeted DACs to inform them of how the IRWM program can help the DACs with their water resources needs, and encourage them to participate in the IRWM Program.

### Tribal Outreach

There are three tribal lands within the USMW Region including lands for the Pechanga Band of Luiseno Indians, the Cahuilla Band of Indians, and the Ramona Band of Cahuilla Indians. Tribal representatives are included on the IRWM Distribution List and receive all stakeholder communication, as noted in the Stakeholder Outreach section above.

The IRWM stakeholder process conducted as part of the 2007 IRWM Plan yielded partnerships between RCWD and the Cahuilla and Ramona Indian bands that has resulted in a December 2008 agreement that will provide the Pechanga tribe with rights to water from the Upper Santa Margarita Watershed.

The 2014 IRWM Plan Update involved additional outreach to tribal communities to encourage participation in the update process. The Region contacted tribal representatives to individually invite and encourage them to take part in the IRWM Plan Update. A fact sheet, included in Appendix E, was also prepared that targeted tribal communities to inform them of how the IRWM program can help the tribal community with its water resources needs, and encourage them to participate in the IRWM Program.

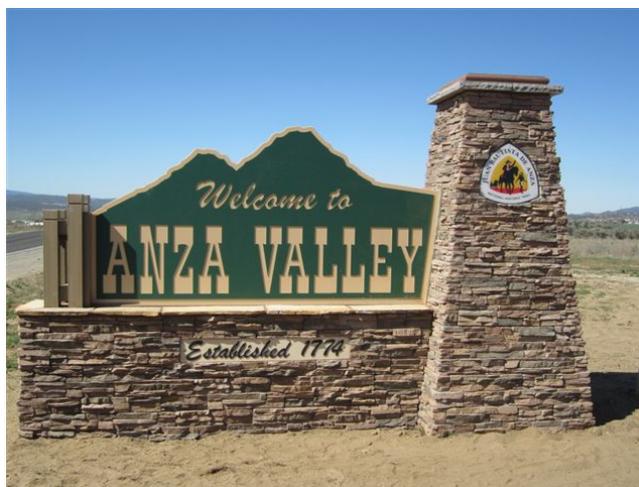
### 1.5.3 Stakeholder Outreach Outcomes

The stakeholder outreach efforts conducted through the USMW IRWM Program have led to a widespread involvement in the development of the 2014 IRWM Plan Update, as well as the development and implementation of several other USMW IRWM Program related beneficial planning efforts and projects. Focused workshops and meetings led to the determination of the Region's issues, development of refined goals and objectives, creation of a list of integrated projects to achieve objectives and strategies, an improved project review process, incorporation of key climate change planning considerations, increased understanding of the needs of DACs and tribal communities, and adoption of the IRWM Plan.

To facilitate the 2014 Plan Update, RWMG and SAC meetings included workshop topics focused on updating the Region's issues, goals and objectives. The Region first evaluated the issues discussed in the 2007 IRWM Plan, and determined what issues had changed and what issues were new or needed more focus. Based on these refined issues, a set of goals and objectives were developed. In this way, the Region was able to streamline and tailor its previous 2007 goals and objectives to make them relevant to its current issues and needs.

The Region also conducted a Project Integration and Development Workshop for stakeholders to discuss potential IRWM projects, and receive information on how to submit a project for inclusion in the IRMW Plan. This workshop allowed project proponents to get input on their projects from a diverse group of regional and regulatory stakeholders and interested parties. The workshop also allowed for potential project partnerships to be formed that could further enhance the regional or integrated nature of projects.

The additional DAC and tribal outreach conducted through the update allowed the



Region to have an increased understanding of the needs and interests to these communities. Personal communication with representatives from DACs and tribes encouraged these communities to attend meetings to provide input on the IRWM Plan Update, and to submit projects for inclusion in the Plan. A specific example of a successful DAC outreach outcome is a grant obtained by The High Country Conservancy to allow it to conduct a DAC groundwater study in the Anza area. This effort is expected to lead to the development of a groundwater management plan for the area.

Finally, climate change planning considerations were added into the IRWM Plan through review of statewide, regional and local documents, as well as through stakeholder input. A stakeholder meeting was conducted to allow stakeholders representing various water resources management entities to provide input on how to prioritize the Region's climate change vulnerabilities. Based on this input and document review, it was possible to include strategies for responding to and mitigating against climate change.

## 1.6 Regional Coordination

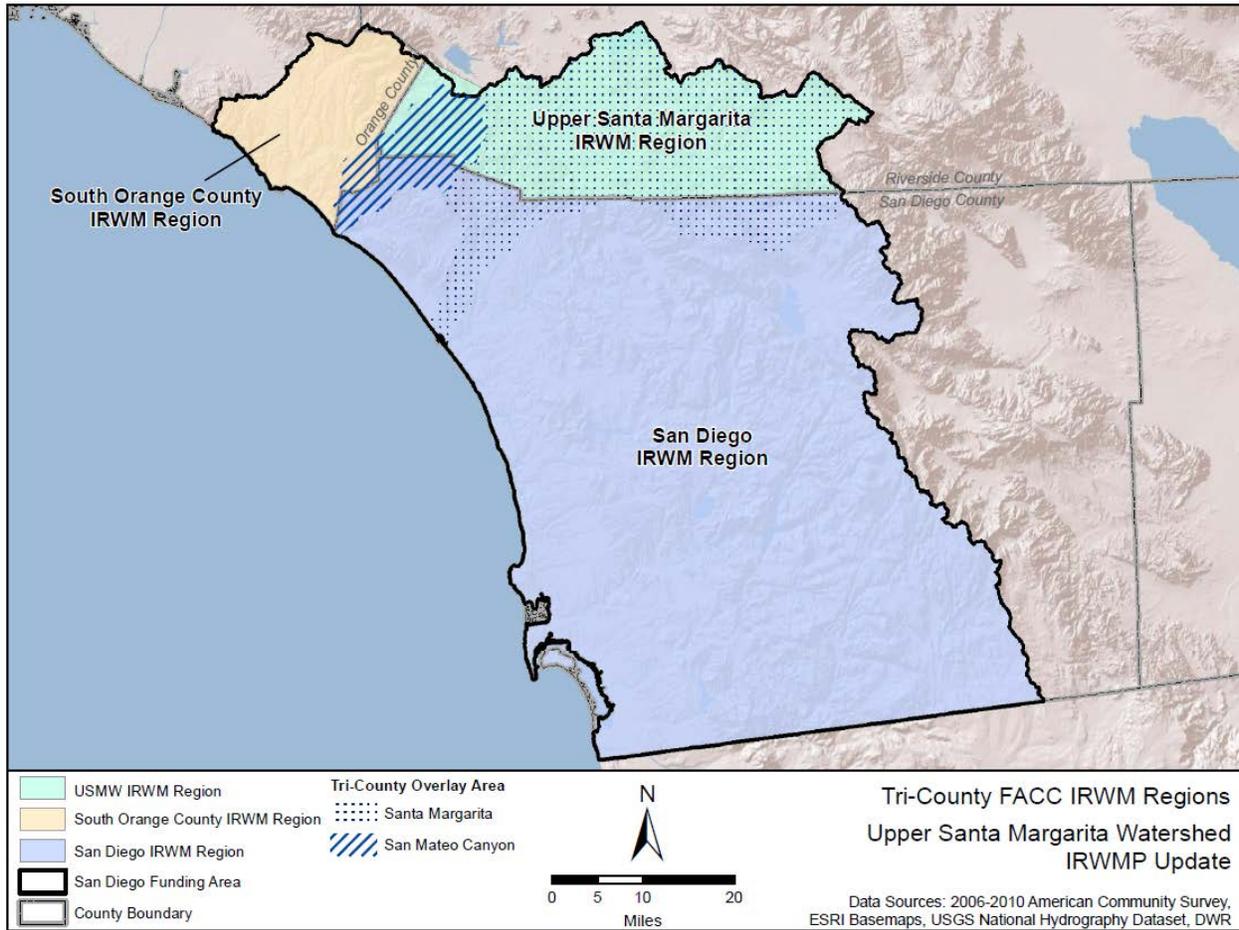
The Region has made efforts to coordinate with local, regional, and statewide planning. The following is a discussion of how the Region has coordinated with neighboring IRWM Regions, water resources planning, and land use planning in the development and on-going implementation of its IRWM Plan.

### 1.6.1 Coordination with Neighboring IRWM Regions

#### Tri-County Funding Area Coordinating Committee

DWR's San Diego Funding Area includes the USMW, San Diego, and South Orange County IRWM Regions (Figure 1-4). The RWMGs of each Region collaborate in the inter-regional body known as the Tri-County FACC established via an MOU. The Tri-County FACC enables the three RWMGs to balance the necessary autonomy of each planning region with the need to improve inter-regional cooperation and efficiency. The RWMGs work together with their advisory groups to: identify cross-boundary projects and common programs of value across planning regions, identify common objectives, align project implementation, and develop funding agreements. The three RWMGs commit to coordinated planning within two Tri-County FACC Watershed Overlay Areas: 1) San Mateo Creek, and 2) Santa Margarita River. Overlay projects have been developed, such as the *Implementing Nutrient Management in the Santa Margarita River* project, which will benefit multiple planning regions and may be jointly funded, administered, or implemented.

**Figure 1-4: Tri-County Funding Area IRWM Regions**



Historically, the entities in the Tri-County FACC suffered prolonged disagreement and litigation on water supply issues. With the legal settlements and agreements that have been developed over the past several years, members of the Tri-County FACC cooperatively manage water allocation on many levels. Significant agreement now exists on imported water allocation within the Funding Area and cooperative efforts to expand the storage and management of these resources are underway. Additionally, the Santa Margarita River Watershed Overlay Area is beginning to benefit from a very recent settlement on the Santa Margarita River which resolves longstanding claims to water rights by the Pechanga Band of Luiseno Indians. Significant funding for projects to benefit the upper and lower Santa Margarita River areas were recently authorized and funded in the Federal Omnibus Lands Bill signed in March 2009.

The Tri-County FACC has been meeting since 2008 and continues to meet at least twice per year or more often as-needed. The Tri-County FACC members have committed to coordinated planning to enhance the quality of planning, identify opportunities for supporting common goals and projects, and to improve the quality and reliability of water in the Funding Area. The planning efforts support the watershed-based approach through integration and coordination across the three IRWM planning regions, specifically to coordinate work in the San Juan

Watershed and the Santa Margarita River Watershed, both of which lie within at least two of the three IRWM regions. Further, planning and coordination include cross-boundary projects, common programs, and IRWM grant funding.

The Tri-County FACC agreement includes the following three aspects: 1) information sharing, 2) shared infrastructure, and 3) competing interest, which are discussed below.

### **Information Sharing**

The RWMGs comprising the Tri-County FACC have agreed to share data and information to inform efforts within the San Diego Funding Area and inter-regionally. This information sharing helps to facilitate collaboration and address inter-regional needs. Some of the organizations that help in this data sharing effort include the San Diego Regional Water Quality Control Board and the Stormwater Monitoring Coalition, which is discussed further under *Other Inter-Regional Collaboration*. Each of the IRWM Plans in the San Diego Funding Area includes sections on data management and project selection. The Tri-County FACC acts in an advisory role to assist in the development of these sections, particularly in projects and program that may cross IRWM region boundaries. Additionally, projects of importance to the watershed that exist in multiple IRWM regions are identified for coordination and prioritization in each of the relevant region's project selection process.

Within the USMW IRWM Region, members of the San Diego RWMG and the South Orange County RWMG are invited to attend SAC meetings, in order to stay better informed of the priorities and needs of the USMW IRWM Region and provide feedback through the public participation process. Likewise, USMW RWMG members and the Region's Program Manager are invited to and attend the San Diego IRWM Regional Advisory Committee meetings.

### **Shared Infrastructure**

Each of the IRWM Regions in the Tri-County FACC is dependent on imported water supplied through Metropolitan Water District of Southern California (MWD). As such, they share much of the same water infrastructure. Shared imported water infrastructure includes the Colorado River Aqueduct, Diamond Valley Lake, Lake Skinner, and other major pipelines, all of which are owned and operated by MWD. The Lake Skinner Water Treatment Plant, also owned by MWD, serves over 4 million people in the Tri-County FACC area. In addition to MWD-owned imported water infrastructure, members of the Tri-County FACC also share pipelines used to supply parts of Camp Pendleton. This use of shared infrastructure helps provide common interests between the members of the Tri-County FACC, promoting collaboration between the RWMGs.

### **Competing Interests**

Entities in the three Tri-County FACC regions have occasionally found themselves in conflict over water supply issues in the Watershed Overlay Areas. However, various agreements and legal settlements have led to a cooperative management of water allocations between these entities. Currently, there is significant agreement on water allocations, and the Tri-County FACC supports collaborative efforts to improve the storage and management of water resources. Recently, some long-standing conflicts have been resolved, and cooperative projects funded.

The Tri-County FACC has entered into an agreement to share the Proposition 84 IRWM funds allocated by DWR to the San Diego Funding Area. The agreement facilitates coordination between the RWMGs by reducing competition and conflicts over funding.

Though not all water-related conflicts have been resolved, the Tri-County FACC agreement shows the willingness of these agencies to work collaboratively to solve important water resource conflicts, furthering the integration of water resource management.

### Other Inter-Regional Collaboration

Key organizations that facilitate inter-regional planning include MWD, the Stormwater Monitoring Coalition, and the San Diego Regional Water Quality Control Board (RWQCB). USMW RWMG and SAC members also collaborate in support of MWD drought and conservation programs, such as a 2008 Water Supply Alert in Southern California that increased MWD's water conservation efforts throughout its six-county service area. The Water Supply Alert urged cities, counties, local public water agencies and retailers to achieve extraordinary conservation by adopting and enforcing drought ordinances, accelerating public outreach and messaging, and developing additional local supplies.

The USMW Region is collaborating to address water quality concerns via the Stormwater Monitoring Coalition (SMC). This group is comprised of all Phase I municipal stormwater National Pollutant Discharge Elimination System (NPDES) lead permittees and NPDES regulatory agencies in southern California. USMW RWMG member Riverside County Flood Control and Water Conservation District is part of the SMC, as well as the County of Orange and the County of San Diego. SMC members have combined resources to address data gaps and cooperate on developing technical information and tools to improve stormwater decision making, as well as improve monitoring effectiveness by promoting standardization and coordination across individual NPDES municipal programs. USMW Region members are also participants in stakeholder groups with the RWQCB in development and implementation of various Total Maximum Daily Loads (TMDLs) as each goes through the TMDL Basin Plan amendment process.

### 1.6.2 Coordination with Local Water and Land Use Planning Efforts

The USMW IRWM stakeholder outreach and involvement process allows for interactive feedback to occur between local planning efforts (both water and land use) and IRWM planning. Within the USMW Region, local planning is conducted by counties, cities, local agencies and special districts. The County of Riverside, cities and water agencies within the Region selected representatives to regularly attend and participate in IRWM meetings and workshops, providing valuable input.

In addition, existing local, regional and statewide plans were reviewed for relevant information to include as a part of the IRWM Plan Update. The relevant plans, listed in Table 1-4, were used to further refine the Region's description, vision, goals, objectives, and strategies articulated in the 2014 Plan Update, and were used to help develop the Region's short- and long-term

priorities for water management. Table 1-4 lists each plan, describes its planning jurisdiction, how it applies to the Region, and its update schedule.

The Region recognizes the importance of collaboration between land use planning and water resources management. The processes in place for updating the Region description, objectives, strategies, and projects incorporates input from land use planners that are a part of the SAC, and those who take part in stakeholder meetings. It will be necessary to continue coordination with these land use planners to ensure that the IRWM Plan is appropriately implemented.

For example, one of the updated goals discussed in Chapter 3 of the IRWM Plan is to promote economic, social, land use and environmental sustainability. Meeting this goal will involve coordination with land use planners to improve recreation and open space, recognize and support DACs, and adapt to and mitigate against climate change. This goal will require continued coordination with land use planners to ensure that appropriate projects and policies are implemented. This may occur through regular SAC meetings, or through additional meetings between the RWMG and land use planners.

**Table 1-4: IRWM Plan Relation to Local Planning Documents**

Planning Document	Jurisdiction	Relation to IRWM Plan	Updates
California Water Plan (DWR, 2013)	Water resources planning	Includes the California Water Plan statewide discussion of water resources in California, including resource management strategies, strategic planning, and regional discussions.	Every five years
City of Temecula General Plan (Temecula, 2005)	Land use and zoning	Includes land use and zoning information, and growth projections for the City of Temecula	As needed
City of Murrieta General Plan (Murrieta, 2011)	Land use and zoning	Includes land use and zoning information, and growth projections for the City of Murrieta	As needed
Eastern Municipal Water District 2010 UWMP (EMWD, 2011)	Water supply/ wastewater	Provides current and projected water supply and demand, drinking water supply/quality issues, population and facilities	Every five years
Rancho California Water District Integrated Resources Plan (RCWD, 2005)	Water supply / wastewater	Provides water supply and quality issues and needs	As needed
Rancho California Water District Agricultural Water Management Plan (RCWD, 2012)	Water supply / wastewater	Includes current and projected agricultural water supply and demand, water quality issues and facilities	Every five years
Rancho California Water District 2010 UWMP (RCWD, 2011)	Water supply / wastewater	Provides current and projected water supply and demand, drinking water supply/quality issues, population and facilities	Every five years
Riverside County Flood Control and Water Conservation District Master Drainage Plans - Anza/Wilson Creek (RCFC&WCD, 1988)	Flood management	Includes flood risk and management information for the Anza/Wilson Creek drainage area	As needed
Riverside County Flood Control and Water Conservation District Master Drainage Plans - Murrieta Creek (RCFC&WCD, 2004)	Flood management	This master drainage plan includes flood risk and management information for the Murrieta Creek drainage area	As needed
Riverside County General Plan, including subsections: Riverside Extended Mountain Area Plan and Southwest Area Plan (County of Riverside, 2008)	Land use and zoning	Includes land use and zoning information, and growth projections for the Riverside County area	As needed

Planning Document	Jurisdiction	Relation to IRWM Plan	Updates
Temecula Valley Basin Salt and Nutrient Management Plan (RCWD, 2014)	Water quality	Includes current status of salts and nutrients entering the Region, and planning for management of salts and nutrients	As needed
San Mateo Creek Watershed Workplan (Orange County, 2013)	Land use and stormwater	Includes information on the sources of pollution entering the San Mateo Creek watershed and a strategic plan for reducing pollution	Annually
Santa Margarita River Watershed Management Plan (County of San Diego, 2005)	Land use and stormwater	Includes existing supply, quality, flooding, and habitat issues, as well as goals and recommendations for future management	As needed
Santa Margarita – San Luis Rey Weed Management Area website	Land use	Provides mapping of and information on invasive plant species within the watershed	As needed
Santa Margarita Watershed Urban Runoff Management Program (County of San Diego, 2008)	Water quality	Includes the sources of pollution entering the Santa Margarita River watershed, and a strategic plan for reducing pollution	As needed
Valley-Wide Recreation and Park District Master Plan (Valley-Wide Recreation and Park District, 2010)	Land use	Contains planning for unincorporated areas of Riverside County including the Santa Margarita Watershed	As needed
Water Quality Control Plan for the San Diego Basin (RWQCB, 2012)	Water quality	Includes 303(d) listings, beneficial uses, TMDLs, and plans for control of pollutants to surface waters	As needed
Western Municipal Water District 2010 UWMP (WMWD, 2011)	Water supply/ wastewater	Provides current and projected water supply and demand, drinking water supply/quality issues, population and facilities	Every five years
Western Riverside County Multiple Species Habitat Conservation Plan (County of Riverside, 2003)	Land use	Includes a description of species habitat conservation areas, and planning for future areas	As needed

## 2 Region Description

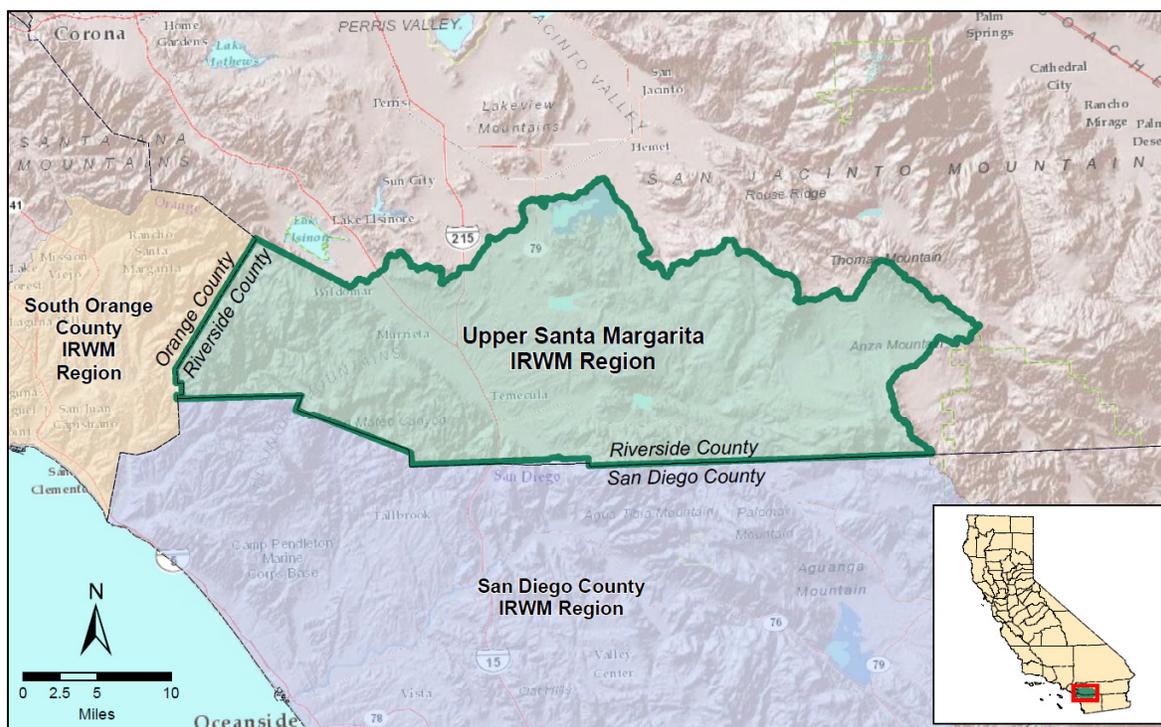
The purpose of this chapter is to define the USMW Region through descriptions of its boundaries, water demands, supply sources, water quality, ecological and environmental processes, land uses, social characteristics, and economic trends and conditions. Understanding the unique nature of the USMW Region is key to developing truly meaningful IRWM planning needs, goals and objectives, resource strategies, and projects as described in subsequent chapters of this 2014 IRWM Plan Update.

### 2.1 Regional Boundaries

#### 2.1.1 IRWM Boundaries

The USMW IRWM Region covers an area of approximately 640 square miles (410,000 acres) in southwestern Riverside County, as shown in Figure 2-1. Its boundary is defined as the portions of the Santa Margarita River Watershed and the San Mateo Watershed that lie within Riverside County. The remaining portion of the Santa Margarita River Watershed lies within the adjacent San Diego IRWM Region to the south, and the remaining portion of the San Mateo Watershed lies within the adjacent South Orange IRWM Region to the west. The IRWM boundaries allow for full coverage of these watersheds without over-expanding the size of the planning area beyond stakeholders' ability to participate. All three of these IRWM Regions compose the entire San Diego Funding Area.

Figure 2-1: IRWM Region Location



### 2.1.2 Watershed Boundaries

Drainage in the basin is provided by the Upper Santa Margarita Watershed with flows from Temecula and Murrieta Creeks, and by portions of the Upper San Mateo Watershed with flows primarily from San Mateo Creek. Major tributaries of Temecula Creek include Pechanga Creek and Wilson Creek via Vail Lake. Major tributaries of Murrieta Creek include Saint Gertrudis, Tualota (via Lake Skinner), and Warm Springs Creeks. After the convergence of Temecula and Murrieta Creeks, other major tributaries to the Santa Margarita River include De Luz, Sandia, Rainbow, and Fallbrook Creeks. Tributaries to San Mateo Creek include Devil Canyon, Cold Spring Canyon, San Mateo Canyon, Los Alamos Canyon, Wildhorse Canyon, Tenaha Canyon, Bluewater Canyon, Nickel Canyon, Christianitos Creek, Gabino Canyon, La Paz Canyon, Blind Canyon and Talega Canyon. These physical watershed boundaries are presented in Figure 2-2.

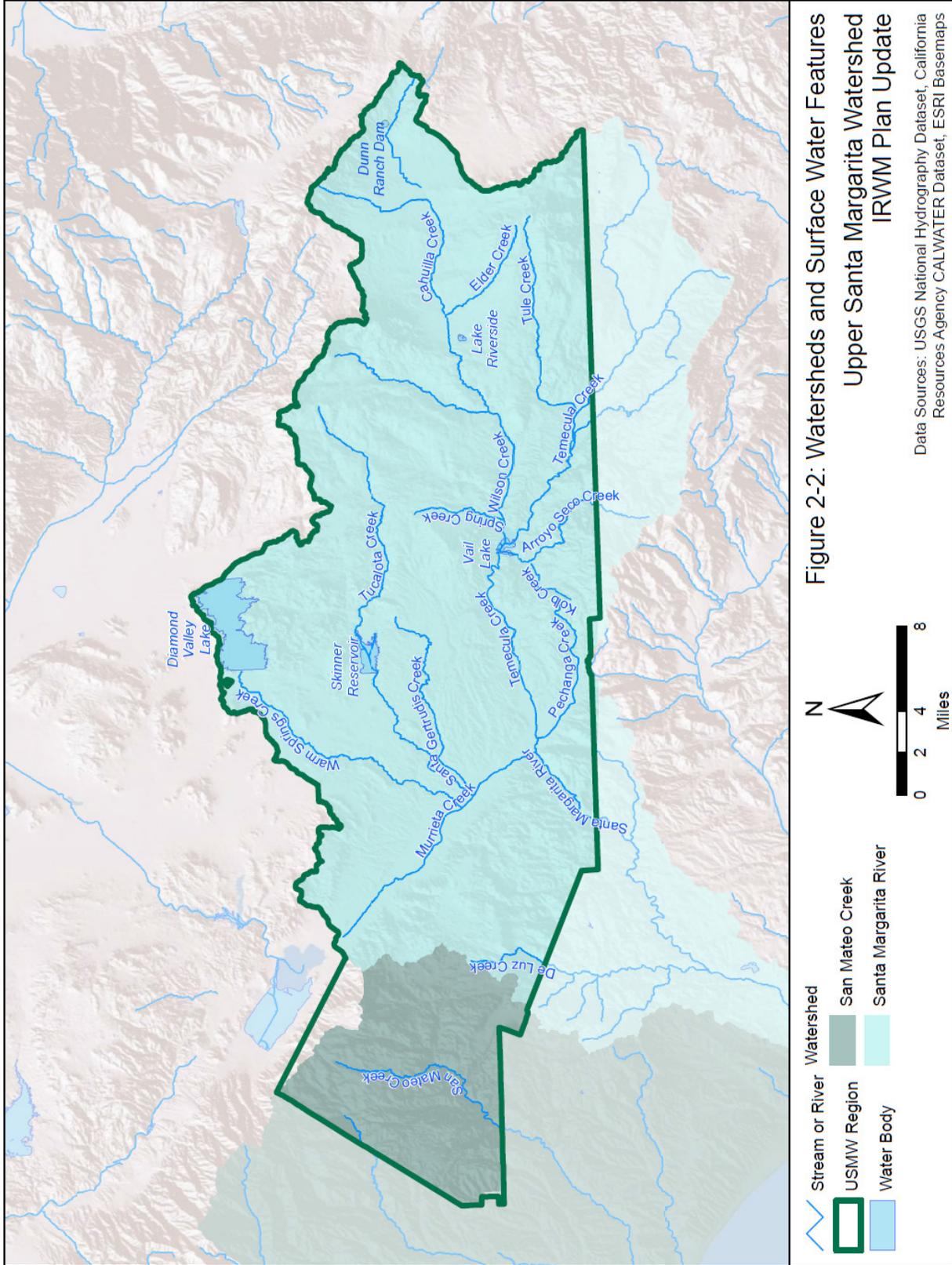
Temecula Creek and its tributaries drain approximately 366 square miles with the upper portion of the watershed artificially controlled by a dam at Vail Lake. Murrieta Creek and its tributaries drain approximately 222 square miles in the northwest portion of the Region. At the Elsinore fault zone, located at the top of Temecula Canyon and near the City of Temecula, the drainage systems merge forming the Santa Margarita River. From this point, the river flows through the Temecula Gorge and then into the San Diego Region near Fallbrook for approximately thirty miles before ultimately draining into the Pacific Ocean. The Temecula Gorge and Santa Ana Mountains just south of the confluence of the Temecula and Murrieta Creeks in the Santa Margarita River Watershed serve as a natural barrier between the lower and upper watersheds.

San Mateo Creek and its tributaries drain approximately 140 square miles, beginning in the San Ana Mountains, flowing through the South Orange County Region, and ending in the San Diego Region at the Pacific Ocean near San Onofre State Beach.

This USMW Plan recognizes the physical interconnectivity inherent in Regions that share watersheds, and as described in Chapter 1, coordinates planning efforts within the Santa Margarita and San Mateo watersheds with neighboring IRWM Regions through the Tri-County FACC.

### 2.1.3 Internal Boundaries

Regulatory and management boundaries characterize the Region by jurisdictional and land management agencies (including reserves, local, state, Native American, and federal jurisdictions and agencies), water and wastewater districts, flood control districts and groundwater basins. Groundwater basin boundaries and characteristics are discussed in Section 2.3.



The USMW Region is within the boundaries of the San Diego Regional Water Quality Control Board (RWQCB). The San Diego RWQCB is, therefore, tasked with regulating surface water quality throughout the Region. Eight of the nine hydrologic areas defined for the Santa Margarita Watershed in the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) are in the Region or partially within: Wilson, Cave Rocks, Auld, Murrieta, Oak Grove (partial), Aguanga (partial), Pechanga (partial), De Luz (partial), while the remainder of the Region is comprised of the San Mateo Watershed, included in the Basin Plan under the San Juan Watershed.

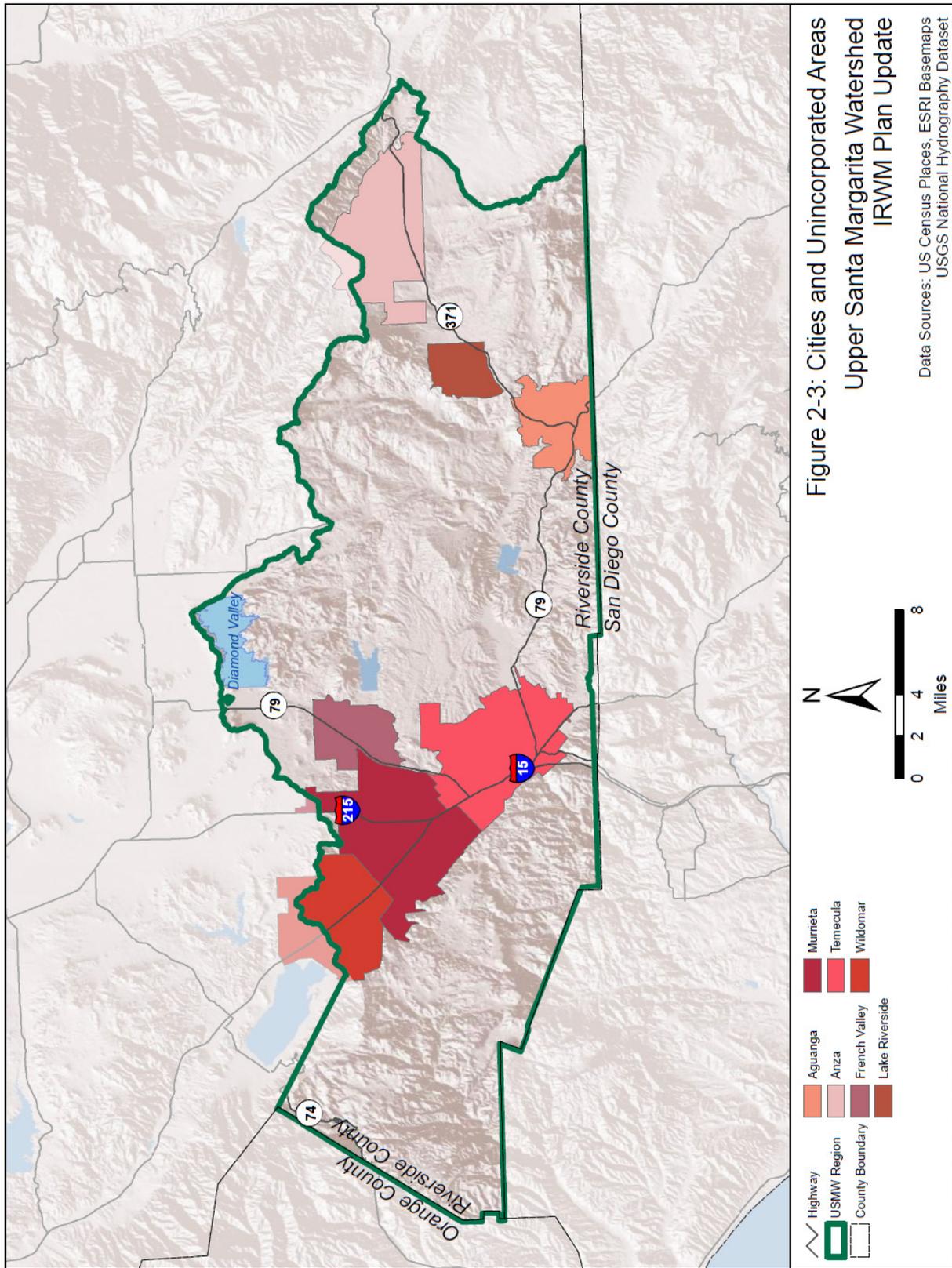
Multiple local, state, Native American and federal agencies have jurisdiction over land management in the Region. Table 2-1 lists the cities, unincorporated areas, ecological reserves, tribal reservations, and state and federal lands in the Region. Figure 2-3 illustrates the jurisdiction of cities and unincorporated areas.

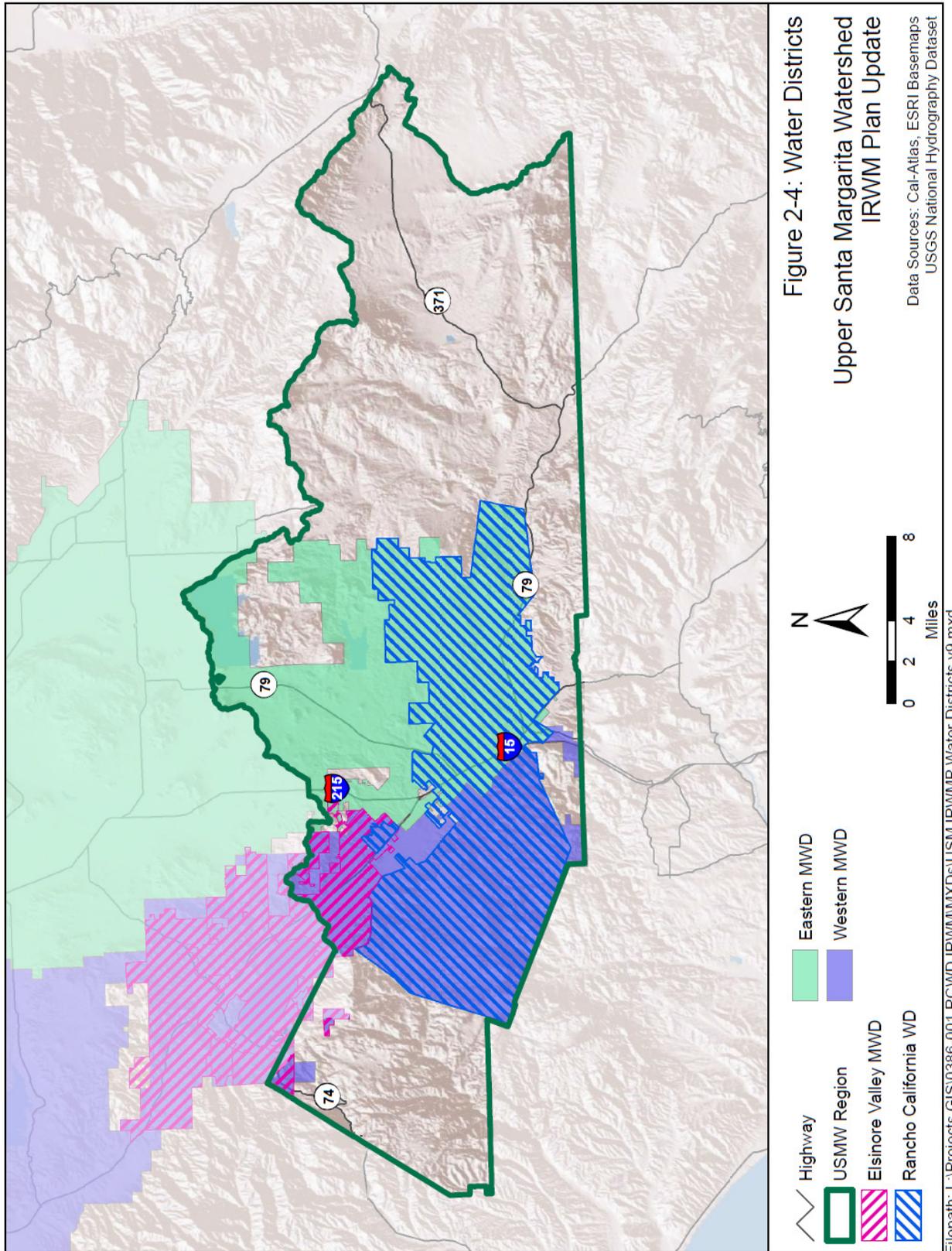
**Table 2-1: Cities, Unincorporated Areas, Ecological Reserves, Tribal Reservations, State and Federal Lands in the Region**

Cities and Unincorporated Areas	Tribal Reservations
<ul style="list-style-type: none"> <li>• Murrieta</li> <li>• Temecula</li> <li>• Wildomar</li> <li>• Riverside County (including French Valley, Lake Riverside, Anza, and Aguanga)</li> </ul>	<ul style="list-style-type: none"> <li>• Pechanga Reservation</li> <li>• Cahuilla Reservation</li> <li>• Ramona Reservation</li> </ul>
Ecological Reserves	Federal Lands
<ul style="list-style-type: none"> <li>• Santa Rosa Plateau Ecological Area (Riverside County Regional Park and Open Space)</li> <li>• Emerson Oak Reserve (University of California Natural Reserve System)</li> <li>• Southwest Riverside Multi-Species Reserve</li> <li>• Santa Margarita Ecological Reserve (San Diego State University)</li> </ul>	<ul style="list-style-type: none"> <li>• Bureau of Land Management</li> <li>• United States Forest Service (Cleveland and San Bernardino National Forests)</li> <li>• Other Federal Lands</li> </ul>
	State Lands
	<ul style="list-style-type: none"> <li>• Anza Borrego State Park</li> <li>• Other State Lands</li> </ul>

Water and wastewater services in the Region are primarily provided by four water and wastewater districts: Elsinore Valley Municipal Water District (EVMWD), Eastern Municipal Water District (EMWD), Western Municipal Water District (WMWD), and RCWD. Boundaries for the agencies are also delineated in Figure 2-4 along with adjacent water agencies outside of the Region. EMWD and WMWD are wholesale and retail water agencies. EVMWD and RCWD are retail agencies. As shown in Figure 2-4, these water and wastewater districts primarily serve the Temecula Valley area within the Region. The rural communities to the east of Temecula, including Anza, rely on private groundwater wells to meet water demands.

Flood control and stormwater quality within the Region is overseen by the RCFC&WCD. RCFC&WCD is also responsible for conserving and reclaiming stormwater for beneficial use.





## 2.2 Water Demand

One of the multiple drivers of water demand and supply projections is demographic projection. Until recently, the Region has been a rapidly growing area, but due to a recent economic downturn as well as implementation of water use efficiency measures, there have been significant decreases in water demand. This is reflected in the change in water demand in the Region between the 2007 IRWM Plan which projected 2010 demand to be nearly 150,000 acre AFY, and this IRWM Plan Update which estimates 2010 demand to be 133,000 AFY. Population growth is discussed here, while housing and economic growth are discussed in Section 2.8.

Water districts servicing the Region do not segregate water demand and supply projections by watersheds. Three of the four water districts within the Region, EVMWD, WMWD, and EMWD, service additional areas that extend beyond the boundaries of the Region. Only one water district, RCWD, is contained entirely within the Region. Therefore, water demand and supply projections for the Region are not readily available from the agencies. A methodology to estimate water supply and demands within the Region was developed based on data contained in the Urban Water Management Plans (UWMPs) for the individual water districts and population data. An explanation of the methodology is provided below.

### 2.2.1 Population Projections

Within the Region, the population is expected to continue to grow over the next 20 years at an average yearly rate of approximately 4,370 residents, representing a 1.6 percent annual growth rate for a total growth rate of approximately 140 percent as indicated in Table 2-2. Over the projection period this will lead to approximately 109,200 new residents. Within the Region, the fastest growing region is the City of Wildomar with an annual growth rate of approximately 2.8 percent or approximately an additional 600 new residents each year over the forecast period. The City of Temecula is expected to increase at an average annual growth rate of 0.9 percent, followed by Murrieta with an average annual growth rate of 0.7 percent over the forecast period. The unincorporated areas were estimated to grow at the same rate as unincorporated Riverside County at approximately 4.4 percent annually.

Population projections are based on data from the 2010 Census and the 2012 Southern California Association of Governments (SCAG) Adopted Growth Forecast. The total 2010 population in the Region and the proportion of the City of Wildomar in the Region was determined using Geographic Information Systems (GIS) 2010 Census data.

**Table 2-2: Population Projections by City and Unincorporated Areas**

	2010	2015	2020	2025	2030	2035
City of Murrieta	103,466	106,917	110,482	114,458	118,577	122,844
City of Temecula	100,097	106,544	113,406	116,539	119,758	123,067
City of Wildomar	21,558	24,581	28,027	30,601	33,412	36,481
Unincorporated Areas	47,279	54,186	62,102	72,599	84,871	99,217
<b>Total</b>	<b>272,400</b>	<b>292,227</b>	<b>314,017</b>	<b>334,198</b>	<b>356,619</b>	<b>381,609</b>

Source: 2010 U.S. Census and SCAG population projections.

## 2.2.2 Water Demand Projections

Correlating to the increase in population, water demands in the Region are also expected to continue to increase. Projected demands for the Region were developed as a sum of actual water demands for RCWD and an estimate for the remaining area within the Region extrapolated from water demand projections of the other water suppliers that include portions of service areas outside of the Region.

Total water demands for the Region presented in Table 2-3 reflect a normal water year (average weather pattern). Water demands are projected to increase annually at approximately 3 percent or approximately 3,500 AFY. Over the projection period, total demands for a normal weather pattern are expected to increase by 166 percent or nearly 88,000 acre-feet (AF). Total demands include demands for both potable and recycled water. As discussed in Section 2.3, projected recycled water supplies are expected to dramatically increase over the projection period.

**Table 2-3: Regional Water Demand<sup>1</sup>**

	2010	2015	2020	2025	2030	2035
RCWD	65,392	78,405	82,882	87,371	91,649	91,785
Remainder of Region	67,846	84,798	95,091	103,500	114,571	129,442
<b>Total Water Demands</b>	<b>133,238</b>	<b>163,203</b>	<b>177,973</b>	<b>190,871</b>	<b>206,220</b>	<b>221,227</b>

## 2.3 Water Supply Sources

Water districts in the Region have developed multiple water supply sources to ensure supply reliability. Major supply sources include surface, ground, recycled, and imported water. Imported water is the largest water supply source in the Region, with well over 50 percent of demands met through imported water. Desalted water is not a water resource in the Region as

<sup>1</sup> Water demands for the areas outside of the RCWD service area were determined using multiple steps. First, the population and demands for RCWD were obtained from its 2010 UWMP. Next, the total population within the Region was determined by subtracting RCWD's forecast population from the population data presented in Section 2.2.1. Average per capita demand for RCWD was then calculated by dividing the sum of the total water demand by the District's estimated population. Finally, to determine total water demands in the Region, the per capita demands for RCWD was multiplied by the population of the remainder of the Region and added to RCWD's water demands.

all groundwater basins are of sufficient quality that desalting is not required and the Region is not geographically positioned for ocean desalination. The Region will be documenting and quantifying water conservation as a source in future planning beginning in the 2015 UWMPs.

Drinking water resources in the Region are governed by multiple legal, institutional, and regulatory issues and standards. California Title 22 Drinking Water Standards (Title 22) incorporates the federal requirements of the Safe Drinking Water Act, and compliance with Title 22 is required by all water service providers. Therefore, Title 22 monitoring of all regulated chemicals, as well as a number of unregulated chemicals, is conducted by water agencies in the Region. In order to be in compliance with Title 22, each agency must ensure that the regulated chemicals meet established primary drinking water standards to ensure the safety of the water supply. In addition to the primary drinking water standards, secondary drinking water standards have been set for some minerals based on non-health related aesthetics, such as taste and odor. Both primary and secondary standards are expressed as the maximum contaminant levels (MCLs) that are allowable for a given constituent. Unregulated chemicals do not have established drinking water standards, but are chemicals of concern for which standards may be eventually adopted. These unregulated chemicals often have a “notification level”, which is a health based advisory level established by the California Department of Public Health (CDPH) for chemicals in drinking water that lack MCLs.

Legal, institutional, and regulatory issues specifically impacting the four major supply sources are discussed in detail below.

### 2.3.1 Imported Water Supplies

Treated and untreated surface water imported from MWD serves as the largest single source of water for the Region. Major imported water sources and facilities are depicted in Figure 2-5, including MWD’s reservoirs, Diamond Valley Lake and Lake Skinner. Imported water provided by MWD is deemed reliable through 2035 in all hydrologic conditions based on the MWD *2010 Regional Urban Water Management Plan Update*. RCWD and EVMWD obtain their water from MWD via EMWD and WMWD. MWD’s



**Figure 2-5**  
**Major California Water Systems**

*Integrated Water Resources Plan 2010 Update* provides a plan to provide 100 percent reliability of the agency's water service which acknowledges environmental and institutional constraints. Protocols are provided for times of water surplus and water shortage in MWD's *2008 Water Supply Allocation Plan*. MWD strategically manages water in times of surplus to ensure there is an adequate supply during a shortage.

Figure 2-5 shows the major imported water systems in the state, those being: (1) the California Aqueduct, where State Water Project (SWP) water travels from northern to southern California; (2) the Central Valley Water Project (CVP), where voluntary water transfers from agriculture to urban can take place; (3) the Colorado River Aqueduct (CRA); and (4) the Imperial Irrigation District (IID) system, where a large potential exists to voluntarily transfer agricultural water to southern California. The SWP and CRA are the two water systems the Region utilizes for imported water.

MWD owns and operates the CRA, along with major reservoirs such as Diamond Valley Lake and Lake Skinner, five regional water treatment plants, and large transmission pipelines to move imported water to its 26 public member agencies. MWD is also the largest State Water Contractor, with a contract of 1,911,500 AFY for SWP supply.

The SWP is subject to extreme variability in hydrology due to storage limitations. Although MWD has a contract for 1.9 million AFY, it rarely has received that (only in the very wettest of years). Average deliveries are estimated to be closer to 1.4 million AFY, while in severe droughts SWP supplies to MWD are estimated to be 0.4 million AFY.

Over the last few years, CRA supply to MWD, historically providing over 1.2 million AFY to the Region, has been cut down to 550,000 AFY. This was due to the development of the California Plan for the Colorado River, which forces California to live within its 4.4 million AFY entitlement of CRA water. According to its *2010 Regional UWMP*, MWD intends to obtain a full 1.2 million AFY when possible through water management programs with agricultural and water districts using CRA water.

MWD augments its imported water from the CRA and SWP with stored water in water banks such as Semitropic and Arvin-Edison, conjunctive use storage in local basins, and voluntary water transfers during certain dry years. MWD's *2010 Integrated Water Resources Plan (IWRP) Update* indicates that MWD will have the supplemental water supplies to meet all of its member agencies' water needs through 2035, even during a repeat of the 1987-1992 drought. This will, however, be dependent upon the development of both local supplies as well as implementation of the *Bay Delta Conservation Plan*. It is important to note that the *Bay Delta Conservation Plan* will only restore historical SWP levels, while additional activities, such as agreements with agricultural CRA rights holders, will be necessary to increase imported water supply.

### Legal and Institutional Imported Water Considerations

As described above, imported water received through the SWP and CRA has legal and institutional limitations. MWD's SWP allotment is limited by its Table A amount of 1.9 million

AFY, which is further limited by the availability of water from the Bay Delta. The *Bay Delta Conservation Plan* has been developed to restore historical SWP levels while balancing environmental needs of the Bay Delta. Exports from the Bay Delta are limited by the amount of water stored in the snowpack of the Sierras, water stored in SWP reservoirs, and environmental needs of the Delta.

MWD's CRA imports are limited by the Quantification Settlement Agreement (QSA), executed in 2003, which, as mentioned, affirms California's right to 4.4 million AFY of which MWD is entitled to 550,000 AFY. Water allotments through the QSA can be reduced during droughts as other states increase their diversions in accord with their authorized entitlements. Since the signing of the QSA, water conservation measures have been implemented such as the agricultural-to-urban transfer of conserved water from Imperial Valley to San Diego, agricultural land fallowing with Palo Verde, and the lining of the All-American Canal.

### Imported Water Quality

Water quality issues are commonly mitigated through treatment and blending of supply sources. MWD recognizes the impacts of water quality on its member agencies and has embraced water quality planning in its IWRP and monitoring efforts to address water quality issues. Planning efforts have identified management strategies that allow flexibility in operations to improve water quality and source protection while maintaining reliability. Water quality issues that have been identified by MWD include total dissolved solids, disinfection byproducts, perchlorate, total organic carbon, bromide, methyl tert-butyl ether (MTBE), arsenic, radon, uranium, N-nitrosodimethylamine (NDMA), and hexavalent chromium. MWD is actively managing these water quality issues.

### **2.3.2 Local Surface Water Supplies**

Water agencies operating in the Region obtain local surface water from a variety of sources:

- Seven Oaks Reservoir stores surface water that can be treated at various treatment plants or for use in groundwater recharge
- Vail Lake releases are used by RCWD for recharge
- Railroad Canyon Reservoir (also known as Canyon Lake) stores surface water from the San Jacinto Watershed, and is treated and used by EVMWD

### Seven Oaks Reservoir

Seven Oaks Reservoir, though outside of the Region, is used by WMWD as a water supply. WMWD, along with San Bernardino Valley Municipal Water District, jointly filed applications with the State Water Resources Control Board (SWRCB) to appropriate water from the Santa Ana River, made available through construction of Seven Oaks Dam. A permit to divert Santa Ana River water was issued in July 2010. It's estimated that up to 200,000 AFY could be available in very wet years, but the annual average is between 10,000 and 27,000 AFY, with

WMWD's portion being 28%, or 2,800 to 7,500 AFY. WMWD's share of this water supply is used to enhance groundwater storage in the San Bernardino area, and is sent to WMWD's service area during dry years.

### Vail Lake

RCWD stores local runoff in Vail Lake from Temecula Creek, and has a surface water storage permit allowing for up to 40,000 AF of storage from November 1 to April 30 annually. The amount of local runoff reaching the lake can vary depending on hydrological conditions, ranging from 200 AFY to 30,000 AFY, with an average of 5,000 AFY. The storage capacity of the lake is approximately 49,370 AF. During November through April, RCWD releases available water from Vail Lake to the Valle de los Caballos (VDC) spreading basins, about 1.5 miles downstream, for groundwater recharge. RCWD has completed the Vail Lake Stabilization and Conjunctive Use Project that will allow untreated imported water from MWD to be stored in Vail Lake for later recharge.



### Railroad Canyon Reservoir

EVMWD stores runoff from the San Jacinto Watershed in Railroad Canyon Reservoir (also known as Canyon Lake) for later treatment at the Canyon Lake Water Treatment Plant. On average, flows to the treatment plant are 2,500 AFY, but can range from 800 AFY in a single dry year to 6,600 AFY in a wet year. EVMWD treats water from Canyon Lake according to an agreement with the Canyon Lake Property Owners Association that requires the maintenance of a minimum lake elevation.

### Legal and Institutional Local Surface Water Considerations

Surface water and groundwater supporting surface water in the Santa Margarita River Watershed have been under some form of court jurisdiction since 1928. A Watermaster has been assigned by the U.S. District Court for the Southern District of California to oversee all water uses within the Santa Margarita River Watershed. Specific water rights in the watershed have not been adjudicated. However, the Stipulated Judgment assigns two-thirds of all natural waters to the United States of America (Camp Pendleton) and the remaining one-third to RCWD.

Rights to utilize the water and groundwater stored in Vail Lake are defined in the 1940 Stipulated Judgment in the case of Santa Margarita versus Vail, and Appropriations Permit 7032 issued by the SWRCB. RCWD stores local runoff in Vail Lake, which was created in 1948 through construction of Vail Dam on Temecula Creek. As stated above, RCWD has a surface water storage permit in Vail Lake for up to 40,000 AF from November 1 to April 30. From May

through October, existing State permits prohibit storage and require inflow to pass through Vail Lake to Temecula Creek and ultimately to the lower watershed.

RCWD must meet Temecula Gorge<sup>2</sup> flow requirements of 4,000 AFY as set by the Cooperative Water Resource Management Agreement between Camp Pendleton and RCWD to ensure that flows to the lower watershed are maintained. RCWD currently meets this requirement by discharging untreated imported water into Murrieta Creek at the confluence of the Santa Margarita River.

### Local Surface Water Quality

EVMWD has detected significant levels of disinfection byproducts in treated Railroad Canyon Reservoir (Canyon Lake) water possibly related to MWD water. As a result, EVMWD is currently evaluating a new disinfection profile. Vail Lake does not currently have water quality concerns, but given that untreated imported water will soon be captured for later recharge, salt and nutrient loadings could be a concern in the future. Recharge supplies from Vail Lake are discussed further in Section 2.3.3. Seven Oaks Reservoir does not currently have water quality concerns.

### **2.3.3 Groundwater Supplies**

Groundwater supplies in the Region are pumped from two groundwater basins: the Temecula Valley Groundwater Basin (also known as the Murrieta-Temecula Groundwater Basin) and the Cahuilla Valley Groundwater Basin, shown in Figure 2-6.

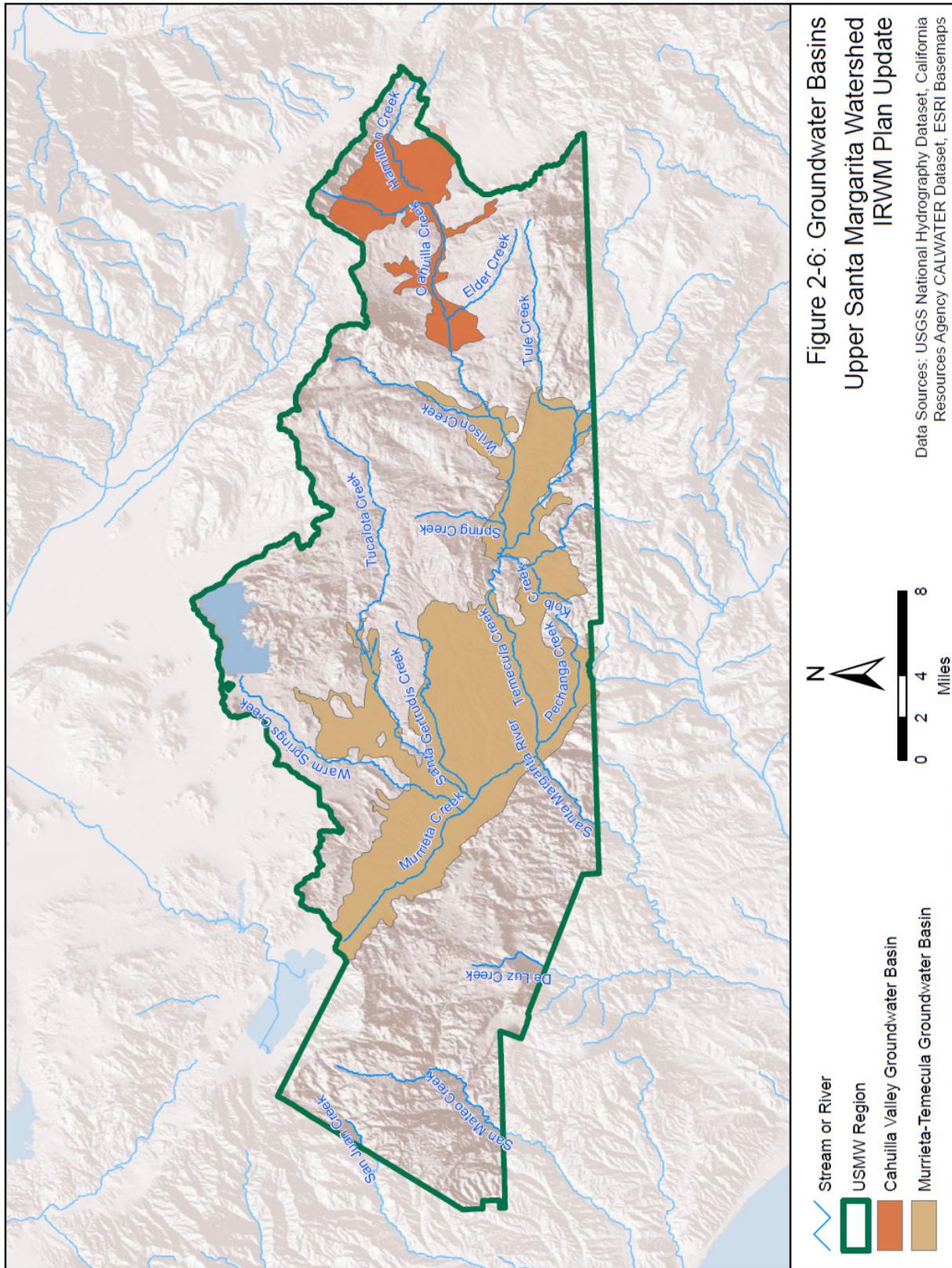
#### Temecula Valley Groundwater Basin

The Temecula Valley Groundwater Basin (also called the Murrieta-Temecula Groundwater Basin) is located along Murrieta and Temecula Creeks in the Upper Santa Margarita River watershed, and is divided into three subareas: the Temecula aquifer, the Pauba Valley aquifer, and younger alluvium.

The total storage in the basin is estimated to be between 1.3 and 2 million AF, while unused storage is estimated to be between 250,000 and 500,000 AF. The amount of groundwater produced annually from these basins varies depending on rainfall, recharge, and the amount and location of pumping. Between 2006 and 2010, groundwater pumping from the Temecula Valley Groundwater Basin averaged approximately 41,500 AFY. This amount includes recharge of imported and local surface waters averaging 16,400 AFY. Pumpers of the Temecula Valley Groundwater Basin include RCWD, Murrieta County Water District, Pechanga Indian Reservation, and other private pumpers.

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<sup>2</sup> Temecula Gorge is a five mile canyon created by the Santa Margarita River running through the Santa Ana Mountains and is the area in which the river flows from Riverside County to San Diego County.



As described under the surface water supply description above, RCWD artificially recharges the Pauba Basin with untreated imported water for enhanced groundwater production. RCWD purchases imported water from the MWD and delivers it from the San Diego Aqueduct turnout EM-19 to the VDC recharge basins. Imported water provided an average of 15,000 AFY of artificial recharge from 2000 to 2010 through the VDC recharge basin.

### Cahuilla Valley Groundwater Basin

The Cahuilla Valley Groundwater Basin is located along Cahuilla Creek underlying the Cahuilla and Anza Valleys, and is divided into two subareas: the shallow aquifer and the deep aquifer. The most recent study that determined storage volumes in this basin was conducted by Riverside County in 1990 and estimates that groundwater storage in this basin is 165,000 AF, though the same study estimates that the usable portion of this storage is only 56,000 AF. The Santa Margarita River Watermaster *2009-2010 Annual Report* indicates that the major pumpers in the Anza Valley area are the Anza Mutual Water Company, Lake Riverside Estates (which pumps only for replacement water to Lake Riverside), and the Cahuilla Reservation. In the 2009-2010 water year, these entities pumped less than 400 AFY. In addition to those pumpers listed in the Watermaster report, Agri-Empire and Bornt & Sons Incorporated are also pumpers in the basin.

The DAC Groundwater Study in the Anza Area completed in 2014 compared water level measurements in wells in 2013 to measurements taken in 2006 and 2004. The data indicate that between 2006 and 2013, there was a median decline in groundwater level of 5.1 feet, while between 2004 and 2013 there was a median decline of 2.4 feet. This difference in the magnitude of groundwater level declines reflects the wetter conditions preceding the 2006 measurements versus the fall 2004 measurements. In addition, it should be noted that between 2006 and 2013 two of the 33 wells measured had increases in water level, and between 2004 and 2013, 13 of the 40 wells measured had increases in water level.

Further, limited data is available to assess long-term groundwater levels as most of the wells selected for the study were part of a monitoring network last measured by USGS between 2004 and 2007. This limited data makes it difficult to determine whether groundwater levels are decreasing due to over-pumping, particularly since groundwater levels in the area appear to be susceptible to annual rainfall variation. Further, the communities overlaying the Cahuilla Valley Groundwater Basin are particularly reliant on this groundwater source as they do not receive or have access to imported water.

### Legal and Institutional Groundwater Considerations

A Watermaster was assigned by the court to oversee all groundwater uses within the Santa Margarita River Watershed, which includes: the Anza Groundwater Basin, the Temecula Valley Groundwater Basin, and the Santa Margarita Groundwater Basin. The Watermaster prepares the Santa Margarita River Watershed Annual Watermaster Report, providing annual reporting of water conditions in the watershed, but does not manage the groundwater basins.

Rights to utilize surface water and groundwater in the Santa Margarita River Watershed are governed by the Modified Final Judgment Decree (Judgment) entered on April 6, 1966 by the U.S. District Court (Court). The Judgment incorporates the 1940 Stipulated Judgment and several subsequent orders that provide provisions for administering the water rights and managing surface water and groundwater resources in the watershed. The Court appointed a Watermaster to administer and enforce the provisions of the Judgment and subsequent orders of the Court. The Court also appointed a steering committee that is currently comprised of representatives from the United States, MWD, EMWD, WMWD, RCWD, Fallbrook Public Utilities District (FPUD), RCWD, and the Pechanga Band of Luiseno Indians. The purpose of the steering committee is to assist the Court and Watermaster in administering water rights. In addition, RCWD is responsible for preparing annual groundwater audits for the Temecula Valley Groundwater Basin and a recommended groundwater production report.

Only groundwater extracted from aquifers that contribute to the Santa Margarita River Watershed via subsurface flows are within the Court's jurisdiction. Water extracted from all aquifers of the Temecula Valley Groundwater Basin is considered to contribute to the watershed, and therefore, is within the Court's jurisdiction. In the Anza Groundwater Basin, only the shallow aquifer contributes to the watershed so extractions from this aquifer are within the Court's jurisdiction, while extraction from the deep aquifer is not.

### Groundwater Quality

Groundwater quality in the Temecula Valley Groundwater Basin is constantly monitored by RCWD. RCWD conducts over 2,000 tests annually for groundwater quality on each of its wells and throughout the distribution system. All groundwater produced and delivered meets or is better than standards for public drinking water.

Constituents exceeding drinking water standards in the Temecula Valley Groundwater Basin include fluoride and manganese. Sampling at RCWD's wells in 2009 indicated that while the primary MCL standard for fluoride is 2 milligrams per liter (mg/L), concentrations have ranged between 0.1 and 4.0 mg/L. Fluoride occurs in the groundwater basins as a result of natural erosion. Well sampling ranges reflect the highest reading and lowest reading from all of RCWD's wells and do not reflect average readings for all the wells. After well water is extracted, it is blended with other well water and imported MWD water. The distribution system's lowest monthly average level of fluoride was 0.7 mg/L, well below the MCL.

Well sampling by RWCD has also indicated that the secondary MCL of 50 micrograms per liter (ug/L) for manganese has ranged between non-detect and 450 ug/L. Manganese is present in the groundwater as a result of leaching from natural deposits. Sampling in the distribution system has indicated that blending reduces the manganese concentration to the non-detect level.

High concentrations of arsenic have been detected in wells used by WMWD and RCWD, and has caused both of these agencies to either remove these wells from production or remain operational under approved blending plans.

The *Temecula Valley Basin Salt and Nutrient Management Plan (SNMP)*, completed in 2014, provides an assessment of current and projected groundwater quality under various recycled water scenarios. The SNMP indicates that total dissolved solids (TDS) and nitrate are the two constituents selected for analyzing and managing salts and nutrients. More than 40 years of RCWD groundwater quality data demonstrate a gradual historic trend of increasing TDS concentrations in many areas, with the most recent 20 years of data showing generally stable conditions. Groundwater quality in the upper Pauba Valley aquifer has benefitted from RCWD's program of recharging Vail Lake and imported water into this area. This program has stabilized groundwater TDS concentrations during the past two decades, mitigated effects of local salt loads, and enhanced groundwater quality and availability during periods of drought or limited natural recharge. Currently, TDS and nitrate concentrations are below the Basin Plan Water Quality Objectives (WQOs) described in Section 2.4.1, with current concentrations of TDS ranging from 250 to 600 mg/L, and nitrate concentrations ranging from 1 to 9 mg/L. Should recycled water use increase in the Region without implementing actions recommended in the SNMP, concentrations of TDS and nitrate could exceed WQOs. See Section 2.3.4 for discussion of future recycled water use.

Groundwater quality in the Cahuilla Valley Groundwater Basin is not currently reported through the Watermaster Report. However, examination of California's Groundwater Ambient Monitoring and Assessment Program (GAMA) database indicates that some drinking water wells exceed primary or secondary drinking water levels for certain constituents, including nitrate, iron and manganese.

### 2.3.4 Recycled Water

Recycled water is produced by each of the four water service providers operating in the Region at facilities both within and outside of the Region's boundaries. These facilities include RCWD's Santa Rosa Water Reclamation Facility (WRF), EMWD's Temecula Valley Regional Water Reclamation Facility (RWRF), WMWD's Western WRF, and EVMWD's Railroad Canyon WRF and Horsethief WRF. The capacities of these plants are shown in Table 2-4. Each of these plants produces tertiary effluent. Actual recycled water production is dependent on wastewater influent, which in turn is affected by growth and development.

Within the Region, recycled water is primarily used for landscape irrigation, though it may also be used for a number of other non-potable uses (i.e. agricultural irrigation, dust control, industrial cooling water) or indirect potable uses (i.e. groundwater recharge).

**Table 2-4: Water Reclamation Plants Operated by Districts within the Region**

Plant	Operator	Capacity
Santa Rosa WRF	RCWD	5 MGD (5,600 AFY)
Temecula Valley RWRF	EMWD	18 MGD (20,200 AFY)
Western WRF	WMWD	3 MGD (3,400 AFY)
Railroad Canyon WRF	EVMWD	1.2 MGD (450 AFY)
Horsethief WRF	EVMWD	0.5 MGD (550 AFY)

### Legal and Institutional Recycled Water Considerations

CDPH and the San Diego RWQCB regulate the use and quality of recycled water in the Region. Title 22, Chapter 4, of the California Code of Regulations establishes recycled water quality standards and treatment reliability criteria dependent upon the end use of recycled water to protect public health. Both secondary and tertiary treated wastewater can meet Title 22 standards dependent upon the end use of the water.

Utilization of recycled water for groundwater recharge is reviewed by CDPH on a case-by-case basis. CDPH requires blending of recycled water with non-recycled water, minimum travel times, and monitoring based on a thorough review of engineering reports. Initial blend requirements typically start at 20 percent recycled water and 80 percent non-recycled water for spreading projects. Water recharged in this manner must be retained for a minimum of two months in the ground prior to extraction for drinking water, though this could be longer based on CDPH review.

Under a 3-party agreement, wastewater flows from EVMWD southern section is transported to RCWD's Santa Rosa WRF, treated and used for local supply within the RCWD service area or placed into EMWD's Temecula Valley Pipeline (EMWD-TVP) to serve beneficial use deliveries within EVMWD. RCWD and EVMWD have 2.46 million gallons per day (MGD) and 1.54 MGD respectively of capacity, in the pipeline. EMWD's Temecula Valley Regional WRF also discharges excess recycled water into this pipeline.

EMWD delivers recycled water to EVMWD at approved turnouts on the EVMWD-TVP. EMWD allocates recycled water to EVMWD in the amount actually contributed by EVMWD wastewater flows to the Santa Rosa WRF (about 1 MGD). Approximately 135 AF of the 1 MGD of recycled water overlies or will impact the Temecula Valley Groundwater Basin. Recycled water produced in the Region by EMWD and RCWD in excess of demands is used to replenish water levels in Lake Elsinore or is sent to Temescal Wash (north of the Region) for discharge into the Santa Ana Watershed. Water quality regulations in the Santa Margarita River Watershed have caused disposal of excess recycled water in the Santa Margarita River Watershed to be cost prohibitive.

### Recycled Water Quality

Recycled water quality in the Region is treated to meet regulatory standards and end user requirements. Recycled water must be of sufficient quality to not detrimentally damage landscaping and agriculture. Each of the water providers actively engages in nitrogen and salinity management. The *Temecula Valley Basin SNMP* analysis of future recycled water use indicates that additional treatment or blending of recycled water may be



necessary once recycled water use for irrigation and groundwater recharge in the Temecula Valley area exceeds 750 AFY. At these higher levels of recycled water use, demineralization of recycled water will be necessary to reduce TDS levels to 500 mg/L for irrigation, while groundwater recharge using recycled water will require TDS levels at 250 mg/L and nitrate levels at 31 mg/L.

### 2.3.5 Water Supply Districts

Determining total projected water supplies for the four water districts providing service in the Region is challenging given that RCWD is the only water agency operating entirely within the Region. Each of the water supply providers uses different terminology and combines various supply types for their supply projections. This section outlines the supply projections provided by each of the Region's water districts.

#### Rancho California Water District

RCWD serves the area known as Temecula/Rancho California, which includes the City of Temecula, portions of the City of Murrieta, and unincorporated areas of Riverside County. Table 2-5 shows RCWD's current and planned water supply sources. RCWD's existing water supplies include:

- *Groundwater* : Temecula Valley Groundwater Basin
- *Imported Water*: Blend of SWP and CRA from MWD via EMWD and WMWD
- *Recycled Water*: Santa Rosa WRF and the Temecula Valley RWRf

RCWD's current service area is 99,173 acres (155 square miles), with 898 miles of water mains, 37 storage reservoirs, one surface reservoir (Vail Lake), 52 groundwater wells (44 active wells), and 44,000 metered service connections. Approximately 134,000 people are currently served by RCWD. RCWD receives its imported water (treated and untreated) through six MWD water turnouts (three in EMWD's service area, three in WMWD's service area). To facilitate future growth and reliability, RCWD developed an *2005 Integrated Resources Plan* to develop a long-term water supply plan that can meet water demands from now until 2050 (ultimate build-out of the service area).

RCWD's *2010 UWMP* analyzed its supply reliability based on normal, dry and multiple dry years and determined it will be able to meet the demands of its service area through 2035 under normal and dry year scenarios.

Table 2-5: RCWD Water Supplies (AFY)

Water Supply Sources	2010	2015	2020	2025	2030	2035
<b>Imported Water (MWD)</b>						
<b>Treated</b>	29,864	46,960	51,134	55,623	59,901	64,390
<b>Untreated <sup>1</sup></b>	12,187	13,000	23,000	23,000	23,000	23,000
<b>Untreated <sup>2</sup></b>	3,939	4,000	4,000	4,000	4,000	4,000
<b>Groundwater</b>	24,556	26,500	26,500	26,500	26,500	26,500
<b>Recycled Water <sup>3</sup></b>	8,764	9,044	9,604	9,604	9,604	9,604
<b>Vail Lake Release <sup>4</sup></b>	2,724	3,000	3,000	3,000	3,000	3,000
<b>Total</b>	<b>82,034</b>	<b>102,504</b>	<b>117,238</b>	<b>121,727</b>	<b>126,005</b>	<b>130,494</b>
Source: RCWD 2010 Urban Water Management Plan						
Note: Imported and recycled water amounts shown include unaccounted-for water.						
<sup>2</sup> Used for flows to the Santa Margarita River under settlement agreement with Camp Pendleton.						
<sup>3</sup> Includes total capacity for the Santa Rosa WRF (3,160 AFY in 2010, 3,440 AFY in 2015 and 4,000 AFY in 2020 and beyond) and total under agreement with EMWD from the TVRWRF (5,604 AFY or 5 MGD). As discussed in Section 3.24, RCWD is maximizing recycled water use based on current system capacity and access to the supply. RCWD is continuing work to increase capacity and supply access.						
<sup>4</sup> Vail Lake releases to the Valle de los Caballos spreading basins for groundwater recharge.						

### Eastern Municipal Water District

EMWD serves a 555-square mile service area with retail water and/or sewer service, 161 square miles of which are within the Region. EMWD also provides wholesale water service to multiple agencies inside and outside of the Region, including RCWD. Table 2-6 shows EMWD's projected water supply sources for the entire district. EMWD receives water from the following sources:

- *Imported Water:* Treated and untreated blend of SWP and CRA from MWD
- *Recycled Water:* Temecula Valley RWRF
- *Groundwater:* San Jacinto Watershed groundwater, certain areas of which are desalinated for potable use. (Note that this groundwater supply serves customers outside of the Region only.)

Imported water received from MWD is treated at the Henry J. Mills (Mills) and Robert F. Skinner (Skinner) treatment plants. At Mills, SWP water is treated and at Skinner a combination of SWP and CRA water is treated. Untreated water supplied by MWD is treated by EMWD at microfiltration plants in Perris and Hemet.

EMWD is increasing the use of recycled water through expansion and maximization of the four regional water reclamation facilities. The district's recycled water distribution system includes 135 miles of large diameter transmission pipelines, 6,000 AF of surface storage reservoirs (ten separate sites) and four regional pumping plants.

EMWD's 2010 UWMP analyzed its supply reliability based on normal, dry and multiple dry years and determined it will be able to meet the demands of its service area through 2035 under

normal and dry year scenarios. Table 2-6 shows the water supply sources for the entire EMWD area.

**Table 2-6: EMWD Water Supplies (AFY)**

Water Supply Sources	2010	2015	2020	2025	2030	2035
<b>Imported Water (MWD)</b>	91,600	149,300	170,700	190,700	210,000	226,200
<b>Recycled Water</b>	41,500	43,900	50,000	53,900	54,900	55,300
<b>Groundwater<sup>1</sup></b>	15,800	13,200	13,200	13,200	13,200	13,200
<b>Desalinated Water <sup>1</sup></b>	5,800	7,500	7,500	7,500	7,500	7,500
<b>Total</b>	<b>154,700</b>	<b>213,900</b>	<b>241,400</b>	<b>265,300</b>	<b>285,600</b>	<b>302,200</b>
Projections based on a repeat of the 2004-2009 conditions						
Source: EMWD 2010 Urban Water Management Plan						
<sup>1</sup> Desalinated water and groundwater are not used in the Upper Santa Margarita Watershed						

### Western Municipal Water District

WMWD's service area encompasses 527 square miles, 109 square miles of which are within the Region, with service provided to 23,000 domestic and 130 irrigation retail customers and nine wholesale customers. One-third of the total water supplied by WMWD is for retail customers with the remainder going to EVMWD and RCWD as wholesale customers. As with EMWD, WMWD also provides wholesale and retail water to areas and agencies outside of the Region. WMWD receives water from the following sources:

- *Imported Water:* Treated and untreated blend of SWP and CRA from MWD
- *Purchased Water:* Meeks and Daley Company water pumped from San Bernardino and Riverside on behalf of WMWD and transported through pipes with an EVWMD agreement; when available, City of Riverside supplemental water (Note that this supply serves customers outside of the Region only)
- *Groundwater:* Riverside-Arlington Groundwater Basin (with water from the Arlington Basin treated at the Arlington Desalter), Temecula-Murrieta Basin, banked water from the San Bernardino Basin Area
- *Surface Water:* Santa Ana River water stored in the Seven Oaks reservoir
- *Recycled Water:* Western WRF

Potable water from MWD is treated at MWD's Mills Filtration Plant and then conveyed to WMWD's distribution system. Potable water from the City of Riverside is purchased when they have surplus water available (off-season) and during emergency situations. An intertie with the City of Riverside and a portable chloramination station allows WMWD to treat this water.

The existing non-potable distribution system consists of an interconnected series of pipelines, reservoirs and pump stations designed to distribute non-potable water through a large area of the WMWD. Some users of non-potable water receive recycled water supplemented by untreated MWD water when demands exceed available supply.

WMWD's 2010 UWMP analyzed reliability based on normal, dry and multiple dry years. Based on this analysis, WMWD will be able to meet the demands of its service area through 2035 under normal and dry year scenarios. Table 2-7 shows the water supply projections for WMWD's service area, including retail and wholesale customers.

**Table 2-7: WMWD Water Supplies (AFY)**

Water Supply Sources	2010	2015	2020	2025	2030	2035
<b>Imported Water</b>	131,228	160,313	174,127	184,131	195,301	208,035
<b>Purchased Water</b>	6,200	6,200	6,200	6,200	6,200	6,200
<b>Desalters</b>	6,400	10,750	10,750	10,750	10,750	10,750
<b>Recycled Water</b>	6,950	7,120	16,680	17,240	18,360	19,480
<b>Groundwater</b>	1,000	2,600	3,600	3,600	3,600	3,600
<b>Total</b>	<b>151,778</b>	<b>186,983</b>	<b>211,357</b>	<b>221,921</b>	<b>234,211</b>	<b>248,065</b>

Source: WMWD 2010 Urban Water Management Plan

### Elsinore Valley Municipal Water District

EVMWD serves as a retail and wholesale water provider within its 98.5-square mile service area, 38 square miles of which are within the Region. Wholesale services provide two retail agencies (Elsinore Water District and Farm Mutual Water Company) with supplemental water. EVMWD also provides wastewater treatment and is legally empowered to provide stormwater disposal and fire protection facilities, but does not do so at this time. EVMWD's service area is divided into the Elsinore and Temescal Divisions. The Elsinore Division is the only division within the Region and serves approximately 39,000 accounts. Table 2-8 shows EVMWD's water supply projections for its entire service area. EVMWD water supply sources include:

- *Imported Water:* Blend of SWP and CRA from MWD via EMWD and WMWD
- *Groundwater:* Elsinore Basin, Temescal Valley Basin, San Bernardino Bunker Hill Basin, Rialto-Colton and Riverside-North Basin, and Coldwater Basin, and Bedford Basin (Note that these groundwater supplies serve customers outside of the Region only.)
- *Surface Water:* Canyon Lake
- *Recycled Water:* Temecula RWRP, Railroad Canyon Water Reclamation Facility, and Horsethief Canyon Water Reclamation Facility
- *Transfers/Exchanges:* WMWD

EVMWD can receive a maximum flow of 37.5 cubic feet per second (cfs) of imported water treated at Skinner through the Auld Valley Pipeline. Under EVMWD's capacity agreement, WMWD obtains the water from EMWD and then sells it to EVMWD. EVMWD can receive a maximum flow of 21 cfs of imported water treated at Mills through the Temescal Valley Pipeline via WMWD's Mills Gravity Pipeline. A 9-cfs portion of that flow is a result of EVMWD granting WMWD a groundwater entitlement.

EVMWD operates the Temescal Valley Pipeline System delivering non-potable well water to agricultural users in the Temescal Valley. Non-potable surface water is also obtained from multiple lakes in the region. Wastewater is treated to tertiary standards for non-potable use by three water reclamation plants: Regional, Horsethief, and Railroad Canyon. In the future, additional recycled water may be available from another proposed wastewater treatment plant. Additionally, since EVMWD contributes raw wastewater to RCWD's Santa Rosa Water Reclamation Facility, EVMWD is entitled to treated water from EMWD's Temecula Valley Effluent Disposal Pipeline that passes through EVMWD's service area.

EVMWD's 2010 UWMP analyzes supply reliability based on normal, dry and multiple dry years. Based on this analysis, EVMWD will be able to meet the demands of its service area through 2035 in normal and dry years.

**Table 2-8: EVMWD Water Supplies (AFY)**

Water Supply Sources	2010	2015	2020	2025	2030	2035
<b>Imported</b>	35,200	48,100	48,100	48,100	48,100	48,100
<b>Groundwater<sup>1</sup></b>	2,978	6,750	6,750	6,750	6,750	6,750
<b>Local Surface Water<sup>2</sup></b>	4,900	4,900	4,900	4,900	4,900	4,900
<b>Recycled Water<sup>3</sup></b>	449	1,014	1,905	2,430	2,430	2,430
<b>Lake Replenishment and Discharge to Temescal Wash</b>	8,401	8,401	8,401	8,401	8,401	8,401
<b>Total</b>	<b>51,928</b>	<b>69,165</b>	<b>70,056</b>	<b>70,581</b>	<b>70,581</b>	<b>70,581</b>

Source: EVMWD 2010 Urban Water Management Plan

<sup>1</sup> Assumes that groundwater pumping in the Elsinore and the Coldwater Basins will not exceed the natural recharge.

<sup>2</sup> Represents production from the Canyon Lake WTP during a median year hydrology (MWH, 2009)

<sup>3</sup> Assumes that all recycled water produced at EVMWD's Regional Plant is used for replenishment of water levels in Lake Elsinore and discharged along Temescal Wash for environmental enhancement.

## 2.4 Water Quality

The quality of surface and groundwater in a region can be affected by natural and man-made sources. Pollutant loading can come from two types of sources: point sources which are discrete discharges of water and wastes, and non-point sources which are discharges often resulting from anthropogenic land uses such as agricultural applications, atmospheric deposition, or wildlife. In some cases a non-point source, such as urban runoff, can become a point source as it is collected by a storm drain or other collection system and discharged.

The Region has a wide range of land uses, as shown in Section 2.7. Over the past decade, the Region has seen a portion of its open and agricultural areas become built up and urbanized as population increases. As described below in further detail, nutrients from a range of sources, including fertilizer applications common to agricultural uses, have been an issue in the past and continue to be monitored and controlled within the Region. However, with increasing urbanization, TDS, metals, nutrients, bacteria, and trash are also pollutants of concern.

Detailed water quality data within the Region is somewhat limited; however, enough monitoring program data is available to provide general trends for the Region. These trends indicate that the water quality in the Region is generally good. There is continued concern associated with runoff into water bodies from urban and newly developing residential areas as a potential source of pollution for several constituents.

Water quality within the Santa Margarita River Watershed is addressed through several plans, regulations and guidelines including the Basin Plan, which includes beneficial use designation and water quality objectives to impaired waters listed under 303(d) of the Clean Water Act<sup>3</sup>, and TMDL process.

### 2.4.1 Beneficial Use

The Basin Plan establishes water quality objectives for inland surface waters and groundwater based on their beneficial uses. The Basin Plan identifies the following beneficial uses for the Region:

- Municipal and domestic supply (MUN)
- Agricultural supply (AGR)
- Industrial service supply (IND)
- Industrial process supply (PROC)
- Freshwater replenishment (FRSH)
- Groundwater recharge (GWR)
- Contact water recreation (REC-1)
- Non-Contact water recreation (REC-2)
- Warm freshwater habitat (WARM)
- Cold freshwater habitat (COLD)
- Wildlife habitat (WILD)
- Rare, threatened, or endangered species (RARE)
- Spawning, reproduction, and/or early development (SPWN)

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<sup>3</sup> The list of impaired and threatened waters (stream/river segments, lakes) that the Clean Water Act requires all states to submit for Environmental Protection Agency approval every two years on even-numbered years. States identify all waters where required pollution controls are not sufficient to attain or maintain applicable water quality standards, and establish priorities for development of TMDLs based on the severity of the pollution and the sensitivity of the uses to be made of the waters, among other factors. States then provide a long-term plan for completing TMDLs within 8 to 13 years from first listing.

Table 2-9 and Table 2-10 provide the beneficial uses for individual reaches and groundwater basins as described in Section 2 of the 2011 Basin Plan. Table 2-11 provides the corresponding water quality objectives.

**Table 2-9: Beneficial Uses of Groundwaters**

		MUN	AGR	IND	PROC	FRSH	GWR
Deluz	2.20	●	●	●			
Murrieta	2.30	●	●	●	●		
Auld	2.40	●	●	●			
Pechanga	2.50	●	●	●			
Wilson	2.60	●	●	○			
Cave Rocks	2.70	●	●				
Aguanga	2.80	●	●	●			
Oakgrove	2.90	●	●				

Source: Water Quality Control Plan for the San Diego Basin (Region 9), 2011.

● Existing beneficial use; ○ Potential beneficial use

Table 2-10: Beneficial Uses of Surface Waters

	Unit	MUN	AGR	IND	PROC	GWR	REC1	REC2	WARM	COLD	WILD	RARE	SPWN
<b>Santa Margarita River Watershed</b>													
Santa Margarita River	2.22	•	•	•			•	•	•	•	•	•	
Bundy Canyon	2.31	•	•	•	•		o	•	•		•		
Cole Canyon	2.32	•	•	•	•		o	•	•		•		
Crown Valley	2.41	•	•	•	•	o	•	•	•	•	•		
Diamond Valley	2.36	•	•	•	•		o	•	•		•		
Diamond Valley Lake	2.35	•	•	•	•	•	• <sup>1</sup>	•	•	•	•		
Domenigoni Valley	2.35	•	•	•	•		o	•	•		•		
Glenoak Valley	2.42	•	•	•	•	o	•	•	•	•	•		
Goodhart Canyon	2.36	•	•	•	•		o	•	•		•		
Lake Skinner	2.41	•	•	•	•	o	• <sup>1</sup>	•	•		•		
Long Valley	2.42	•	•	•	•	o	•	•	•		•		
Miller Canyon	2.32	•	•	•	•		o	•	•		•		
Murrieta Creek	2.31	•	•	•	•		o	•	•		•		
Murrieta Creek	2.32	•	•	•	•		o	•	•		•		
Murrieta Creek	2.52	•	•	•	•	•	o	•	•		•		
Pixley Canyon	2.36	•	•	•	•		o	•	•		•		
Rawon Canyon	2.41	•	•	•	•	o	•	•	•	•	•		
Santa Gertrudis Creek	2.42	•	•	•	•	o	•	•	•		•		
Santa Gertrudis Creek	2.32	•	•	•	•		o	•	•		•		
Slaughter House Canyon	2.31	•	•	•	•		o	•	•		•		
Tucalota Creek	2.43	•	•	•	•	o	•	•	•	•	•		
Tucalota Creek	2.41	•	•	•	•	o	•	•	•		•		
Tucalota Creek	2.42	•	•	•	•	o	•	•	•		•		
Warm Springs Creek	2.36	•	•	•	•		o	•	•		•		
Warm Springs Creek	2.35	•	•	•	•		o	•	•		•		
Warm Springs Creek	2.34	•	•	•	•		o	•	•		•		
Warm Springs Creek	2.33	•	•	•	•		o	•	•		•		
Willow Canyon	2.44	•	•	•	•	o	•	•	•	•	•		
Arroyo Seco Creek	2.82	•	•	•	•	•	•	•	•	•	•		•
Cahuilla Creek	2.73	•	•	•	•	•	o	•	•		•		
Cahuilla Creek	2.72	•	•	•	•	•	o	•	•		•		
Cahuilla Creek	2.71	•	•	•	•	•	o	•	•		•		
Cahuilla Creek	2.61	•	•	•	•	•	o	•	•		•		
Cooper Canyon	2.92	•	•	•	•	•	o	•	•		•		
Cottonwood Creek	2.84	•	•	•	•	•	•	•	•	•	•		•
Culp Valley	2.91	•	•	•	•	•	o	•	•		•		
Elder Creek	2.71	•	•	•	•	•	o	•	•		•		
Hamilton Creek	2.74	•	•	•	•	•	o	•	•		•		
Hamilton Creek	2.73	•	•	•	•	•	o	•	•		•		
Iron Spring Canyon	2.92	•	•	•	•	•	o	•	•		•		
Long Canyon	2.32	•	•	•	•		o	•	•		•		

<sup>1</sup> Fishing from shore or boat permitted, but other water contact recreational (REC-1) uses are prohibited.  
 x = Existing Beneficial Use  
 o = Potential Beneficial Use  
 Source: Water Quality Control Plan for the San Diego Basin (Region 9), 2011.

Table 2-10 (cont.)

	Unit	MUN	AGR	IND	PROC	GWR	REC1	REC2	WARM	COLD	WILD	RARE	SPWN
<b>Santa Margarita River Watershed (cont.)</b>													
Long Canyon	2.83	•	•	•	•	•	•	•	•	•	•		•
Million Dollar Canyon	2.84	•	•	•	•	•	•	•	•	•	•		
Temecula Creek	2.93	•	•	•	•	•	o	•	•		•		
Temecula Creek	2.92	•	•	•	•	•	o	•	•		•		
Temecula Creek	2.91	•	•	•	•	•	o	•	•		•		
Temecula Creek	2.84	•	•	•	•	•	•	•	•	•	•		•
Temecula Creek	2.83	•	•	•	•	•	•	•	•	•	•		•
Tule Creek	2.84	•	•	•	•	•	•	•	•	•	•		
Vail Lake	2.81	•	•	•	•	•	• <sup>1</sup>	•	•		•		
Wilson Creek	2.63	•	•	•	•	•	o	•	•		•		
Wilson Creek	2.61	•	•	•	•	•	o	•	•		•		
Wilson Creek	2.81	•	•	•	•	•	•	•	•	•	•		
<b>Santa Margarita River Watershed (cont.)</b>													
Cottonwood Creek	2.21	•	•	•			•	•	•	•	•		
DeLuz Creek	2.21	•	•	•			•	•	•	•	•	•	•
Kolb Creek	2.81	•	•	•	•	•	•	•	•	•	•		
Pechanga Creek	2.52	•	•	•	•	•	o	•	•		•		
Rainbow Creek	2.23	•	•	•			•	•	•	•	•		•
Rainbow Creek	2.22	•	•	•			•	•	•	•	•		•
Sandia Canyon	2.22	•	•	•			•	•	•	•	•		•
Santa Margarita River	2.21	•	•	•			•	•	•	•	•	•	
Temecula Creek	2.81	•	•	•	•	•	•	•	•	•	•		•
Temecula Creek	2.51	•	•	•	•	•	o	•	•		•		
Temecula Creek	2.52	•	•	•	•	•	o	•	•		•		
Walker Basin	2.22	•	•	•			•	•	•	•	•		
<b>San Mateo Creek Watershed</b>													
San Mateo Creek	1.40	+					o	•	•	•	•	•	•
Bluewater Canyon	1.40	+					o	•	•	•	•		
Christianos Creek	1.40	+					o	•	•	•	•		
Los Alamos Canyon	1.40	+					o	•	•	•	•		•
Nickel Canyon	1.40	+					o	•	•	•	•		
San Mateo Canyon	1.40	+					o	•	•	•	•	•	•
Talega Canyon	1.40	+					o	•	•	•	•		
Tenaja Canyon	1.40	+					o	•	•	•	•		•
Wildhorse Canyon	1.40	+					o	•	•	•	•		
<sup>1</sup> Fishing from shore or boat permitted, but other water contact recreational (REC-1) uses are prohibited.													
• = Existing Beneficial Use													
o = Potential Beneficial Use													
Source: Water Quality Control Plan for the San Diego Basin (Region 9), 2011.													

Table 2-11: Water Quality Objectives

	Unit	TDS	CL	SO4	%Na	N&P	Fe	Mn	MBAS	B	Odor	Turb (NTU)	Color Units	F
<b>Inland Surface Waters</b>														
Deluz	2.20	500	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Deluz Creek	2.21	750	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Gavilan	2.22	750	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Murrieta	2.30	750	300	300	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Auid	2.40	500	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Pechanga	2.50	500	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Wolf	2.52	750	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Wilson	2.60	500	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Cave Rocks	2.70	750	300	300	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Aquanqa	2.80	750	300	300	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Oakgrove	2.90	750	300	300	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
San Mateo	1.40	500	250	250	60	1	0.3	0.05	0.5	0.75	None	20	20	1.0
<b>Groundwaters</b>														
Deluz	2.20	500	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Deluz Creek	2.21	750	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Gavilan	2.22	750	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Murrieta <sup>2</sup>	2.30	750	300	300	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Domenigoni	2.35	2,000	-	-	-	-	-	-	-	-	-	-	-	-
Auid	2.40	500	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Pechanga	2.50	500	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Pauba	2.51	750	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Wolf	2.52	750	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Wilson	2.60	500	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Cave Rocks	2.70	500	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Aquanqa	2.80	500	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
Oakgrove	2.90	500	250	250	60	1	0.3	0.05	0.5	0.75	none	20	20	1.0
<p><sup>1</sup>. Concentrations of nitrogen and phosphorus, by themselves or in combination with other nutrients, shall be maintained at levels below those which stimulate algae and emergent plant growth. Threshold total Phosphorous (P) concentration shall not exceed 0.05 mg/L in any stream at the point where it enters a standing body of water, nor 0.025 mg/L in any standing body of water. A desired goal in order to prevent plant nuisances in streams and other flowing waters appears to be 0.1 mg/L total P. These values are not to be exceeded 10% of the time unless studies of the specific body in question clearly show that water quality objective changes are permissible and changes are approved by the Regional Board. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorous are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N:P = 10:1 shall be used.</p> <p><sup>2</sup>. The recommended plan would allow for measurable degradation of groundwater in this basin to permit continued agricultural land use. Point sources, however, would be controlled to achieve effluent quality corresponding to the tabulated numerical values. In future years, demineralization may be used to treat groundwater to the desired quality prior to use.</p> <p>Source: Water Quality Control Plan for the San Diego Basin (Region 9), 2011.</p>														

## 2.4.2 Constituents of Concern

The following discussion provides a more detailed description of constituents of concern in the Region's local surface waters and groundwaters. Figure 2-7 illustrates the 303(d) listed impaired waters in the Riverside County portion (or USMW Region) of the Santa Margarita River Watershed. There are no 303(d) listed impaired waters in the Riverside County portion (or USMW Region) of the San Mateo Creek Watershed.

### Nutrients

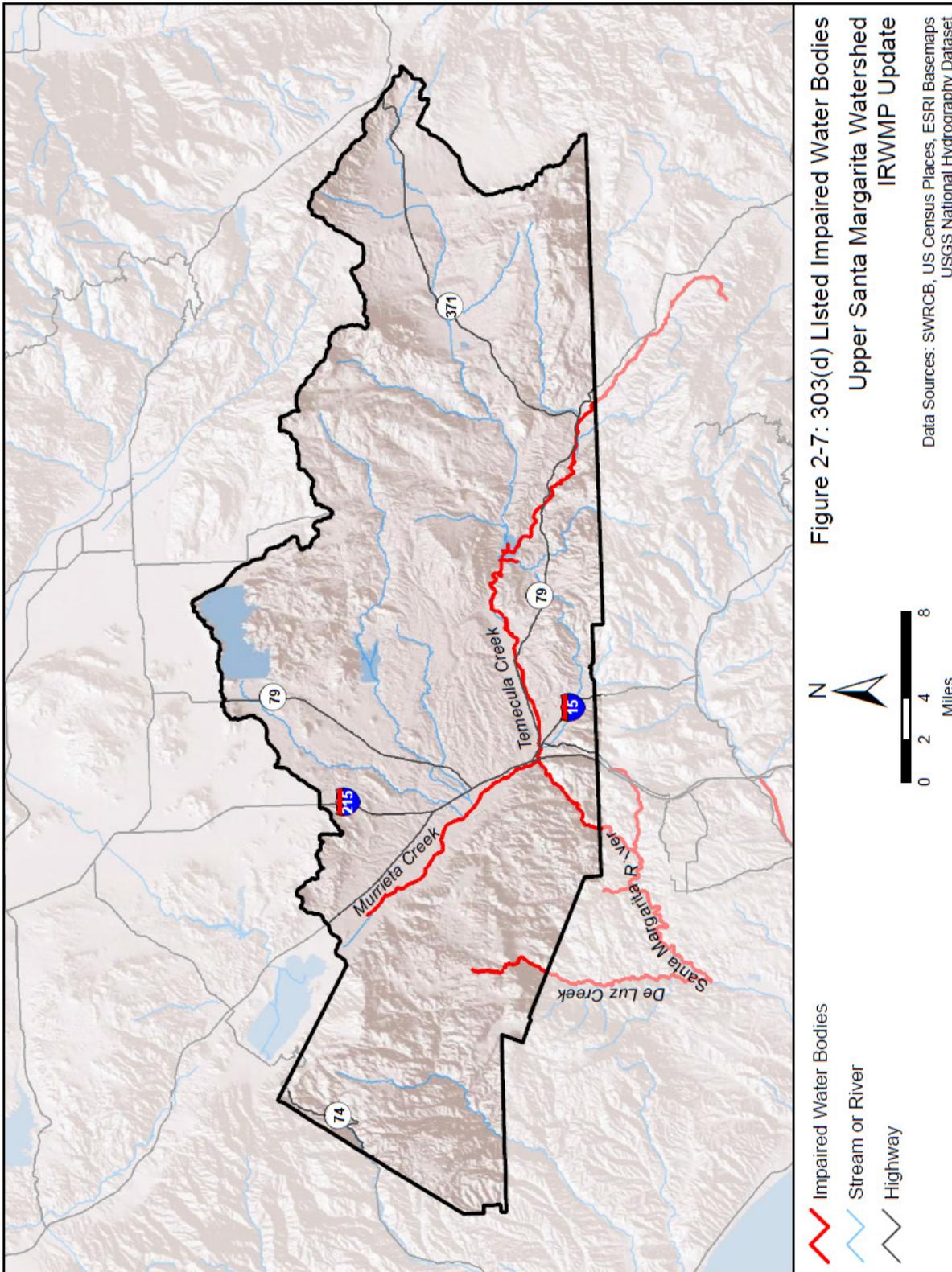
The Federal water quality standard for nitrate-nitrogen is set at 10 mg/L. For total nitrogen, the Basin Plan sets a water quality objective of 5 mg/L in addition to a 45 mg/L nitrate objective. Basin Plan water quality thresholds for total phosphorous are set at 0.05 mg/L at any stream or 0.025 mg/L for standing water. Water containing nitrate-nitrogen concentrations higher than 10 mg/L must either be treated or blended with another water source in order to reduce nitrate-nitrogen levels. Areas with significant irrigated land use or dairy waste disposal histories overlie groundwater with elevated nutrient concentrations.

These thresholds were set specifically for the protection of the COLD and WARM beneficial uses in this reach. Reaches in the Santa Margarita River Watershed listed as impaired for nitrogen or phosphorus include:

- Murrieta Creek (nitrogen and phosphorus)
- Upper Santa Margarita River (phosphorus)
- Temecula Creek (phosphorus)
- De Luz Creek (nitrogen)
- Rainbow Creek (nitrogen and phosphorus)

Monitoring results reported in the *2012-2013 Santa Margarita Region Monitoring Annual Report* indicated that in general, water quality is improving in the Region, though some constituents continue to exceed water quality objectives and thresholds since monitoring began in the 1990s. As with previous reporting years, phosphorous continues to be classified as a "persistent exceedence" for Murrieta Creek and Temecula Creek. Sampling for nitrogen in Murrieta Creek and tributaries has shown nitrogen concentrations above water quality objectives intermittently.

To begin addressing the issue of high nutrient levels in portions of the Santa Margarita Watershed, the Santa Margarita Watershed Nutrient Initiative was implemented, and has included the formation of a stakeholder group formed to address nutrient issues in the Santa Margarita River Watershed. The group currently is focused on the initial phase of this project, which targets the development of the methods that are used to prepare and implement a work plan to use a nutrient numeric endpoint (NNE) methodology to understand nutrient impacts to



the Santa Margarita River Lagoon. This work is a follow-on effort to the San Diego Lagoons Investigative Order (R9-2006-0076) and subsequent work plan developed jointly by the San Diego RWQCB and stakeholders in 2006, and is funded with Proposition 84 IRWM grant funds. An additional phase of this work, the Santa Margarita Region Retrofit Study, is described further below.

Though nutrient concentrations aren't currently a concern in the Region's groundwater basins, the *Temecula Valley Basin SNMP* reviews current nutrient concentrations, and projects concentrations for increased recycled water use in the Region. The SNMP indicates that septic tank discharges and turf grass fertilization represent the dominant sources of nitrate loads to the Temecula Valley Groundwater Basin. As discussed previously under Section 2.3.4, higher levels of recycled water use may require treatment or blending to ensure that nutrient levels don't exceed WQOs.

### Total Dissolved Solids

Dissolved solids refer to any minerals, salts, metals, cations or anions dissolved in water. TDS is inorganic salts (principally calcium, magnesium, potassium, sodium, bicarbonates, chlorides and sulfates) and some small amounts of organic matter that are dissolved in water. TDS can originate from natural sources, as well as from urban and agricultural runoff.

The WQO for TDS varies by water body, ranging from 500 to 700 mg/L. In addition, the Basin Plan also establishes specific TDS objectives for groundwater in the Temecula Valley Groundwater Basin for the shallower Pauba Aquifer and the deeper Temecula Aquifer: 500 mg/L for the Gertrudis, Pauba, Upper Pauba, Wolf and Upper Wolf hydrologic subareas, and 750 mg/L for the Wildomar, French, Murrieta, Lower Pauba and Lower Wolf hydrologic subarea. Several reaches within the Santa Margarita Watershed are listed as impaired for TDS, including reaches in the Region:

- Long Canyon
- Rainbow Creek
- Sandia Creek
- Temecula Creek

Monitoring data from the 2012-2013 Monitoring Plan continues to show the water bodies within the area as intermittently to persistently exceeding WQOs for TDS. Urban and agricultural runoff continues to be of concern as a potential source, especially as residential and urban areas expand within this Region. The *Temecula Valley Basin SNMP* indicates that return flow of applied water, predominantly from turfgrass with a smaller amount from agriculture and septic tanks, is the largest contributor to TDS loading in the Temecula Valley Groundwater Basin. TDS concentrations in the Cahuilla Valley Groundwater Basin have exceeded WQOs in the past, though additional study is needed to determine whether TDS loading is a concern.

### Iron and Manganese

Iron and manganese can originate from natural erosion and urban runoff, and has secondary MCL standards in place as they aren't considered risks to human health, but cause taste, odor, color and staining problems in domestically used water. Several reaches within the Santa Margarita Watershed are listed as impaired for iron and manganese, including:

- DeLuz Creek (Iron and Manganese)
- Murrieta Creek (Iron and Manganese)
- Rainbow Creek (Iron)
- Sandia Creek (Iron and Manganese)

Levels of total iron in surface water samples continue to be above WQOs, with the highest measurements occurring during wet-weather conditions.<sup>4</sup> In addition, some wells from the Cahuilla Valley Groundwater Basin in the Anza Valley have tested over the secondary MCL for iron and manganese. Within groundwater, iron and manganese can occur due to natural sources or from the well casings from which the water is pumped.

### Fluoride

Fluoride can occur in the groundwater basins as a result of natural erosion. Sampling at RCWD's wells between 2002 and 2004 has indicated levels of fluoride between 0.2 and 7.6 mg/L. To ensure that fluoride levels do not exceed the primary MCL of 2 mg/L, RCWD blends groundwater supplies with imported MWD water to produce supply that is 0.4 mg/L.

### **2.4.3 Rainbow Creek Nutrient TMDL**

The only TMDL currently in place in the Region (according to the 2011 Basin Plan) is the Rainbow Creek Nutrient TMDL. The TMDL process was initiated after Rainbow Creek was identified as an impaired water body on the 1998 303(d) list. The TMDL was initiated due to eutrophication based on high nutrient (i.e., nitrogen and phosphorus) levels and was based on non-point and point sources. The Basin Plan does not establish numeric objectives, however it does have narrative objectives that assume concentrations of nitrogen in excess of 0.25 mg/L in standing water and 1.0 mg/L in flowing streams could be expected to promote eutrophication. Nitrate concentrations in Rainbow Creek have exceeded 300 mg/L, which is over 300 times the narrative objective. Nitrate concentrations appear to have been dramatically lowered by voluntary implementation of management practices by local nurseries in cooperation with the Mission Resource Conservation District.<sup>5</sup> Consensus has not been reached, however, on the

<sup>4</sup> RCFC & WCD Santa Margarita Watershed NPDES Municipal Stormwater Permit (NPDES No. CAS0108766) Watershed Annual Progress Report for Fiscal Year 2012-2013.

<sup>5</sup> Mission Resource Conservation District (RCD) is an independent unit of local government located in Fallbrook, California. Mission RCD actively promotes the responsible use of land, water, and other natural resources. The District offers a wide selection of service for agricultural and residential communities, including irrigation water management, GIS mapping, and soil and water testing.

permanency or adequacy of the existing program, or what other measures might be necessary or appropriate to address the impairment for which the water body was included on the 303(d) list.

The TMDL has been prepared by the San Diego RWQCB and was submitted to the U.S. Environmental Protection Agency (USEPA) on April 24, 2000. The Nutrients TMDL sets the following water quality objectives:

- Total Nitrogen: 1.0 mg/L
- Total Phosphorus: 0.1 mg/L
- Nitrate-nitrogen at 10 mg/L

#### 2.4.4 Santa Margarita Region Retrofit Program Study

The *Santa Margarita Region Retrofit Program Study* has been developed to meet the requirements of Riverside County's Municipal Separate Storm Sewer System (MS4) permit which requires the development of retrofit programs. The Retrofit Program Study considers water quality in the Santa Margarita River and its tributaries within Riverside County, particularly constituents of concern causing these waters to be 303(d) listed, and uses this information to create an adaptive Retrofit Program Framework to recommend stormwater retrofit Best Management Practices (BMPs). The four tools comprising the Retrofit Program Framework include:

- 1) *Retrofit Program Framework Diagram*: This flow chart provides guidance to the process by which Copermittees can identify the appropriate actions, potentially including retrofits, to address an identified water quality problem or condition.
- 2) *Land Use Types Maps and Development Sequence Map*: These maps allow Copermittees to understand where and when development has occurred in the Region to focus assessment efforts and prioritize areas of development or individual sites for retrofit projects.
- 3) *Retrofit BMP Menu*: The BMP menu will help Copermittees to identify the specific BMPs that address various pollutants and issues of concern based on the scale and land use setting of the problem, as well as on the complexity, cost and timing of program implementation.
- 4) *BMP Descriptions and Resources*: Additional BMP descriptions and resources are provided that outline the basic components or approach involved with each BMP, and provides links to resources that further support program development and implementation.

In addition to the above tools, the Retrofit Program Study includes detailed criteria both for identifying candidate sites that may be suitable for retrofit BMPs, and for prioritizing among possible non-structural (actions and activities intended to reduce stormwater pollution that do not involve construction of a physical component or structure to filter or treat stormwater) and

structural (activities that involve construction of a physical component or structure to filter or treat stormwater) retrofit BMP projects and sites.

#### 2.4.5 Recycled Water Quality Related Issues and Needs

In addition to the 303(d) listed impaired waters, the Region has additional water quality concerns related to the management of its resources. The CDPH regulations for groundwater recharge contain requirements concerning recycled water contribution (RWC) being applied to a groundwater recharge project. CDPH specifies a maximum average RWC for each recharge project using recycled water' however, additional requirements are put in place for those projects that wish to specify a RWC greater than 0.20 (or 20 percent recycled water).

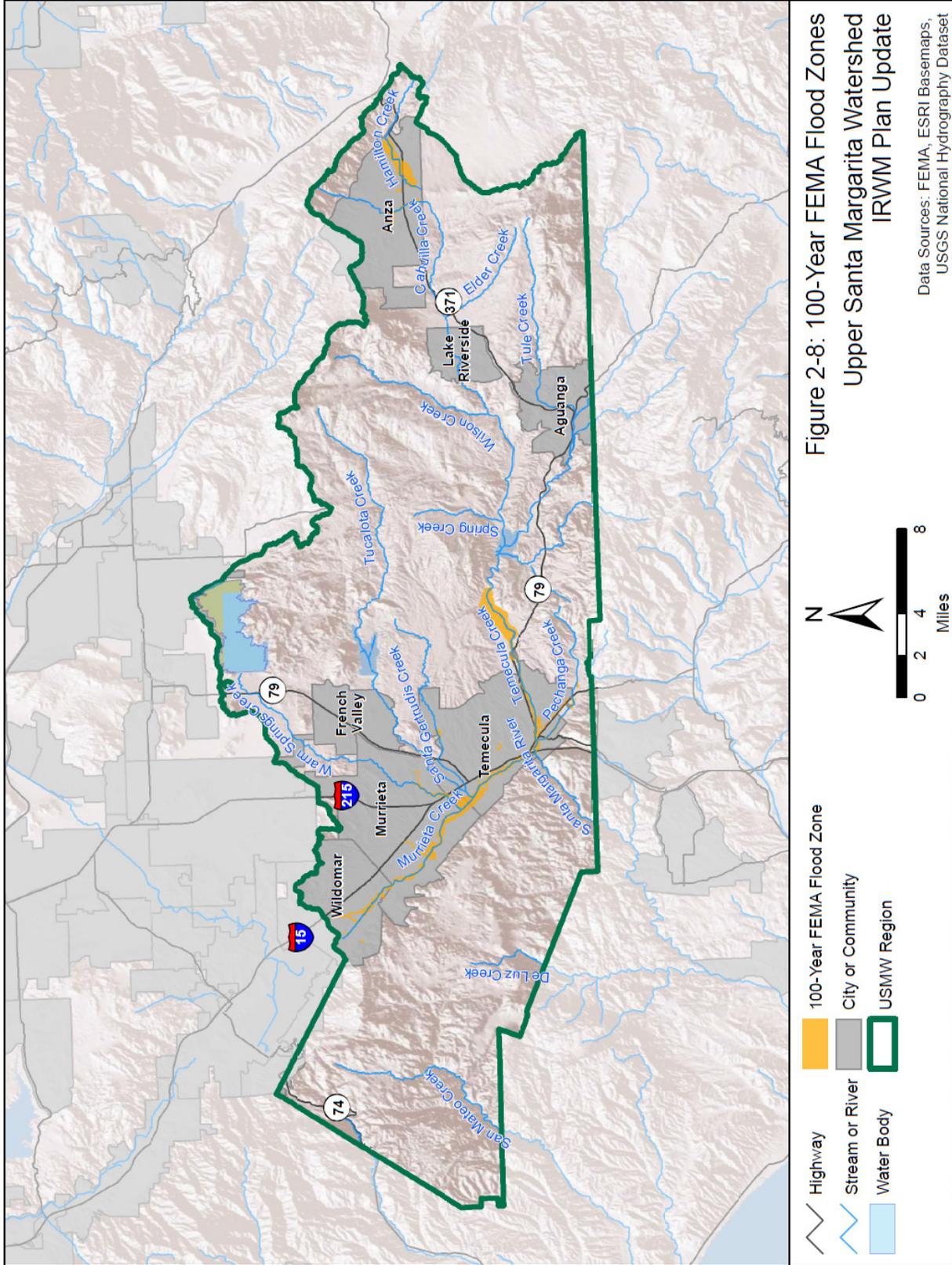
### 2.5 Flood Management

The Region has experienced flooding in the past caused by historic development on floodplains and other factors. Old Town Temecula, along Murrieta Creek, is particularly threatened by flooding. In 1993, this community suffered tens of millions of dollars in damage when flows from Murrieta Creek flooded the community and deposited two to six feet of sediment in the streambed. Other areas of the Region are also subject to flood hazard that can impact public health and property.



RCFC&WCD, in coordination with local, state, and federal agencies, maintains a flood control system to provide protection against flood hazards caused by excessive wet weather flows. Major flood control facilities include dams, flood basins, levees, open channels, and major underground storm drains in the Upper Santa Margarita River Watershed. As stated previously, the San Mateo Creek Watershed's upper reaches are not managed as there has been little development requiring supplies or flood control.

Federal Emergency Management Agency (FEMA) flood zones showing the 100-year flood zone have been mapped for the Region (as of 2008), and are shown in Figure 2-8. The 100-year flood zone is the typical level used by FEMA to designate areas at high risk for flooding. RCFC&WCD has also prepared master drainage plans for the area that address the current and future drainage needs of a given community. Within the Region, Master Drainage Plans have been prepared for the Wildomar area (prepared in 1989), for Anza/Wilson Creek (prepared in 1988) and Murrieta Creek (prepared in 1986). At the time these plans were prepared, they identified localized areas of flooding that required flood improvements be made to local creeks.



Privately proposed drainage and flood control structures and improvements are subject to review and approval by the local agency public works departments or the RCFC&WCD depending on who will ultimately maintain the infrastructure. The system conveys wet and dry weather runoff from surface areas and routes flows to various inland streams and channels. Ultimately, stormwater runoff is discharged to the Pacific Ocean from the Region's watersheds.

## 2.6 Ecological and Environmental Processes

The ecological health of a watershed plays a direct role in the quality and quantity of its water. Conservation and enhancement of habitat and biodiversity, and protection and restoration of the natural functioning of water systems, are integral to maintaining the environmental processes that support healthy ecosystems and enable beneficial human uses of the watershed.

### 2.6.1 Bioregions of the Upper Santa Margarita Watershed

The diversity of topography, climate, soils, and other physical elements of the Region have resulted in rich biological resources that are largely undisturbed, but are experiencing rapidly increasing development pressures in many areas. These resources include riparian corridors, wetlands, mountains, and desert that support rare vegetation communities and critical habitat for sensitive species.

The Upper Santa Margarita River Watershed is the southern third of the total area covered by the *Western Riverside Multi-Species Habitat Conservation Plan* (MSHCP). Riverside County developed the MSHCP as an integrated approach to enable habitat conservation planning along with plans for development and transportation. Approved by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) in 2004 as part of its Natural Community Conservation Planning program, the MSHCP is a comprehensive assessment of biological resources and identifies a long-term approach for local agencies, landowners, and communities to protect habitats and species of concern in balance with other land use needs.

MSHCP bioregions that fall within the Region include the Santa Ana Mountains, Agua Tibia Mountains, Riverside Lowlands, San Jacinto Foothills, San Jacinto Mountains, and Desert Transition Bioregions.

#### *Santa Ana Mountains and Agua Tibia Mountains Bioregions*

The southeastern tip of the Santa Ana Mountains Bioregion and the Agua Tibia Mountains Bioregion fall within the Upper Santa Margarita River Watershed. These bioregions generally occur at elevations above 2,000 feet and are relatively undisturbed and not urbanized. Diegan coastal sage scrub, mesic chaparral, and sparse coniferous vegetation communities are supported by these Bioregions.

### Riverside Lowlands Bioregion

The southern part of the Riverside Lowlands Bioregion falls within the Upper Santa Margarita River Watershed and includes the cities of Temecula and Murrieta. This Bioregion occurs at elevations below 2,000 feet and is characterized by Riversidian sage scrub and annual grasslands. This Bioregion is highly disturbed and urbanized. Diamond Valley Lake and Lake Skinner fall within this Bioregion.

### San Jacinto Foothills Bioregion

More than half of the San Jacinto Foothills Bioregion falls within the Region, and includes Vail Lake. This Bioregion occurs at elevations of 2,000-3,000 feet and is dominated by Riversidean sage scrub and xeric chaparral. The San Jacinto foothills are not heavily disturbed or urbanized.

### San Jacinto Mountains Bioregion

Only the southwestern tip of the San Jacinto Mountains Bioregion falls within the Region. At elevations above 3,000 feet, the vegetation communities supported by this Bioregion include coniferous forests, montane chaparral, and broad-leaved forest. The San Jacinto Mountains Bioregion is not heavily disturbed or urbanized.

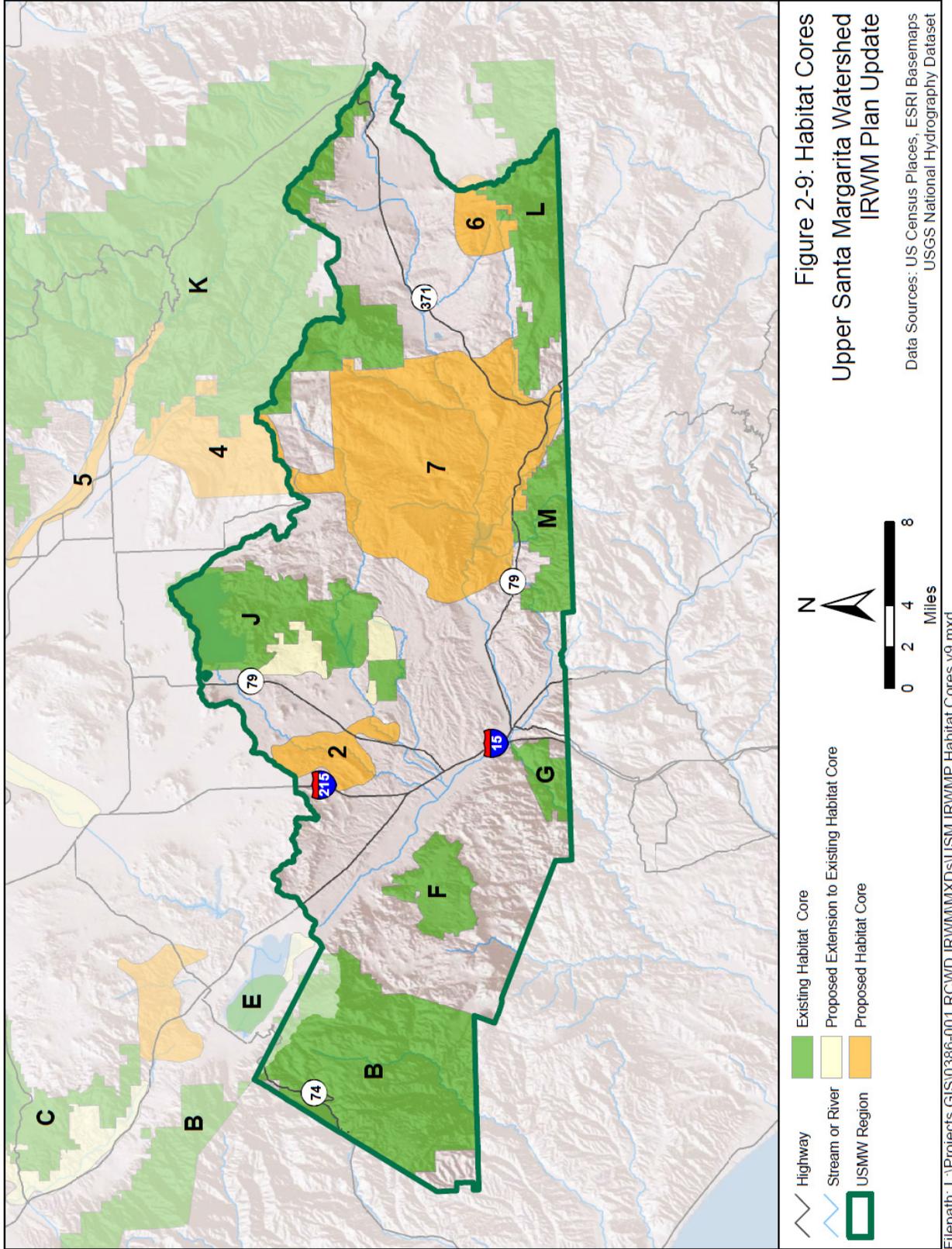
### Desert Transition Bioregion

More than half of the Desert Transition Bioregion falls within the Upper Santa Margarita River Watershed. This Bioregion occurs at elevations above 3,000 feet and includes the Cahuilla Indian Reservation. Arid and desert-influenced, the vegetation communities within this Bioregion include red shank chaparral, big basin sage scrub, and semi-desert succulent scrub. The Desert Transition Bioregion is not heavily disturbed or urbanized.

## **2.6.2 Sensitive Habitat and Species**

Sensitive habitat can be defined as a geographical area that contains physical and biological features essential to support a sensitive species or group of species. The MSHCP identified five Core Areas (Cores) that fall within the Region that are defined as blocks of habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more of the 146 species identified for conservation in the MSHCP (Figure 2-9). Linkages between Cores are also critical for conservation of sensitive species.

Many of these Cores are large, undisturbed tracts of land that are not currently connected to other Cores through linkages. The MSHCP identifies four proposed Cores and associated proposed linkages and extensions of existing Cores that would enable conservation of sensitive species and habitat in the Region.



### Existing Core G

Core G is 4,500 acres located southwest of Temecula and includes the Santa Margarita Ecological Reserve. Part of a protected 30-mile riparian corridor along the Santa Margarita River, the reserve is managed by The Nature Conservancy and CDFW. At the reserve, the Santa Margarita River runs through the Temecula Gorge, so conservation of riparian habitat and maintenance of existing floodplain processes along the Santa Margarita River are important in this area.

### Existing Core J

Core J is 9,610 acres located northeast of Temecula and includes Diamond Valley Lake, Lake Skinner, and Johnson Ranch. This Core provides vital habitat for sensitive species including the federally-endangered California gnatcatcher, least Bell's vireo, Quino checkerspot butterfly, and Stephens' kangaroo rat. Road expansion and other development have the potential to degrade the habitat within this Core.

Surrounding Diamond Valley Lake and Lake Skinner, the Southwestern Riverside County Multi-Species Reserve was established in 1992 and contains more than 13,500 acres of natural lands. The reserve was formed in part as an environmental mitigation measure for the Diamond Valley Lake project by the MWD and the Riverside County Habitat Conservation Agency (RCHCA). The reserve is part of critical habitat for the Stephens' kangaroo rat, a federally-listed endangered species for which thousands of acres of core preserves have been or will be established in western Riverside County and managed by RCHCA. Two federally-endangered plant species, Munz's onion and San Jacinto Valley crowscale, along with several other rare or endangered native plants exist in the reserve.

The Skinner Reservoir Area has been named an Important Bird Area (IBA) by the National Audubon Society. An IBA is a site that provides essential habitat for one or more sensitive bird species. Riparian woodland to the east of Lake Skinner and Riversidean coastal sage scrub and native grassland surrounding the lake supports bird species including the least Bell's Vireo, California gnatcatcher, Bell's sage sparrow and grasshopper sparrow. In addition, the Skinner Reservoir Area is one of the key wintering raptor areas left in southern California, supporting prairie falcon, golden eagle, ferruginous hawk, and bald eagle.

Adjacent to Lake Skinner, the Johnson Ranch and Roripaugh Ranch Preserves consist of approximately 1,700 acres in the unincorporated area of French Valley and support sensitive vegetation communities, including sage scrub and vernal pools, and sensitive species, including the burrowing owl and endangered Riverside fairy shrimp. The preserves are managed by the Center for Natural Lands Management, the Riverside County Regional Parks and Open Space District and the CDFW.

### Existing Core K

Only the southern 149,750 acres of Core K is located within the Region. Core K is in the San Bernardino Mountains and proposed Cores 4 and 7, as described below, would connect Core K to existing Cores L and M.

### Existing Core L

Core L is 24,750 acres located in the far southwestern part of the Region and is comprised of Bureau of Land Management lands and the Anza-Borrego Desert State Park. Sensitive species within this area include the Quino checkerspot butterfly, Bell's sage sparrow, and burrowing owl. This large block of habitat would connect to existing Cores K and M through the large proposed Core 7.

### Existing Core M

Core M is 10,460 acres located along the border between Riverside and San Diego Counties in the Agua Tibia Mountains. Proposed Core 7 would abut existing Core M and significantly increase the amount of habitat in this area of the watershed. A small reserve (255 acres), called the Emerson Oaks Reserve, is already part of the University of California Natural Reserve System and protected by the Nature Conservancy. This reserve borders the Agua Tibia Mountains and provides opportunities for teaching and field study of oak woodlands and other important habitats.

### Existing Core B

Core B is 71,490 acres located along the western portion of the Region and in the Cleveland National Forest. This Core is only 1.6 miles from the nearest connected Core. It is connected in the north to Core A by Proposed Constrained Linkages 1 and 2, in the south to the Tenaja Corridor by Proposed Linkage 9, and in the center to the Lake Mathews/Estelle Mountain area by Proposed Linkage 1. Studies have shown Core B provides both live-in and linkage habitat for the mountain lion due to the large intact blocks of habitat, and may provide linkage area for other species such as the bobcat.

### Proposed Cores

The MSHCP identifies four proposed Cores within the Region as illustrated in Figure 2-9. These proposed Cores include habitat that, if preserved, would enable conservation of sensitive species within the Watershed.

Proposed Core 2, Antelope Valley, would consist of over 5,000 acres and would protect habitat for the Quino checkerspot butterfly, among other endangered and/or otherwise sensitive species. This proposed Core currently consists largely of private lands and is constrained in all directions by existing agricultural uses and urban development.

Proposed Core 4 would consist of almost 12,000 acres to connect existing Core J to Core K, the San Bernardino National Forest.

Proposed Core 6 would consist of 4,290 acres of largely the Silverado Ranch. Adjacent lands are open space and rural and include the Cahuilla Indian Reservation.

Proposed Core 7 would consist of 50,000 acres adjacent to proposed Core 4 and provide a very large, intact, high-quality habitat block for a number of sensitive species, including the arroyo toad, California red-legged frog, Quino checkerspot butterfly, Bell's sage sparrow, and two species of kangaroo rat.

This IRWM Plan supports the conservation and protection of the critical habitat areas described above, and projects recommended herein reflect those goals. For purposes of the specific water resource management goals of this IRWM Plan, aquatic resources within the Region are the primary focus.

### 2.6.3 Aquatic Resources

The Santa Margarita River is one of the largest coastal rivers in southern California and has been relatively protected from urbanization until recent decades. San Mateo Creek is also relatively undisturbed in its upper reaches, allowing it to be used as a reference watershed for bioassessment monitoring.



Important wetlands and riparian habitat are associated with Vail Lake, Lake Skinner, Diamond Valley Lake, the Santa Margarita River, San Mateo Creek, and their tributaries. Although many of the river and creek reaches are ephemeral and without water for a significant part of the year, they do provide important habitat for native amphibians and reptiles, including tree frogs and southwestern pond turtles, and deep pools may provide enough year-long water to support fish.

The United States Army Corps of Engineers (USACE) has begun development on a *Special Area Management Plan* (SAMP) for the Santa Margarita Watershed to provide a comprehensive assessment of aquatic resources and a plan for their protection and enhancement while enabling the permitting of anticipated development, infrastructure, and maintenance projects in the watershed. At this time, the SAMP is on hold. In addition, the *Santa Margarita River Watershed Management Plan*, prepared for the County of San Diego, outlines the biological resources associated with the river and identifies threats to these resources.

Although largely undisturbed, aquatic resources in the watersheds are threatened by habitat loss, impaired water quality, and invasive species. Impaired water bodies within the Upper Santa Margarita River Watershed, as listed by the SWRCB in accordance with section 303(d) of the Clean Water Act, include Murrieta Creek, Temecula Creek, and the Santa Margarita River.

Areas of degraded habitat along reaches of the Santa Margarita River have enabled establishment of several invasive species, including tamarisk and giant reed (*Arundo*), which have an adverse effect on the hydrology, habitat diversity and ecological function of the Santa Margarita River. In addition, introduced wildlife species, including the bullfrog, crayfish, and exotic fish species, have affected biodiversity and abundance of native fish and amphibians in the watershed.

Only one of the four native freshwater fish species still survives in the watershed. The arroyo chub, a small minnow-sized fish, has been found in Temecula Creek (including several locations above Vail Lake), Murrieta Creek, De Luz Creek, Sandia Creek, Rainbow Creek, and the main Santa Margarita River. Exotic predator species, habitat degradation and reduced water supplies are all increasing pressures on this species. Recovery of other native fish species in the Santa Margarita River, including the federally-endangered southern California steelhead trout, the partially armored threespine stickleback, and the Pacific lamprey, will require habitat restoration, fish barrier removal, and water quality improvements.

The southern California steelhead trout distinct population segment (DPS) encompasses the Santa Maria River near Point Conception to the Tijuana River at the U.S.-Mexican border. According to the National Marine Fisheries Service's (NMFS) *2009 Draft Steelhead Recovery Plan*, only 41 percent of the historical estuarine habitat remains in the Santa Margarita River Watershed and 76 percent in the San Mateo Creek Watershed. NMFS includes both watersheds in its Southern California Steelhead Recovery Planning Area. Due to the presence of Camp Pendleton Marine Corps Base, which covers portions of the coastal and middle reaches of the watersheds, the habitat quality in this area is not as degraded as in other DPS regions. The highest threat to steelhead in the watersheds includes groundwater extraction, dams and surface water diversions, recreational facilities and non-native species. Additionally, roads in the Santa Margarita River Watershed and agricultural development in the San Mateo Creek Watershed are also listed as high threats to the populations in the Steelhead Recovery Plan. NMFS lists recovery actions to address these threats in the Draft Steelhead Recovery Plan.

The SWRCB has defined Areas of Special Biological Significance (ASBS) in the state of California where special efforts are required for the protection of species or biological communities from alteration of natural water quality. Although there are no ASBS located within the Region, given its drainage into coastal areas, the upstream watersheds in the Region can potentially impact ASBS in Orange and San Diego Counties.

## 2.7 Land Uses

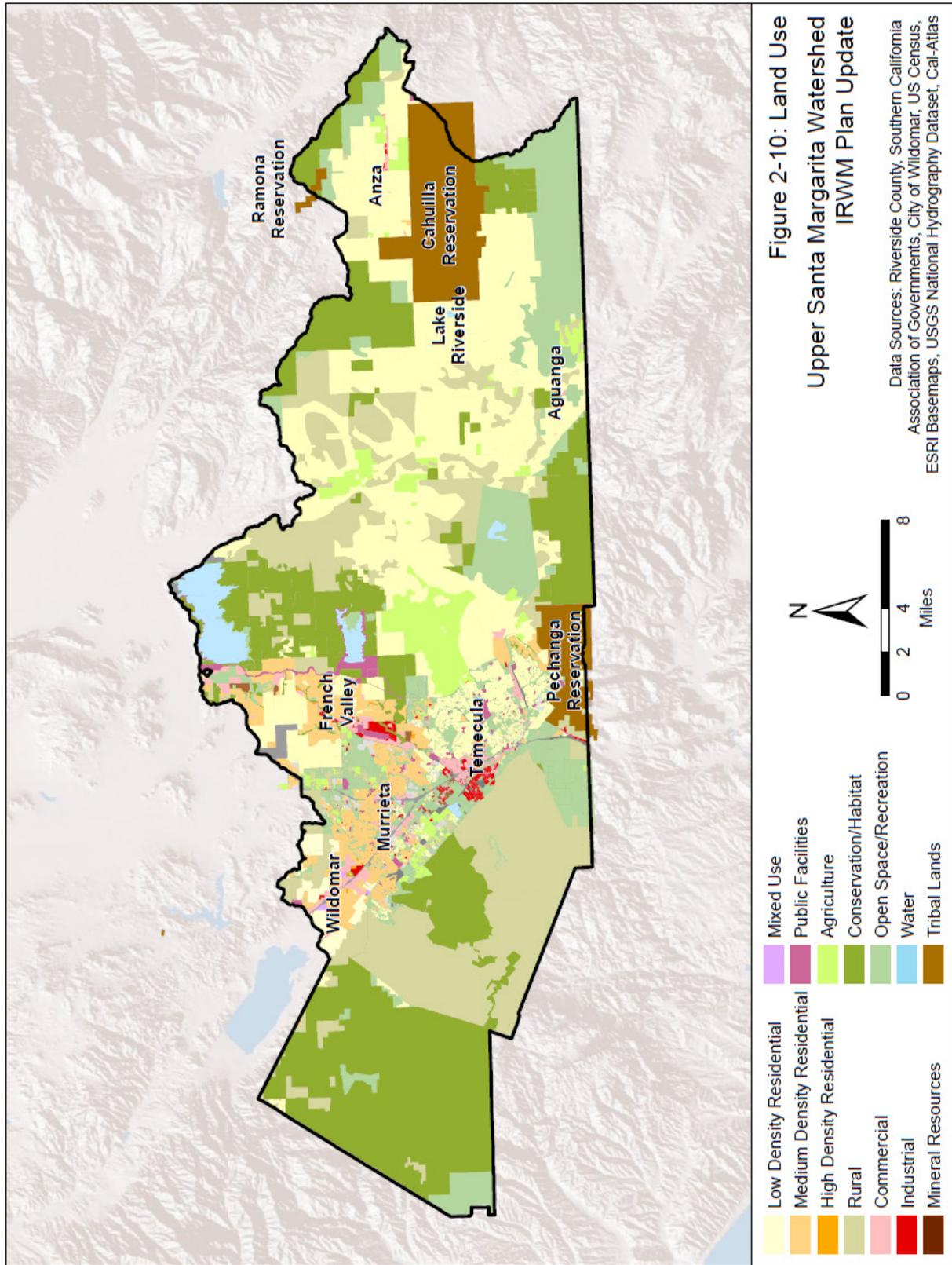
In the early 1900's, lands in the Region were first altered from riparian forest into agriculture. Land use pressures are now increasingly associated with suburban development around the cities of Temecula and Murrieta.

The *County of Riverside General Plan* contains land use policies and recommendations for the Region within the *Southwest Area Plan* and the *Riverside Extended Mountain Plan*. These

Specific Plans are extensions of the General Plan and apply to the areas surrounding Temecula and Murrieta, and the area of largely natural/vacant lands to the east of Riverside Extended Mountain Plan. In keeping with the vision of the General Plan, the Specific Plans provide important land use and planning information to guide projects in the watershed.

Existing land use within the watershed can be divided into three main categories, in keeping with the MSHCP: developed, agriculture, and open space. Developed land includes residential, commercial, industrial, public facilities, recreational, and rural uses. Open space includes natural land, vacant land, and water as illustrated in Figure 2-10.

While 70 percent of the land in the Upper Santa Margarita River Watershed is considered developed, many of these lands are in rural areas where residences are spread out on large estates and ranches. Urban and residential development associated with the cities of Temecula and Murrieta and smaller communities of Wildomar and Murrieta Hot Springs make up approximately 25 percent of land use in the Region. Agricultural lands make up approximately 12 percent of the Region, and include avocado and citrus groves and vineyards. Open space makes up the remaining 18 percent of the Region, and includes approximately 70,000 acres of existing preserved lands for conservation and public use.



### 2.7.1 Open Space

As described in Section 2.7, there are several habitat reserves and protected natural lands within the Region. The largest of these reserves include the Santa Rosa Plateau Ecological Reserve, Santa Margarita Ecological Reserve, and Southwestern Riverside County Multi-Species Reserve. Pursuant to the MSHCP, up to 150,000 acres would ultimately be conserved, making up more than one third of the watershed. Preservation of these lands will provide important, high-quality habitat and corridors to support the many sensitive species in the Region.

The eastern half of the Region consists primarily of vacant land, and a large area of particularly high-quality habitat (proposed Core 7) is recommended for conservation by the MSHCP, as described in Section 2.7. This part of the Region lies just east of Temecula and is likely to be under significant pressure for development.

Like the natural and vacant lands described above, the three water bodies within the watershed, Diamond Valley Lake, Lake Skinner, and Vail Lake, all provide open space and important recreational opportunities that contribute to the quality of life in the Region.

### 2.7.2 Recreational Parks

Diamond Valley Lake and Lake Skinner Regional Park are two large recreational parks in the Region. In addition to domestic and emergency water supplies, these reservoirs provide recreational opportunities including hiking, camping, golfing, and fishing. At Diamond Valley Lake, MWD has partnered with Valley-Wide Recreation and Park District to provide recreational amenities, including playfields and a swimming pool. Lake Skinner Regional Park, managed by the Riverside County Regional Park and Open Space District, also offers visitors a swimming pool and extensive camping facilities. Tourist-oriented development in these areas is likely, and projects will need to maintain a balance between human uses and important aquatic and habitat resources.

Water quality concerns have limited the types of recreation allowed in these reservoirs. Swimming, wading, and water skiing are prohibited, and clean-burning boat engines are required. MWD plans to develop swimming lakes outside the east dam of Diamond Valley Lake, to add to the recreational opportunities in the Region. Maintaining the health of the lakes' fisheries is also considered a priority by both MWD and the CDFW.

Vail Lake is located about 15 miles east of Temecula and was created by a dam on Temecula Creek. The property surrounding Vail Lake is privately owned, and recreational access to the lake is privately controlled. Recreational opportunities at Vail Lake include fishing, camping, hiking, bicycling, and equestrian trails.

In addition to these large recreational parks located within the Region, the Cleveland National Forest, San Bernardino National Forest, and Anza-Borrego Desert State Park are adjacent recreational resources. The Cleveland National Forest lies along the western boundary of the Watershed, the San Bernardino National Forest lies along the northeastern boundary, and Anza-

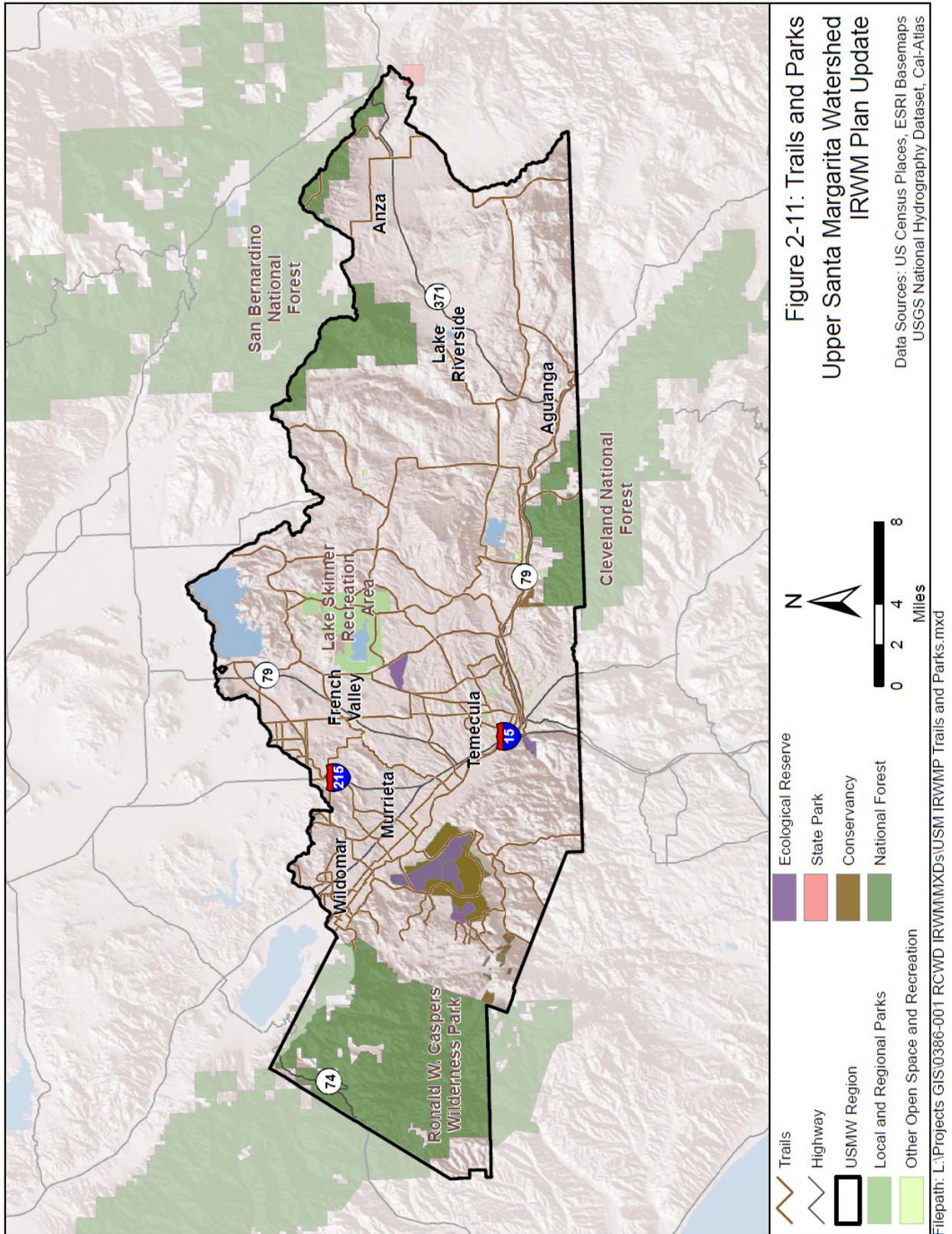
Borrego Desert State Park lies along the southern boundary. These large parks offer ample public access and recreational opportunities, such as hiking, camping, bicycling, and wildlife viewing, and are connected by an extensive system of hiking and bicycling trails nearly 400 miles in length as shown in Figure 2-11.

Many smaller parks are also located within the Region. Nearly 100 small parks are associated with the cities of Temecula and Murrieta, and the Valley-Wide Recreation and Park District provides open space and recreational park facilities in the unincorporated lands throughout the Region. These local parks provide community meeting facilities, picnic grounds, playgrounds and other important recreational opportunities.



### 2.7.3 Wine Region

The *Riverside County General Plan* identifies an area located east of Temecula that encompasses 35,000 acres of rolling hills, and is characterized by its many vineyards and wineries, citrus groves and equestrian estates. The wineries and equestrian centers provide an economic benefit as a tourist attraction, and the rural lifestyle of this area holds special significance as part of the character and sense of place in this region. The *Temecula Valley Wine Country Community Plan* has been adopted in order to shape the development of this area, and maintain its economic benefits. This community plan expands the hospitality, equestrian and residential land uses of the area, and thus increase its water and wastewater resource needs and impacts.



## 2.8 Social and Economic Characteristics and Trends

Social characteristics are defined by numerous criteria, including public outreach results, ethnicity, age, urbanization, and employment. Data is presented for these criteria at the Region level or where data was absent at the Riverside County level. In cases where data was not specifically available at the watershed level, it is assumed that the Upper Santa Margarita Watershed closely mimics the Riverside County social characteristics.



Major social concerns were solicited as part of the development of the Riverside County Integrated Project (RCIP), a comprehensive, three-part, integrated program to simultaneously prepare

conservation/environmental, transportation, housing and development guidelines in Riverside County for the first half of the 21<sup>st</sup> century. A county-wide public opinion survey was conducted during the development of the RCIP along with multiple outreach meetings. Residents indicated they support the following ideas that are now expressed in the Riverside County General Plan and will guide the future of the County:

- Continued planned growth in response to population growth
- Road corridors that connect communities, and connect Riverside County with adjacent counties
- Open space corridors that connect habitats
- No leapfrog development
- Less sameness, greater densities for “smart” developments
- Regional north/south and east/west solutions to congestion
- Better air quality through less traffic congestion and more local jobs
- A plan that has a financing strategy
- A planning pact with cities to help achieve the plan

Riverside County as a whole, which encompasses the Region, is a mix of ethnicities with no one ethnicity acting as a majority. According to the Riverside County Center for Demographic Research, in 2012, Whites represented 40.1 percent of the population, Hispanics 45.0 percent, African-Americans 6.0 percent, and Asians 5.8 percent.

There are three Native American tribal reservations present in the Region: Pechanga, Cahuilla, and Ramona. Locations of the reservations are depicted in Figure 2-10 from Section 2.7, shown

earlier. The 2010 US Census estimates the total population of Native Americans within Riverside County on these three reservations at 533, and showed no Native Americans on the Ramona Tribal Lands resided in Riverside County in 2010.

Percentage changes in the population of age groups residing in Riverside County reflects that the area is changing from an area for affordable retirement to an employment center. At 39 percent, Riverside County has a large percentage of population 24 years old and younger as compared to surrounding counties. Additionally, Riverside County's 11.6 percent of adults 65 and older, is higher than surrounding counties. However, the percentage of the population between 30 and 65 is less than surrounding communities.

Approximately 83 percent of the residents in the Region reside within the urban areas of Temecula, Murrieta and Wildomar. Approximately 12 percent of the total Riverside County population resides within the boundaries of the Region. The majority of the watershed is composed of unincorporated rural areas.

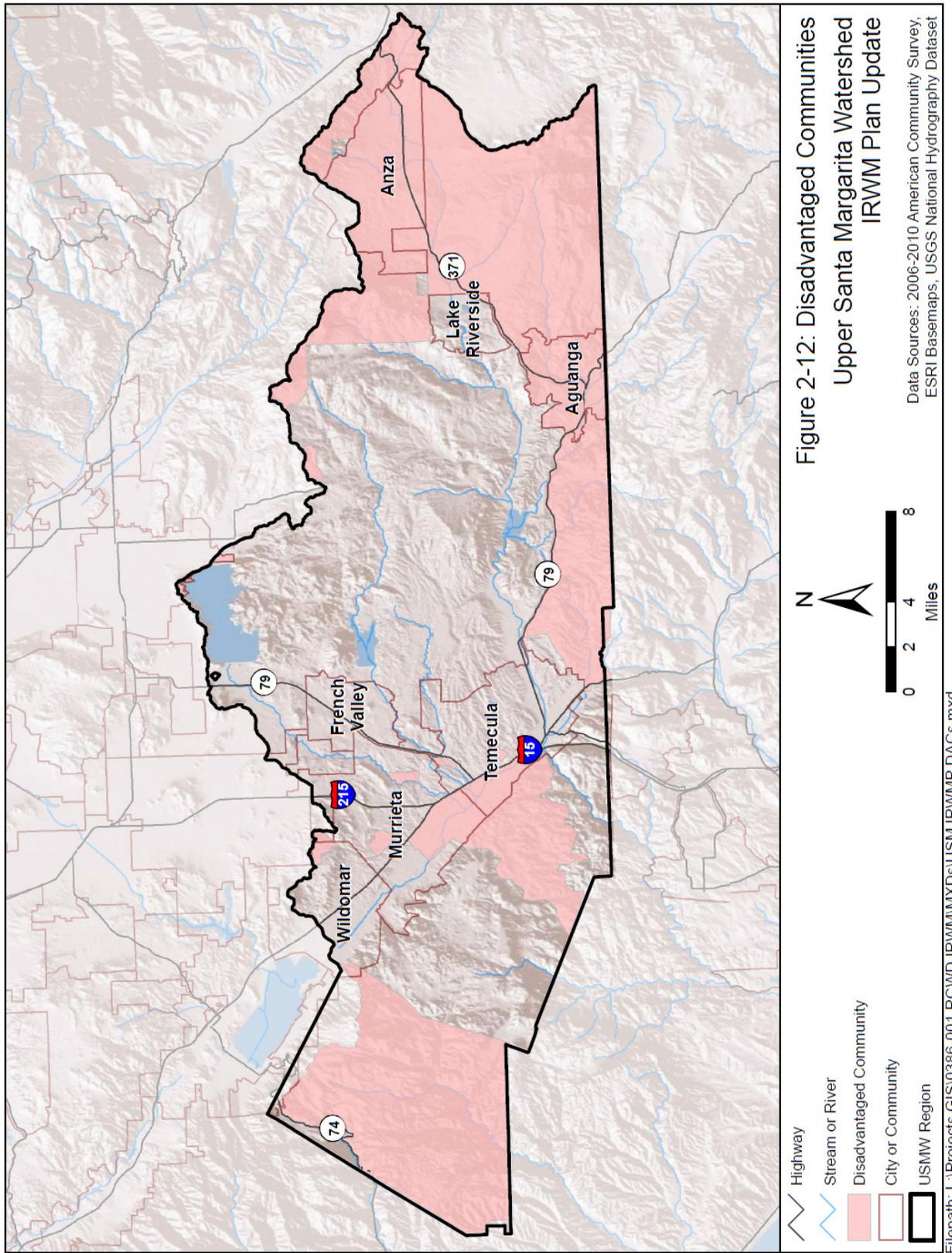
Current economic indicators continue to point towards ongoing future growth in Riverside County's economy. Economic indicators used to establish current economic conditions and trends include median household income related to disadvantaged communities, housing, and job growth.

Data is presented for the economic indicators at the Regional level or where data is absent at the Riverside County level. DAC data is presented at the watershed level and housing and job growth indicators are presented at the Riverside County level. Housing and job growth indicator data was not available at the Regional level. It is assumed that the county level economic conditions and trends are similar to the conditions in the Region. Data sources for determining disadvantaged communities are based on US Census 2010 tract datasets and housing and job growth data sources include data from the Riverside County Center for Demographic Research/Transportation and Land Management Agency of Riverside County, Western Riverside Council of Governments, and California Department of Labor. Data developed by the Riverside County Center for Demographic Research is provided to SCAG for forecasts at the larger regional scale.

### 2.8.1 Disadvantaged Communities

DACs are defined in State Guidelines as those communities with an annual median household income (MHI) less than 80 percent of the statewide annual MHI (California Water Code, (CWC § 79505.5(a)). Using 2006-2010 American Community Survey (ACS) data, the statewide annual MHI is \$60,883. Disadvantaged communities were identified by obtaining MHI data from 2006-2010 ACS datasets for each census tract in the Region.

Figure 2-12 depicts areas with a MHI less than \$48,706 and qualifying as disadvantaged communities. In comparison, the annual MHI for Riverside County was \$57,768 slightly lower



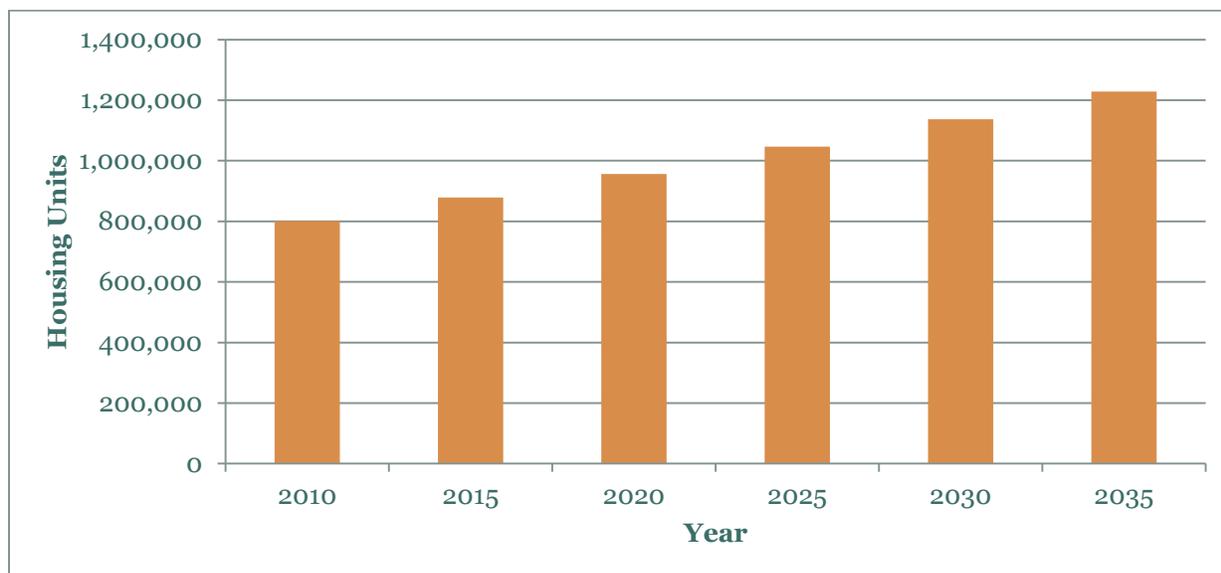
than the statewide annual MHI of \$60,883. Qualifying communities are concentrated in the western and eastern portion of the watershed, including portions of the cities of Murrieta and Temecula, and the communities of Anza and Aguanga. Cahuilla Tribal Lands are located within the Region and extend outside of the Region’s boundaries. The portion of the Tribal Lands located within the Region is within a designated DAC. As discussed in Section 1, the stakeholder process for the IRWM Plan is designed to capture the input of DACs.

The DACs in the eastern portion of the Region, particularly in the Anza area, have unique water supply and water quality needs. As described in Section 2.3, the area is reliant on the Cahuilla Valley Groundwater Basin for its water supply since obtaining imported water is infeasible. This area also lacks flood control and is subject to frequent rural flooding, and has issues with water quality, particularly high nitrate levels and naturally occurring constituents that exceed limits.

### 2.8.2 Housing

Riverside County housed approximately 800,700 dwelling units in 2010. This number is expected to dramatically increase by almost 427,500 to over 1.2 million units in 2035 for an annual average increase of approximately two percent as illustrated in Figure 2-13. Driven by increases in projected employment levels and population, additional housing is required for economic expansion. Two-thirds of the new units are expected to be constructed in western Riverside County, encompassing the Region.

**Figure 2-13: Riverside County Housing Trends**



Another economic indicator of housing is the ability of the population to afford housing. Affordability measures in 2013 indicated that 56 percent of the population could afford the median priced home of \$298,000, making the Inland Empire region the most affordable region in southern California.

### 2.8.3 Employment

Riverside County employment was approximately 978,400 employees in 2010, an increase of 123,800 over 2000 estimates. Educational services was the largest employment sector in 2010 with almost 70,000 employees, followed by health care and social assistance with over 69,000 employees, and accommodation and food service with more than 65,000 employees. The largest employer was Pechanga Resort & Casino with approximately 4,600 employees.

For the forecast period 2010 to 2035, Riverside County is expected to have an annual average employment growth rate of approximately 3 percent. Employment levels are expected to reach approximately 1,243,000 in 2035 according to SCAG projections.

As projected in the Riverside County Projections 2006, the five largest employment sectors in 2035, from largest to smallest, are expected to be retail, construction, health care and social services, and government. Population serving jobs, jobs that are a function of population growth, are expected to maintain pace with projected population increases. Job growth in basic sectors - jobs that are a function of market economy growths - are expected to experience positive growth over the forecast period except for agriculture jobs. Leisure and hospitalities are expected to experience strong growth over the forecast period as casino businesses expand on Tribal Lands. Riverside County will continue its trend of increasingly shifting from a logistics and manufacturing based economy to an information/professional services based economy.

## 2.9 Climate

Climate plays a large role in the ability to predict and manage the timing and volume of regional water resources. Demand and supply projections used by the Region's water resources managers are based on both seasonal and longer-term patterns of precipitation and temperature, allowing for variations between wet, dry and average years as well as summer and winter seasons. Local surface water and groundwater supply infrastructure has been developed based upon the somewhat consistent patterns of precipitation that supply these resources. These patterns coupled with demand projections have allowed regional planners to also plan for the amount of imported water supplies that will be necessary to meet regional needs. Understanding local precipitation patterns is also critical to being able to provide adequate flood protection and environmental flows for the Region. The following discussion provides information on the existing climate within the Region, and goes on to explore the projected effects of climate change on the Region's water resources.

### 2.9.1 Existing Climate

Climate within the Region varies dramatically based on topography. The Region is considered to have a Mediterranean climate with hot, dry summers, and cooler winters. Table 2-12 presents average historical monthly climate data for the Region.

Total annual precipitation averages just over 11 inches per year. During very wet years, rainfall can exceed 25 inches, while during very dry years rainfall can be less than four inches. Rainfall is

more prevalent during the months of November through April. Higher elevations receive more precipitation than lower elevations, up to 45 inches.

Summer daytime temperatures are in the mid-80 to high-90 degree range. The area's temperature is influenced by prevailing onshore winds from the Pacific Ocean and the rain shadow effect from the Santa Rosa Mountains. The "Santa Ana" winds can cause periods of extremely hot weather with dry winds. Winter daytime temperatures average in the mid-60 degree range. Higher elevations have lower average monthly temperatures.

The standard annual average evapotranspiration rate (ETo) for the Region, based on an average of measurements in Temecula, is 4.4 feet per year with the highest rates occurring during the summer months. ETo is the loss of water to the atmosphere by the combined processes of evaporation (from soil and plant surfaces) and transpiration (from plant tissues). ETo serves as an indicator of how much water plants need for healthy growth and productivity.

**Table 2-12: Average Monthly Climate**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>Average Max Temperature (F)<sup>1</sup></b>	67.5	66.4	69.9	73.6	76.6	82.3	88.4	90.4	88.0	80.4	72.7	65.8
<b>Average Rainfall (inches)<sup>1</sup></b>	3.9	3.8	2.3	1.2	0.5	0.3	0.2	0.0	0.5	0.5	0.8	2.2
<b>Standard Average Eto (inches per month)<sup>2</sup></b>	2.8	2.7	3.9	4.8	5.5	6.1	6.6	6.5	5.2	4.0	3.1	2.7

Source: California Irrigation Management System (CIMIS) Station #62 – Temecula. November 1986 through December 2013. <http://www.cimis.water.ca.gov>. Average rainfall monthly values represent total precipitation during an average month over the given time period. Temperature monthly values are based on an average month over the given time period. Standard average Eto are based on an average month over the given time period.

## 2.9.2 Impacts and Effects of Climate Change on the Region

Estimating the impacts and effects of climate change at a regional level is challenging due to the coarse spatial scale of models that project climate change impacts of temperature and rainfall, and due to the long timescale evaluated in many models (to the year 2100). Recently, state entities have been working to downscale climate models to allow for climate change planning at a level that can be useful for planning efforts. The timescale used for these models has also been downscaled to provide outputs for the year 2050, and though this is still a longer timescale than is used in IRWM planning, it is still useful for assessing climate change.

To incorporate climate change into water resources management, downscaled temperature and precipitation projections are input into hydrologic and other models to project impacts to water supply, water demand, snow pack, sea level rise, and wildfires. The results of these models have been summarized in a variety of studies and planning documents at the state and regional levels. A number of these documents were reviewed to determine which best represented the impacts for the Region. These documents include:

- *Using Future Climate Projections to Support Water Resources Decision Making in California* by the California Climate Change Center (2009)
- *Colorado River Basin Supply and Demand Study* by U.S. Bureau of Reclamation (USBR) (2012)
- *California Adaptation Planning Guide* by the California Emergency Management Agency and the California Natural Resources Agency (2012)
- *Cal-Adapt* website managed by the California Energy Commission (accessed 2013)

Table 2-13 summarizes the impacts and effects of climate change on the Region by 2050 (unless otherwise indicated), which are typically based on an average of various climate change analyses. Generally, based on the documents listed above, climate change may result in increased temperatures in the Region. Rainfall projections vary with some projections showing that the Region will receive two to four inches less rainfall. It's generally accepted that storms will be less frequent, but more intense, which will impact the ability of the Region to capture stormwater for water supply, degrade surface water quality, or increase flood risk. With higher temperatures and changes in rainfall volume and frequency both in the Region and across the state, additional impacts will be felt in the Region.

Imported water supply from the SWP is projected to decrease by up to 25%. Colorado River supplies to the lower basin states (Arizona, California, and Nevada) may decrease by up to 24%, or 1.8 thousand AFY out of the 7.8 million AFY allocated to the lower basin states. It can be assumed, that decreases in local rainfall will also decrease the local supply available to the Region, though hydrologic modeling has not been done to quantify potential local supply changes. In the future, the Region may explore hydrologic modeling to better understand the impacts climate change could have on local water supplies.

Increases in temperature and a drier climate are also expected to increase agricultural and urban water demand, particularly for irrigation, due to increases in evapotranspiration rates. As with local supply, hydrologic modeling has not been done to quantify potential demand changes.

The changes to climate are also expected to increase the frequency of wildfires, with studies suggesting a slightly increased risk of wildfire in the Region. Increases in wildfires have the potential to increase sedimentation and turbidity of surface waters and increase flash flooding.

Understanding projected climate change impacts and effects on the Region, will help to identify in what ways water resources in the Region are most vulnerable to climate change. Chapter 3 includes such an analysis of the Region's vulnerabilities to climate change as well as the corresponding regional goals and objectives for both adapting to and mitigating against climate change impacts. Chapter 4 also provides strategies identified by the Region to help meet these climate change related objectives and address regional vulnerabilities.

**Table 2-13: Projected Effects of Climate Change on the Region by 2050**

Impact to	Effect
<b>Temperature</b>	<ul style="list-style-type: none"> <li>• January increase in average temperature: 2°F to 4°F by 2050 and 5°F to 8°F by 2100</li> <li>• July increase in average temperature: 3°F to 5°F by 2050, and 6°F to 9°F by 2100</li> <li>• Three to five more heat waves experienced by 2050, increasing to 12 to 16 more heat waves by 2100</li> </ul>
<b>Rainfall</b>	<ul style="list-style-type: none"> <li>• Decrease in rainfall of 2 to 4 inches by 2050 and 3.5 to 6 inches by 2100</li> </ul>
<b>Supply</b>	<ul style="list-style-type: none"> <li>• Up to 25% decrease in SWP supply</li> <li>• Up to 24% decrease in Colorado River supply</li> <li>• Decrease in local supply expected, but not quantified</li> </ul>
<b>Demand</b>	<ul style="list-style-type: none"> <li>• Increase expected, but not quantified</li> </ul>
<b>Wildfires</b>	<ul style="list-style-type: none"> <li>• Same or slight increase in wildfire risk</li> </ul>

Sources: See documents listed on page 2-54.

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## 3 Objectives and Priorities

This chapter identifies the Regional issues, goals and objectives for the Plan, establishes performance measures that can be used to gauge the Region's success in meeting its objectives, and identifies how the Region's objectives align with statewide priorities for the IRWM Program.

### 3.1 Planning Objectives for the Region

A key element of the IRWM planning process is the development of specific goals and objectives that reflect local conditions, priorities and opportunities while addressing the water management strategies of the *California Water Plan* and Proposition 84 program requirements. As described in Chapter 1, the 2014 IRWM Plan Update process involved a number of SAC and RWMG meetings that were convened to provide input on specific components of the 2014 IRWM Plan Update, including a review of the objectives established in the Region's 2007 IRWM Plan. For this 2014 Plan, the Region's RWMG and stakeholders agreed to create streamlined goals with focused objectives that meet new Proposition 84 requirements as well as evolving Regional needs and issues. Figure 3-1 shows the overall process used. A draft version of the Region's issues, goals, and objectives were first developed by the RWMG then presented to the SAC for additional input. The input received from the SAC was then used to refine the final set of issues, goals, and objectives.

Figure 3-1: Goals and Objectives Process



#### 3.1.1 Regional Issues

The first step in updating the Region's objectives was determining Regional issues. Using the 2007 IRWM Plan as the foundation, the Region discussed what issues remain relevant, what issues have changed and what issues are new or need more focus. Below is a discussion of the updated issues, focusing on imported water dependence, groundwater supply, water quality, flood management, aquatic/riparian habitat, and sustainability.

##### Imported Water Dependence

The USMW Region currently has a high dependence on imported water from the San Francisco Bay Delta (through the SWP) and the Colorado River (through the CRA), making the Region vulnerable to imported water reliability issues. As described in Chapter 2, MWD delivers a blend of these two imported water sources to the Region, and determines imported water allocations during shortages. Although imported water has historically been an economical and reliable

source of good-quality water, water suppliers in the Region and throughout southern California understand the need to reduce dependency on imported water to address the following concerns:

- MWD has capacity constraints that can potentially cause future shortages.
- Imported water supplies are susceptible to interruption during catastrophic conditions such as earthquakes or other conditions that may impact conveyance facilities.
- Availability of imported water supplies is a function of weather patterns in northern California and in the upper Colorado River basin. The Colorado River basin is experiencing the driest conditions in 500 years and current water allocations of this resource may no longer be sustainable. Furthermore, a trend showing reduction in the Sierra Nevada snow pack may also impact water supply from the SWP in northern California.
- Environmental protection goals and mandates may impact the ability to divert water from the Bay Delta to southern California via the SWP, such as occurred with the decision made by Judge Wanger in 2007 (Case No. 1:05-cv-01207-OWW-GSA) to curtail water deliveries to protect the threatened Delta smelt from export pumping operations. Since the 2007 ruling, the *Bay Delta Conservation Plan* has been completed.<sup>1</sup> The *Bay Delta Conservation Plan* aims to “secure California’s water supplies and restore the Delta’s natural ecosystem,” and proposes a number of projects and alternatives, but these have yet to be decided upon and implemented. Until a “Bay Delta fix” is implemented, the Region is at risk for disturbed imported supplies.
- Climate change may further strain water resources availability.
- The quality of imported water can vary depending on source. For example, water from the CRA is higher in salinity than water from the SWP.
- The cost of imported water is expected to increase in the future as new storage and conveyance facilities are needed.
- Population and economic growth in the Region will exert additional pressures on water supplies.



<sup>1</sup> The Bay Delta Conservation Plan is in draft form at the time of preparation of the 2014 IRWM Plan. Additional information on the status of the Bay Delta Conservation Plan can be found at <http://baydeltaconservationplan.com/>.

### Groundwater Supply

As is the case with most Southern California areas, if reliance on imported water is to be reduced, groundwater resources must be maximized. As described in Chapter 2, the Region has two groundwater basins: Temecula Valley Groundwater Basin and Cahuilla Valley Groundwater Basin. The Temecula Valley Groundwater Basin is currently limited due to facility constraints associated with extracting recharge water for potable water use; however, plans are in place to eliminate this constraint with the construction of additional groundwater extraction wells to increase recharge up to a maximum of 40 to 45 cfs. There are groundwater constituents of concern for the Temecula Valley Groundwater Basin that are both naturally and artificially occurring (i.e., fluoride and arsenic); however, RCWD has been able to provide treatment operations through blending to meet the requirements of the CDPH.

The recently completed *Temecula Valley Basin SNMP* is expected to help the Region to better understand the opportunities and constraints for further use of recycled water, and includes projections for salts and nutrients based on land use changes, septic system changes, and recharge of recycled water. These projections indicate that concentrations of salts and nutrients could exceed WQOs over time if recommended management actions are not implemented. For example, depending on the volume of recycled water used in the basin, the Basin Plan Objective for TDS (500 to 750 mg/L) could be exceeded by up to 350 mg/L, and the Basin Plan Objective for nitrate-nitrogen (10 mg/L) could be exceeded by up to 1 mg/L.

Relative to the Temecula Valley Groundwater Basin, the Cahuilla Valley Groundwater Basin has limited water supply and quality information available. The *DAC Groundwater Study for the Anza Area* provides the results of much needed quantity and quality monitoring to better understand the needs of the Cahuilla Valley Basin. The study has found that median groundwater levels between 2003 and 2007 have declined, though due to a lack of long-term groundwater level monitoring, it is unclear whether this is due to pumping or annual climate variations. It should be noted that, as discussed in Chapter 2, some wells also experienced an increase in groundwater level.

In terms of water quality in the Cahuilla Valley Groundwater Basin, long-term water quality data collection has been identified as a need in the area. According to DWR's Bulletin 118, sulfate and nitrate levels are high for domestic use. The SWRCB's GeoTracker Groundwater Ambient Monitoring and Assessment (GAMA) website, which collects groundwater quality data, reports that USGS monitoring wells in the Cahuilla Valley Groundwater Basin have exhibited nitrate levels higher than the primary MCL requirement for nitrate of 45 mg/L. Drinking water wells in the groundwater basin have tested as high as 41 mg/L for nitrate in drinking water wells, though it should be noted that this is within primary MCL requirements. The GeoTracker GAMA website also reports that sulfate levels in the groundwater basin have been as high as 296 mg/L, though it should again be noted that this is within the primary MCL requirement of 500 mg/L.

### Water Quality

Several stream reaches within the Region are on the SWRCB's 2010 303(d) listing for water quality impairments including nutrients, bacteria, metals, pesticides, sulfates, TDS, and toxicity. The 303(d) listings are attributed to a number of potential sources, including urban runoff and agricultural runoff, natural sources of pollution (nutrients and bacteria from wildlife, metals such as iron and manganese that naturally occur in local soils, etc.) and, in some cases, outdated water quality standards. Water quality is a prerequisite for protecting human and environmental health, and has important economic considerations if reliability on imported water is to be reduced. It is therefore important to verify standards, understand sources and act on controllable factors.

### Flood Management

The Region continues to experience flood hazards caused by historic development of floodplains and other factors. Old Town Temecula along Murrieta Creek is particularly threatened by flooding. In 1993, this community suffered 10's of millions in damage when flows from Murrieta Creek flooded the community. A \$90 million project has been proposed to address the flood hazard, restore habitats and increase recreational opportunities. Other areas of the Region are also subject to flood hazard that can impact public health and property. Efforts are underway to evaluate and manage these risks using a combination of floodplain management techniques including flood control improvements, stream restoration and rehabilitation, and floodplain buyout. The recent economic downturn has significantly impacted the ability of local agencies to assemble resources necessary to address the most significant hazards.

### Aquatic/Riparian Habitat

The Region is rich in biological resources, but there are pressures from increasing development. Development that occurs without consideration of habitat can cause habitat degradation and lead to the establishment of invasive species which adversely impact the hydrology, habitat diversity, and ecological function of the river. Exotic predator species, habitat degradation and reduced water supplies increase pressure on aquatic species. The *Western Riverside County MSHCP* was adopted in 2003 to assist with protecting remaining resources and restoring critically impacted habitats. However, a significant amount of property still needs to be acquired to complete envisioned habitat assemblages.

### Sustainability

The Region recognizes the importance of incorporating economic, social, land use, and environmental sustainability into its water resource management decisions. Disadvantaged communities can be more vulnerable to water supply and water quality issues due to limited resources. In addition, the Region recognizes that its water resources are vulnerable to the effects of climate change, and has completed an analysis of its climate change vulnerability issues, which are described further in the section below.

### Climate Change

In order to identify the potential impacts to the Region's water resources as a result of climate change, the SAC conducted a vulnerability assessment. The climate change vulnerability assessment allowed the Region to assess its water resource sensitivity to climate change, prioritize climate change vulnerabilities, and ultimately guides decisions as to what strategies and projects would most effectively adapt to and mitigate against climate change.

A series of questions from DWR's 2011 *Climate Change Handbook for Regional Water Planning* were used as the basis for a specific climate change workshop for the Region conducted by the SAC in November 2013. The vulnerability issues decided upon by the SAC to be relevant to the Region are described in Table 3-1. Also shown in Table 3-1 are the results of the prioritization exercise conducted at the climate change workshop.

**Table 3-1: Prioritized Vulnerability Issues**

Vulnerability Issue	Description	Priority Level
Imported supply would decrease	Imported water makes up well over 50% of the Region's supplies. The vulnerability of State Water Project and Colorado River supplies combined with the area's dependence on imported water makes the Region highly vulnerable to any decreases in imported supply.	High
Local supply would decrease	Decreases in local precipitation would decrease the local runoff to recharge groundwater (both naturally and through managed spreading grounds), reducing the amount of local groundwater supply available to meet demand.	High
Demand for all sectors would increase	Demand is expected to increase in the Region due to population growth. Climate change is expected to further increase demand due to higher temperatures increasing evapotranspiration, and put strain on the Region's limited supplies.	High
Episodes of flooding would increase	Increases in the intensity of storms may increase the frequency of flooding as storms exceed the capacity of flood control facilities. Given that areas of the Region, particularly rural areas, already experience flooding during large seasonal storms, the Region is highly vulnerable to this issue.	High
Ability to store groundwater/ recharge capacity would decrease	Reductions in imported water supply and local surface water (described above) could intensify groundwater use as a result of climate change. This increased groundwater use may result in difficulty in managing the basin in a long term, sustainable fashion. Together these concerns make this issue of medium concern to the Region.	Medium
Higher drought potential (unmet demands)	The frequency, duration, and intensity of droughts are expected to increase with climate change, and reduce both the local and imported supplies available. A reduction in either imported or local supplies has the potential to cause unmet demand should demand reduction measures not be sufficient, making the Region moderately vulnerable to this issue.	Medium
Constituent of concern concentrations would	Decreases in local surface water flows caused by reduced precipitation may reduce the volume of water available to dilute	Medium

Vulnerability Issue	Description	Priority Level
increase	constituents of concern. As surface water quality is of concern to the Region to maintain local supply, this issue is of medium concern to the Region.	
Assimilative capacity of water bodies would decrease	During general drought conditions, natural inflow is not available to maintain or improve assimilative capacity of groundwater basins. Reduced precipitation could further reduce natural inflow, and further reduce assimilative capacity. Given that the Region is taking steps to implement programs to use imported water for reservoirs and groundwater recharge, this issue is of medium concern to the Region.	Medium
Invasive species would increase	A reduction in local water supply available to support native species may impact these species ability to compete with invasive species. Though this is an issue of concern to the Region, it's considered a low priority at this time in comparison to other issues.	Low
Available necessary habitat would decrease	Habitat for a number of threatened or endangered species exists in the Region (i.e. California gnatcatcher, least Bell's vireo, Quino checkerspot butterfly, Stephens' kangaroo rat). Changes in temperature and water available may cause shifts in the location and quality of habitat necessary for these species. Given that habitat has been designated for species in the Region, this vulnerability issue has been designated to be of low priority.	Low
Erosion and sedimentation would increase	Increases in the intensity of storms could increase erosion and sedimentation, which both impacts water quality and increases flood risk. This may be exacerbated with increases in wildfires. As the Region does not currently have issues with erosion and sedimentation, this vulnerability issue has been prioritized as low.	Low
Impacts to water dependent species would increase	Reduced surface water flows and increased water temperatures can negatively impact aquatic species. Though water dependent species are not currently experiencing issues, this is still an issue of concern for the Region.	Low

**Note:** The vulnerability issues and priority level were determined through a stakeholder vulnerability assessment process using DWR's 2011 *Climate Change Handbook for Regional Water Planning*.

### 3.1.2 Goals and Objectives

Using the Region's identified issues and needs, the RWMG and SAC developed broad IRWM goals to address those issues. The Region established the following goals to help address Regional issues:

1. Increase diversification of the water supply portfolio
2. Maximize groundwater potential
3. Protect and improve local surface water quality
4. Promote integrated flood management
5. Protect, restore and enhance aquatic/riparian habitat
6. Promote economic, social, land use and environmental sustainability

The Region agreed that achieving the IRWM goals would require the identification of more specific and measurable objectives that relate to each of the goals developed. The resulting 12 objectives consider the State's planning guidance in the *2012 IRWM Guidelines*, as well as the priorities and opportunities unique to the USMW Region.

### Goal #1: Increase diversification of the water supply portfolio

The main way to address imported water reliability and cost stability is to increase the diversification of the Regional's supply portfolio. This goal can be achieved by both increasing water use efficiency and local supply development.

#### **Objective 1a: Reduce regional potable water consumption**

Reducing the Region's potable water consumption through water use efficiency will reduce current and projected demands, and reduce the strain on water supplies. In addition, this objective will help water suppliers in the Region meet their 20x2020 water efficiency goals<sup>2</sup> described in their UWMPs. Widespread implementation of water use efficiency projects and conservation programs has already resulted in significant reductions in demand throughout the Region. Aggressive adoption of additional measures may be needed to continue progress. Examples are continued public outreach and education on water use, maintain tiered rate structures, increased implementation of urban water use efficiency demand management measures, enforcement of water use efficiency passive initiatives, such as adopted building codes and landscape ordinances, and increased recycled water supplies.



#### **Objective 1b: Increase local supply development**

Increasing local supply development will help the Region to develop a more diverse, reliable water supply portfolio, and help the Region to be less

<sup>2</sup> In November 2009, California Water Code 10608 was enacted requiring water suppliers to reduce per capita urban water use by 20 percent by the year 2020.

vulnerable to interruptions to imported supplies. Increasing local supply development will also help the Region to respond to increasing imported water costs, as local supplies are often projected to be lower than imported supplies in both the near-and long-term. The Region has a variety of local supplies available including groundwater, surface water, stormwater, and recycled water, but to increase these local supplies, it will be necessary for the Region to implement projects that will construct additional local water supply infrastructure for water conveyance, treatment, storage and distribution of these sources.

### Goal #2: Maximize groundwater potential

As described above, maximizing groundwater potential is part of achieving Goal #1. However, given the importance of groundwater to the Region, especially in areas without access to imported supplies, a separate goal and set of objectives have been developed.

#### **Objective 2a: Improve quality and ability to access and increase groundwater supply**

Groundwater is an essential and important supply for the Region. While the Temecula Valley Groundwater Basin currently provides approximately 25 to 40 percent of total water supplied in two of the major water supplier service areas, this is particularly true in the Anza area since there is neither access to imported supply nor existing surface water retention and treatment facilities. Increasing groundwater supplies involves improving water quality, optimizing existing supplies, expanding infrastructure and maximizing storage through recharge and recovery.

#### **Objective 2b: Increase knowledge of groundwater supply potential**

Increasing knowledge of the supply potential of the Temecula Valley Groundwater Basin and Cahuilla Valley Groundwater Basin will help the Region to more efficiently take advantage of this water resource. The Temecula Valley Groundwater Basin has been managed for a number of years by the Region's water suppliers, which includes tracking of the basin's groundwater levels and quality. Additional planning will allow Temecula Valley's pumpers to more efficiently manage their groundwater usage. Less is known about the supply potential of the Cahuilla Valley Groundwater Basin, which is not managed, and increasing knowledge of this basin will help pumpers in the Anza area to address the scientific and technical issues that they face in increasing pumping, and allow for future planning of the Anza area's supplies.

### Goal #3: Protect and improve local surface water quality

Protecting local surface water quality is critical to addressing the water quality to preserve aquatic species and protect human health.

#### **Objective 3a: Reduce controllable pollutant sources to 303(d) listed receiving waters**

To improve local surface water quality, the Region has set an objective that will address local surface water



quality issues by verifying standards, understanding sources, and acting on controllable factors. Existing regulatory programs require that point source and non-point source programs be put in place to control pollutants. Reviewing standards and implementing projects, programs and requirements that will help the Region to reduce pollutants entering receiving waters is essential to helping the Region come into compliance with these regulations. In addition, protecting and improving local surface water quality offers benefits to human and environmental health.

#### Goal #4: Promote integrated flood management

Integrated flood management will allow the Region's flood risk to be reduced while also increasing the potential for other benefits such as water quality, water supply, and habitat enhancement.

##### **Objective 4a: Enhance regional flood control by implementing multiple benefit projects**

Integrated flood management involves holistically managing flood risks through coordinated management and development of water, land, and related resources. Implementing flood management projects with multiple benefits will support the interrelationship between flood plain management, environmental resource management, water supply management, and water quality protection.



##### **Objective 4b: Reduce municipal and private property damage risk**

Damage to municipal and private property can impact the economic and social welfare of an area. The Region recognizes that it may be necessary to implement focused projects on areas that are at significant risk for damage caused by flooding, and therefore has set an objective to decrease flood risk in these areas.

#### Goal #5: Protect, restore and enhance aquatic/riparian habitat

The Region's water resources planning must also include considerations for the habitat that is also dependent upon how supply is managed. Objectives to both protect and enhance existing habitat areas as well as to create new areas have been developed.

##### **Objective 5a: Protect and create aquatic/riparian habitat**

Aquatic and riparian habitats provide multiple benefits including ecological protection and stewardship; creation of recreational opportunities; protection of water source and quality through promotion of natural recharge, attenuation of runoff and reduction of erosion; and improvement of quality of life. Development in the Region has resulted in loss of this habitat, as well as stress to existing habitats through the introduction of invasive species, water quality degradation, and hydromodification. Protecting and creating aquatic/riparian habitat through

integrated water resources projects and programs will help the Region to maintain and improve habitat benefits.

**Objective 5b: Enhance riparian corridors on existing land use**

Enhancing the Region's riparian corridors on existing land use will allow the Region to improve the quality of habitat in areas where the natural landscape has been modified. Restoring these riparian corridors will improve connectivity between upland habitats, and allow the Region to realize the additional benefits of improved water quality, increased water supply, improved open space and recreation.



*Goal #6: Promote economic, social, land use and environmental sustainability*

Truly integrated and regional planning must recognize the importance of how effective water resources management contributes to the economic, social, and environmental stability of the Region. This is true under current conditions and especially given changes in climatic conditions that could further stress the Region.

**Objective 6a: Support water resources projects that positively impact DACs**

Supporting water resources projects in DACs is an important aspect of maintaining sustainability in the Region, particularly those areas that may not have access to safe drinking water supplies, or may be vulnerable to water shortage due to insufficient water supply diversity. The Region can help DACs by providing technical guidance, financial or staff resources to develop water resources related projects, or help to develop partnerships and funding for projects.

**Objective 6b: Improve recreation opportunities and open space through multiple benefit projects**

The Region decided that it should integrate non-water management benefits and interests into its objectives recognizing that recreation and open space can often be included in water resource projects as additional benefits. Planning for and promoting appropriate recreational opportunities and improving open space may reduce environmental justice issues, and seeks to connect residents to the Region's waterways and generally improve quality of life.

**Objective 6c: Adapt to and mitigate against climate change by promoting adaptation strategies and reducing water related greenhouse gas emissions**

Climate change is projected to have wide ranging impacts on the Region's water resources, as discussed in Chapter 2. Considering the potential impacts in the Region's water resource management decisions now will allow the Region to better respond to future impacts to its water resources. Planning for these future conditions will require the Region to consider strategies that both adapt to climate change impacts and reduce greenhouse gas emissions to decrease the Region's contribution to climate change.

### 3.1.3 Prioritization of Objectives

Given that this IRWM Plan is intended to be a truly integrated plan, the Region elected not to prioritize these 12 objectives with the understanding that each objective is equally important relative to the others. The Region may prioritize objectives as funding opportunities become available in order to align projects with the goals of each funding program.

## 3.2 Performance Measures

Performance measures were developed for each of the 12 objectives to help the Region to measure progress in meeting its objectives, and ultimately achieving its goals. These performance measures are shown in Table 3-2. The process to be used in measuring attainment of each objective is detailed in Chapter 6.

Table 3-2: Objectives and Performance Measures

Objective	Performance Measure
1a: Reduce regional potable water consumption	<ul style="list-style-type: none"> <li>Gallons per capita per day consumption as reported in Urban Water Management Plans and affiliated water use reductions plans</li> <li>AFY of agricultural water use as reported in Agricultural Water Management Plans</li> </ul>
1b: Increase local supply development	<ul style="list-style-type: none"> <li>AFY of local supply development as reported in Urban Water Management Plans</li> <li>AFY of local supply development as reported in Agricultural Water Management Plans</li> <li>AFY of groundwater production as reported in Annual Watermaster Reports and annual groundwater production reports</li> </ul>
2a: Improve quality and ability to access and increase groundwater supply	<ul style="list-style-type: none"> <li>AFY of groundwater production as reported in annual groundwater production reports</li> <li>AFY of groundwater production as reported in Urban Water Management Plans</li> <li>AFY of groundwater production and improvement in groundwater quality as reported in Annual Watermaster Reports</li> </ul>
2b: Increase knowledge of groundwater supply potential	<ul style="list-style-type: none"> <li>Development of groundwater management plans and policies</li> <li>Development of basin studies</li> </ul>
3a: Reduce controllable pollutant sources to 303(d) listed receiving waters	<ul style="list-style-type: none"> <li>Concentrations and/or loadings of constituents of concern as reported in various Permit water quality monitoring trend analyses</li> <li>Constituent loading as estimated in stormwater quality BMP project reporting</li> </ul>

Objective	Performance Measure
4a: Enhance regional flood control by implementing multiple benefit projects	<ul style="list-style-type: none"> <li>Number of multiple benefit projects implemented in Region</li> </ul>
4b: Reduce municipal and private property damage risk	<ul style="list-style-type: none"> <li>Project flood risk reduction analysis results</li> </ul>
5a: Protect and create aquatic/riparian habitat	<ul style="list-style-type: none"> <li>Acres of new or protected habitat in land-use maps or through MSHCP mechanisms</li> <li>Documentation of stream connectivity through sustained flows sufficient for fish and volitional passage</li> <li>Invasive species distribution and abundance as reported in surveys</li> </ul>
5b: Enhance riparian corridors on existing land-use	<ul style="list-style-type: none"> <li>Length of riparian corridor enhanced in land-use maps or through MSHCP mechanisms</li> <li>Results of invasive species removal efforts</li> <li>River flow monitoring during/after supply diversions</li> </ul>
6a: Support water resources projects that positively impact DACs	<ul style="list-style-type: none"> <li>Number of DAC projects in IRWMP and implemented in the Region with DAC benefits</li> </ul>
6b: Improve recreation opportunities and open space through multiple benefit projects	<ul style="list-style-type: none"> <li>Number of projects implemented in Region with recreation benefits</li> </ul>
6c: Adapt to and mitigate against climate change by promoting adaptation strategies and reducing water related greenhouse gas emissions	<ul style="list-style-type: none"> <li>Number of projects implemented in Region that promote adaptation strategies and reduce water related greenhouse gas emissions</li> </ul>

### 3.3 Consistency with Statewide Priorities

As mentioned throughout this Plan, the IRWM planning process has been developed and implemented taking into consideration the *2012 IRWM Guidelines*. The Region's objectives are consistent with the Statewide Priorities laid out in the *Guidelines*, as shown in Table 3-3.

Table 3-3: Conformance of Plan Objectives with Statewide Priorities

USMW IRWMP Objectives	Statewide Priorities							
	Drought Preparedness	Use and Reuse Water More Efficiently	Climate Change Response Actions	Expand Environmental Stewardship	Practice Integrated Flood Management	Protect Surface Water and Groundwater Quality	Improve Tribal Water and Natural Resources	Ensure Equitable Distribution of Benefits
1a: Reduce regional potable water consumption	●	●	○	○		○	○	○
1b: Increase local supply development	●	●	○	○	○	○	○	○
2a: Improve quality and ability to access and increase groundwater supply	●	○	○	○		●	○	○
2b: Increase knowledge of groundwater supply potential	○	○	○	○		●	○	○
3a: Reduce controllable pollutant sources to 303(d) listed receiving waters			○	●	○	●	●	○
4a: Enhance regional flood control by implementing multiple benefit projects		○	○	○	●	○	○	○
4b: Reduce municipal and private property damage risk			○		●		○	○
5a: Protect and create aquatic/riparian habitat			○	●	○	○	○	○
5b: Enhance riparian corridors on existing land-use			○	●	○	○	○	○
6a: Support water resources projects that positively impact DACs	○	○	○	○	○	○	○	●
6b: Improve recreation opportunities and open space through multiple benefit projects			○	●			○	○
6c: Adapt to and mitigate against climate change by promoting adaptation strategies and reducing water related greenhouse gas emissions	○	○	●	○	○	○	○	○

- IRWM Plan objective directly supports the listed Statewide Priority
- IRWM Plan objective can indirectly support the listed Statewide Priority

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## 4 Regional Water Management Strategies

This chapter considers the regional water management strategies that can be used to help the USMW Region to meet the goals and objectives discussed in Chapter 3, and goes on to examine the potential impacts and benefits of implementing the chosen strategies.

### 4.1 Consideration of Strategies

In order to determine what regional water management strategies should be included in the IRWM Plan, the Region considered the Resource Management Strategies (RMS) described in the *California Water Plan Update 2013 (CWP)*, listed in Table 4-1 below. The Region considered the RMS in relation to the issues, goals, and objectives determined by stakeholders and presented in Chapter 3. The RMS included as strategies in the IRWM Plan are those that have synergies with the Region's goals and objectives. The following RMS were not considered feasible or applicable for implementation in the USMW Region:

- *Groundwater Remediation/Aquifer Remediation*: There are no impaired aquifers in the Region that would benefit from remediation. Within this Region, wellhead treatment and other groundwater management measures have been found to be sufficient to treat drinking water.
- *Conveyance – Delta and Surface Storage – CALFED/State*: Although these strategies could improve water supply reliability for the Region, they would not be implemented within the Region by local stakeholders and therefore are not considered as USMW regional strategies.
- *Other Strategies (precipitation enhancement, crop idling for water transfer, dewvaporization/atmospheric pressure desalination, fog collection, irrigated land retirement, rainfed agriculture, and waterbag transport/storage technology)*: Many of these RMS are either infeasible or use relatively new and unproven technologies. They would not be favored unless all other strategies presented in this chapter have been exhausted. In addition, out-of-state imported water supply development projects were not considered.

Table 4-2 shows the relationship between the RMS and the Region's objectives. In many instances, regional strategies can address multiple IRWM planning objectives. For example, in addition to addressing the objective to protect and create aquatic and riparian habitat, ecosystem restoration strategies can also help meet the objective to reduce controllable pollutant sources to receiving waters and improve recreation and open space through multi-benefit projects. The remainder of this chapter describes the RMS selected for inclusion in the IRWM Plan, and is organized into the same groupings of strategies that the RMS are in the CWP.

**Table 4-1: CWP Update 2013 RMS**

<b>Reduce Water Demand</b>	
<ul style="list-style-type: none"> <li>• Agricultural Water Use Efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Urban Water Use Efficiency</li> </ul>
<b>Improve Operational Efficiency and Transfers</b>	
<ul style="list-style-type: none"> <li>• Conveyance – Delta</li> <li>• Conveyance – Regional/Local</li> </ul>	<ul style="list-style-type: none"> <li>• System Reoperation</li> <li>• Water Transfers</li> </ul>
<b>Increase Water Supply</b>	
<ul style="list-style-type: none"> <li>• Conjunctive Management and Groundwater Storage</li> <li>• Desalination</li> <li>• Precipitation Enhancement</li> </ul>	<ul style="list-style-type: none"> <li>• Recycled Municipal Water</li> <li>• Surface Storage – CALFED/State</li> <li>• Surface Storage – Regional/Local</li> </ul>
<b>Improve Water Quality</b>	
<ul style="list-style-type: none"> <li>• Drinking Water Treatment and Distribution</li> <li>• Groundwater /Aquifer Remediation</li> <li>• Matching Water Quality to Water Use</li> </ul>	<ul style="list-style-type: none"> <li>• Pollution Prevention</li> <li>• Salt and Salinity Management</li> <li>• Urban Runoff Management</li> </ul>
<b>Practice Resources Stewardship</b>	
<ul style="list-style-type: none"> <li>• Agricultural Land Stewardship</li> <li>• Ecosystem Restoration</li> <li>• Forest Management</li> <li>• Land Use Planning and Management</li> </ul>	<ul style="list-style-type: none"> <li>• Recharge Areas Protection</li> <li>• Sediment Management</li> <li>• Watershed Management</li> </ul>
<b>People and Water</b>	
<ul style="list-style-type: none"> <li>• Economic Incentives Policy</li> <li>• Outreach and Education</li> </ul>	<ul style="list-style-type: none"> <li>• Water and Culture</li> <li>• Water-Dependent Recreation</li> </ul>
<b>Improve Flood Management</b>	
<ul style="list-style-type: none"> <li>• Flood Risk Management</li> </ul>	
<b>Other Strategies</b>	
<ul style="list-style-type: none"> <li>• Crop Idling for Water Transfers</li> <li>• Dewvaporation/Atmospheric Pressure Desalination</li> <li>• Fog Collection</li> </ul>	<ul style="list-style-type: none"> <li>• Irrigated Land retirement</li> <li>• Rainfed Agriculture</li> <li>• Waterbag Transport/Storage Technology</li> </ul>

**Table 4-2: Relation of RMS to the Region’s Objectives**

Upper Santa Margarita Watershed Planning Objectives												
Resource Management Strategies	1a. Reduce regional potable water consumption	1b. Increase local supply development	2a. Improve quality and ability to access and increase groundwater supply	2b. Increase knowledge of groundwater supply potential	3a. Reduce controllable pollutant sources to 303(d) listed waters	4a. Enhance regional flood control with multi-benefit projects	4b. Reduce municipal and private property damage risk	5a. Protect and create aquatic and riparian habitat	5b. Enhance riparian corridors on existing land-use	6a. Support water resources projects that positively impact DACs	6b. Improve recreation and open space through multi-benefit projects	6c. Promote climate change adaptation strategies and reduce water related GHG emissions
	<b>Reduce Water Demand</b>											
Agricultural Water Use Efficiency	●				●							●
Urban Water Use Efficiency	●				●					●		●
<b>Improve Operational Efficiency and Transfers</b>												
Conveyance – Regional/Local		●	●							●		●
System Reoperation		●	●			●						●
Water Transfers		●										●
<b>Increase Water Supply</b>												
Conjunctive Management and Groundwater Storage		●	●			●						●
Desalination		●										●
Recycled Municipal Water	●	●	●							●		●
Surface Storage – Regional/Local		●				●	●			●		●
<b>Improve Water Quality</b>												
Drinking Water Treatment and Distribution		●	●							●		●
Matching Water Quality to Use	●	●				●				●		●
Pollution Prevention	●	●	●		●	●		●	●	●	●	●
Salt and Salinity Management		●	●		●					●		●

Upper Santa Margarita Watershed Planning Objectives												
Resource Management Strategies	1a. Reduce regional potable water consumption	1b. Increase local supply development	2a. Improve quality and ability to access and increase groundwater supply	2b. Increase knowledge of groundwater supply potential	3a. Reduce controllable pollutant sources to 303(d) listed waters	4a. Enhance regional flood control with multi-benefit projects	4b. Reduce municipal and private property damage risk	5a. Protect and create aquatic and riparian habitat	5b. Enhance riparian corridors on existing land-use	6a. Support water resources projects that positively impact DACs	6b. Improve recreation and open space through multi-benefit projects	6c. Promote climate change adaptation strategies and reduce water related GHG emissions
Urban Runoff Management	●	●	●		●	●	●	●	●	●	●	●
<b>Practice Resources Stewardship</b>												
Agricultural Lands Stewardship					●	●		●	●	●	●	●
Ecosystem Restoration		●	●		●	●	●	●	●	●	●	●
Forest Management		●	●		●	●		●		●		●
Land Use Planning and Management	●	●	●	●	●	●	●	●	●	●	●	●
Recharge Areas Protection		●	●		●	●	●	●	●	●	●	●
Sediment Management		●			●	●	●	●	●	●	●	●
Watershed Management		●	●	●	●	●	●	●	●	●	●	●
<b>People and Water</b>												
Economic Incentives Policy	●	●	●	●	●	●	●	●	●	●	●	●
Outreach and Education	●	●	●	●	●	●	●	●	●	●	●	●
Water and Culture	●	●	●	●	●	●	●	●	●	●	●	●
Water-Dependent Recreation		●			●	●				●	●	●
<b>Improve Flood Management</b>												
Flood Risk Management		●	●	●	●	●	●	●	●	●	●	●

● Strategy supports attainment of the IRWM Plan objective

## 4.1.1 Reduce Water Demand

### Agricultural Water Use Efficiency

Agricultural Water Use Efficiency (WUE) includes improvements in technology and management of water, both on-farm and at the water supplier level through the use of incentives, public education, and other programs to achieve reductions in the amount of water used for agricultural irrigation. Significant efforts are being made to increase agricultural water savings in the Region through implementation of cost-effective efficient water management practices, irrigation technologies, soil and land management, and demonstration projects. Future agricultural WUE measures will focus on development of new technologies, and further economic incentives.

Implementation of this strategy will help the Region to achieve its objective of reducing regional potable water consumption. Irrigating agricultural lands more efficiently will also reduce agricultural runoff, helping the Region to achieve its water quality objective of reducing controllable pollutant sources to 303(d) listed receiving waters. This strategy will also help to meet the Region's objective to promote climate change adaptation and reduce water related greenhouse gas (GHG) emissions.

### Urban Water Use Efficiency

Urban WUE involves reducing potable water used for municipal, commercial, industrial, irrigation and aesthetic purposes, and is an important element in almost every water purveyor's water resource planning efforts. Such efficiency methods include incentives, public education, and other efficiency-enhancing programs. Since significant efforts have already been made to reduce urban water use in the Region, future measures should focus on public outreach and education on water use, maintain tiered rate structures, high-efficiency toilets, and weather-based irrigation controllers. Promoting WUE measures could be more easily implemented on public and community lands to then provide examples for individual land owners to duplicate throughout the Region.

This strategy aligns with the Region's objective to reduce regional potable water consumption. In addition, using water more efficiently will help the Region to achieve its objective of reducing contaminant loads to 303(d) listed receiving water by decreasing the over-irrigation that contributes pollutants to urban runoff and dry weather flows. Promoting WUE in DAC areas will help the Region to meet its objective of supporting water resources projects that positively impact DACs. This strategy will also help to meet the Region's objective to promote climate change adaptation and reduce water related GHG emissions.

## 4.1.2 Improve Operational Efficiency and Transfers

### Conveyance – Regional/Local

Local and Regional Water Supply Conveyance in the Region can include both natural watercourses and man-made facilities such as pipelines and flood control channels.

Infrastructure associated with these conveyance facilities includes pumping plants and diversion structures. The Local/Regional Conveyance strategy seeks to improve existing conveyance systems by upgrading aging distribution systems, as well as to increase system flexibility and reliability through the addition of interconnections among water resource systems. Establishing performance metrics for quantitative and qualitative indicators, and assuring adequate resources to maintain the condition and capacity of existing constructed and natural conveyance facilities are also aspects of this strategy.

Conveyance infrastructure improvements and upgrades can improve the operational flexibility of delivery systems to better accommodate peak demands and emergency water needs, which will help the Region to meet its objective of increasing local supply development. Additional local and regional conveyance can also provide access to new groundwater and stormwater supplies that meet demands. This will help the Region to meet its objective to improve quality and ability to access groundwater supply. Implementing this strategy in DAC areas will help the



Region to meet its objective of supporting water resources projects that positively impact DACs. Local conveyance projects can also improve the efficiency of the conveyance systems and reduce the energy required to transport water, helping the Region to meet its objective to promote climate change adaptation and reduce water related GHG emissions.

### System Reoperation

System Reoperation allows for better management and movement of existing water supplies, and includes managing surface storage facilities to optimize the availability and quality of stored water supplies. System reoperation could involve balancing supply and delivery forecasts, coordinating and interconnecting reservoir storage, and optimizing depth and timing of withdrawals.

System Reoperation can support the Region's objectives of increasing local supply development, increasing quality and ability to access groundwater, and enhancing regional flood control with multi-benefit projects by optimizing the amount of water that can be stored in local reservoirs for direct use and recharge. Utilizing this strategy may also support the Region's objective of supporting water resources projects that positively impact DACs when benefits are regional or within DAC areas. Finally, improving management of water will help the Region to respond to potential supply reductions caused by climate change, and help to meet the objective of promoting climate change adaptation and reducing water related GHG emissions.

### Water Transfers

Water Transfers are temporary or long-term changes in the point of diversion, place of use, or purpose of use due to contracting or moving water from one beneficial use to another. The Region implements water transfers by moving water between agricultural, urban, and environmental users. These linkages often result in increased beneficial use and reuse of water overall and are among the most valuable aspects of water transfers.

The Region also has agreements between local water agencies to provide water through emergency interconnections during periods of system failure. In addition, agreements for the transfer of water between and through water agencies to serve specific areas with potable and recycled water are also in place.

Further, the Region indirectly participates in water transfers across regions through its involvement with MWD. MWD pursues water transfers from northern California, southern Central Valley, the Colorado River basin, and the Mojave basin. Water transfers between local agencies can benefit the Region's water supply reliability by supporting the objective to increase local supply development, and the objective to promote climate change adaptation and reduce water related GHG emissions.

#### 4.1.3 Increase Water Supply

##### Conjunctive Management and Groundwater Storage

Conjunctive Management can help improve the long-term and seasonal reliability of surface water supplies by recharging these supplies in groundwater basins when available, and recovering them through groundwater pumping when needed. In dry years when natural recharge is low and groundwater



pumping is high, groundwater levels can decline, which increases overdraft potential, degradation of water quality, and results in subsidence. Conjunctive Management and Groundwater Storage projects and programs can capitalize on available storage and increase groundwater supplies for the Region.

Implementation of this strategy supports the Region's objectives of increasing local supply development, and improving the ability to access and increase groundwater supply. Indirectly, this strategy can help the Region to enhance regional flood control with multi-benefit projects by reducing the amount of local surface water downstream. Finally, improving the Region's groundwater supplies will help meet the objective to promote climate change adaptation and reduce water related GHG emissions.

### Desalination

Desalination is the removal of salts from saline waters, including ocean water and brackish groundwater. The Region has limited ability to use desalination to meet drinking water demands. Because the region is located inland, ocean water desalination is not considered a likely or cost-effective source for this area. However, desalination of groundwater supplies could be necessary to allow the Region to access additional groundwater supplies not currently pumped due to high salinity.

Implementation of this strategy supports the Region's objectives to increase local supply development and to promote climate change adaptation and reduce water related GHG emissions.

### Recycled Municipal Water

Implementation of the Recycled Municipal Water strategy develops usable water supplies from treated municipal wastewater. This strategy encompasses recycled water treatment, distribution, and storage, as well as retrofitting existing potable water uses to recycled water use. Recycled water is a significant resource in the Region as it can directly offset potable water demands, or be used indirectly through the recharge and storage in groundwater basins. RCWD, EVWMD, EMWD, and WMWD all operate water reclamation facilities; however, as identified in recent efforts like the *Temecula Valley Basin SNMP*, there are further opportunities to use this supply more efficiently through increasing treatment to remove excessive salts or increasing non-potable and indirect potable distribution and storage systems. For



example, in the SNMP, using higher volumes of recycled water for irrigation and groundwater recharge may require demineralization to decrease TDS concentrations.

Recycled municipal water can replace potable water use where high quality water is not required, and therefore directly supports the Region's objective to reduce regional potable water consumption and increase local supply development. If recycled water is used for recharge, then the Region can provide a drought resistant water supply to directly offset an equal amount of potable water use. The increase in local supply may also help the Region to achieve its objectives of supporting water resources projects that positively impact DACs, and promoting climate change adaptation and reducing water related GHG emissions.

### Surface Storage – Regional/Local

Regional and Local Surface Storage increases local supply through the construction or modification of local or Regional surface reservoirs, or developing surface storage capabilities in

out-of-Region reservoirs. Increasing surface storage in the Region could involve improving capacity at existing facilities through sediment removal, operational adjustments and overall size increases as well as developing new facilities. Local and regional surface storage can also capture stormwater to help enhance regional flood control and reduce property damage risk, supporting the Region’s flood related objectives. Furthermore, an increase in storage capacity also supports the Region’s sustainability goals by positively impacting DACs through increases in local supplies, and by reducing GHG emissions associated with importing water.

This strategy directly supports the Region’s objective of increasing local supply development. Surface storage used to capture local surface water could also support the Region’s objectives to enhance regional flood control with multi-benefit projects, and reduce municipal and private property damage. These improvements to water supply and flooding could also help the Region meet its objective to promote climate change adaptation. Given that this strategy could benefit large areas of the Region, it has the potential to help meet the objective to support water resources projects that positively affect DACs.

#### 4.1.4 Improve Water Quality

##### Drinking Water Treatment and Distribution

Public water systems must develop and maintain adequate water treatment and distribution facilities to meet the goal of providing a reliable supply of safe drinking water. Drinking Water Treatment and Distribution includes improving the quality of potable water supplied to customers and improving conveyance systems to improve the quality of supplies delivered from treatment facilities. Implementing this strategy will support the Region’s objectives of increasing local supply development by providing access to supplies, and improving quality and ability to access and increase groundwater supply which may not have been previously available due to quality concerns. Improving supply quality and distribution may also help to meet the objective of promoting climate change adaptation and reducing water related GHG emissions. This strategy will also help achieve the Region’s objective to support water resources projects that positively impact DACs by improving the quality of drinking water to DACs.

##### Matching Water Quality to Use

Matching Water Quality to Use recognizes that not all water uses require the same quality of water. Agricultural, municipal, landscape and residential water uses have different water quality needs. Achieving water quality standards can also be impacted by natural background conditions, natural flow conditions, irreversible human impacts, hydrologic modifications, natural features of the water body and economic hardships. The Region benefits from the use of



raw water through MWD for specific uses, as well as improved treated water quality and water supply reliability through MWD's blending and treatment strategies to reduce disinfection byproducts, perchlorate levels and salinity in treated water supplies. Blending of the highly saline Colorado River water with the less saline State Water Project water provides an improved quality of water to the Region. Matching water quality to water use by recognizing the different needs, natural background conditions, hydrologic limitations, and economics ensures that limited public resources can be focused on the most significant problems. Benefits of this strategy can include providing cost saving opportunities by reducing treated water costs if users can be supplied with raw water or recycled water, while reserving high quality water for drinking and industrial purposes.

This strategy can help the Region to achieve its objectives of reducing regional potable water consumption and increasing local supply development by making greater use of lower quality water. Projects that capture stormwater to use for irrigation and groundwater recharge can also enhance flood control by reducing peak flows, and reduce contaminants reaching 303(d) listed receiving waters. As this strategy can have Region-wide benefits, it is expected that some projects could positively impact DACs. Finally, this strategy can help the Region to promote climate change adaptation and reduce water related GHG emissions.

### Pollution Prevention

Pollution Prevention controls or reduces pollutants from point and nonpoint sources that can affect multiple environmental resources, including water supply, water quality, and riparian and aquatic habitat. Strategies that prevent pollution can include public education, efforts to identify and control pollutant contributing activities, and regulation of pollution-causing activities. Pollution prevention includes implementation of water quality BMPs that reduce contaminant concentrations to reduce loading to 303(d) listed receiving waters and/or supply sources. BMPs can include either structural BMPs, where the BMP involves designing and building structural treatment and control facilities, or non-structural BMPs, where the BMP does not require construction of a physical component to filter stormwater. The 2012 *Santa Margarita Region Retrofit Program Study* identifies a number of stormwater BMPs as well as appropriate locations for BMPs in the Upper Santa Margarita Watershed, such as bioswales, permeable pavers, porous asphalt and concrete, or cisterns.

Projects that prevent contamination using soil as a filter can also mitigate flood risk, increase groundwater recharge, and increase local water supplies by increasing infiltration and decreasing runoff. Pollution prevention can improve water quality for all beneficial uses by protecting water at its source and therefore reducing the need and cost for other water management and treatment options. By preventing pollution throughout the watershed, water supplies can be used and reused for a broader number and types of downstream water uses. Protecting source water is consistent with a watershed management approach to water resources problems.

The pollution prevention strategy applies to most of the Region's objectives since it involves preventing the contamination of local environmental flows and water supplies.

### Salt and Salinity Management

Salt and Salinity Management encourages stakeholders to proactively seek to identify the sources, quantify the threat, prioritize necessary mitigation action, and work collaboratively with entities with the authority to take appropriate actions. Salinity impacts are often slow to emerge but can result in reductions in crop production, loss of habitat, and a reduction in community growth potential. Implementation of this strategy would help the Region to achieve its objectives of reducing pollutant sources to 303(d) listed waters, and improving the quality of groundwater.

Management strategies identified through efforts such as the *Temecula Valley Basin SNMP* to minimize and remove salt loads should be implemented. As called out in the SNMP, constituent monitoring and evaluation is a critical component of salt management as it allows for identification of potential increasing trends in concentrations. In addition, the SNMP recommends management activities to prevent increases in salinity in the Temecula Valley Groundwater Basin, including continued monitoring of groundwater and water entering the Region. The SNMP also recommends prevention and planning actions such as demineralization of recycled water once recycled water use increases to over 900 AFY in order to reduce TDS concentrations in groundwater.

### Urban Runoff Management

Urban Runoff Management includes strategies for managing or controlling urban runoff, such as intercepting, diverting, controlling, or capturing stormwater runoff or dry weather runoff. Urban runoff management strategies coupled with centralized groundwater recharge or decentralized LID projects can also help to improve the ability for those flows to once again reach the groundwater aquifers. Many of the BMPs described in the *Santa Margarita Region Retrofit Program Study* can be used to manage urban runoff and prevent surface water quality contamination, particularly those BMPs described as being appropriate for residential and commercial land uses such as public education, bioswales, permeable pavers, vegetated buffers, rainwater harvesting, construction erosion control, and others. Reducing dry weather flows that are often caused by over-irrigation may also be improved through water conservation programs that aim to improve water use efficiency and efficient irrigation practices.



Objectives of urban runoff management include protection and restoration of surface waters; protection of environmental quality and social well-being; protection of natural resources; minimization of soil erosion and sedimentation;

maintain pre-development hydrologic conditions; protection and augmentation of groundwater supplies; reduce or prevent flooding; and management of aquatic and riparian resources.

Urban runoff management is a strategy that supports most of the Region’s objectives since it involves preventing the contamination of local environmental flows and water supplies.

#### 4.1.5 Practice Resources Stewardship

##### Agricultural Lands Stewardship

Agricultural Lands Stewardship protects and promotes agricultural production through integrating positive water resource management strategies into agricultural activities. This includes preserving agricultural land, maintaining and creating wetlands and wildlife habitat within agricultural land, reducing land erosion and runoff pollution, removing invasive species, and creating riparian buffers.

Agriculture is the largest industry in Riverside County, but continues to face pressure from urbanization, foreign competition, and rising production costs. Despite these pressures, agriculture remains a significant resource for the Region, and the *Riverside County General Plan* Land Use Element Policy 18.4 includes the following: “Encourage conservation of productive agricultural lands. Preserve prime agricultural lands for high-value crop production.” Land stewardship is an important measure of sustained high-value agricultural crop production.

For these reasons, agricultural land stewardship applies to several of the Regions objectives, including reducing controllable pollutants to 303(d) listed receiving waters, enhancing regional flood control with multi-benefit projects, protecting and creating aquatic and riparian habitat, enhancing riparian corridors on existing land-uses, supporting water resources projects that positively impacts DACs, improving recreation and open space, and promoting climate change adaptation.

##### Ecosystem Restoration

Ecosystem Restoration affects the return of selected ecosystems to a condition similar to its state before any disturbance occurred. Some ecosystems within the Region remain undisturbed; however, much of the low-lying areas are urbanized and therefore highly disturbed. The introduction and establishment of non-native, invasive plants in important riparian areas have resulted in a reduction of groundwater availability, higher soil salinity, increased fire frequency, displacement of native vegetation, and reduction of wildlife diversity. Ecosystem restoration strategies may include removing invasive species, land acquisition, water quality protection, wetlands creation and enhancement, species monitoring, and other forms of habitat management.

This strategy aligns with most of the Region’s objectives since it involves management of ecosystems because they are the natural systems most directly affected by water and flood management actions, and are likely to be affected by climate change. This strategy provides a number of environmental benefits such as groundwater recharge, surface water filtration, peak flow reduction, and increased habitat and recreational areas.

### Forest Management

Similar to agriculture management strategies, Forest Management directs the implementation of forest management projects and programs to help support water resources. Such a strategy may include long-term monitoring, multi-party coordination, communication between downstream and upstream communities and water users, and revisions to water quality plans that address concerns with impaired water bodies. The national forests in California were established under the Organic Act of 1897, which states that the primary purpose of these lands is to “secure favorable conditions of water flow.” The Region includes a portion of the Cleveland National Forest, as well as official wilderness areas.

Forest management can potentially help the Region achieve its objectives of reducing pollutant sources to 303(d) listed waters, enhancing regional flood control, protecting and creating aquatic and riparian habitat, and improving recreation and open space. This strategy may also help the Region to achieve its objectives to support water resources projects that positively impact DACs, and to promote climate change adaptation and reduce water related GHG emissions.

### Land Use Planning and Management

Land Use Planning and Management uses land controls to manage, minimize, or control activities that may negatively affect the quality and availability of groundwater and surface waters, natural resources, or endangered or threatened species. More efficient and effective land use patterns promote integrated regional water management. Integrating land use and water management consist of planning for housing and economic development needs of a growing population while providing for the efficient use of water, water quality, energy, and other resources.

Cities and counties typically set policies in General Plans, zoning ordinances, or other planning documents that identify current and future land uses within their boundaries. Water resource related projects can be included in general plan elements for conservation, open space, and safety. To support integrated watershed management, water resource projects should be coordinated with these documents to the maximum extent practicable. Proper land use planning and management intersect and share benefits with many resource management strategies that can help the Region work towards all of its objectives.

### Recharge Areas Protection

Recharge Areas Protection focuses on protection of lands that are important locations for groundwater recharge. Natural recharge areas include stream beds and open spaces that allow water to permeate into the ground, while artificial recharge areas can include ponds or basins that collect water and allow it to permeate. These recharge areas can be protected through land use planning, land conservation and habitat protection programs. If recharge areas cease functioning properly, there may not be sufficient groundwater for storage or use. Protection of recharge areas include two primary goals: 1) ensuring that areas suitable for recharge continue to be capable of adequate recharge rather than covered by urban infrastructure, such as

buildings and roads; and 2) preventing pollutants from entering groundwater to avoid expensive treatment that may be needed prior to potable, agricultural, or industrial beneficial uses.

The Region is leading multiple efforts that will help to protect recharge areas, including RCWD's recent adoption of its Groundwater Protection Policy to coordinate groundwater quality protection among local agencies, and implementation of the State's onsite water treatment system (OWTS) policy.

Given this information, the protection of recharge areas strategy is also related to other strategies, including Urban Runoff Management and Conjunctive Management and Groundwater Storage. Collaboratively, these strategies will enable the Region to meet a majority of its objectives.



### Sediment Management

Sediment Management implements programs and projects that ensure the presence or absence of sediment in local surface waters will not have significant impacts on water and its beneficial uses. The removal of sediment from reservoirs improves both the water storage and flood control capabilities. Sediment that has been trapped in reservoirs can be used for restoring and renewing beaches, wetlands, stream and coastal habitats. Implementing this strategy would support the Region's objectives to increase local water supply and enhancing regional flood control by managing the sediment in local reservoirs. Sediment management could also help to improve controllable pollutant sources to 303(d) listed receiving waters in those areas with high sediment levels, while at the same time protect and create aquatic/riparian habitat by ensuring the appropriate sediment loads are present. Given this, the sediment management strategy can help the Region to meet a majority of its objectives.

### Watershed Management

Watershed Management utilizes planning, programs, and projects to restore and enhance watershed functions. Watershed planning encompasses a broader perspective on water resources management, including improving and protecting water quality, ecosystems, and open space. Using the watershed as a basic management unit promotes multi-benefit, integrated projects and collaboration among policies and actions, often requiring the involvement of stakeholders. Given this, projects that use watershed management can help the Region to meet all of its objectives.

## 4.1.6 People and Water

### Economic Incentives Policy

Economic Incentives, in the form of loans, grants, or water pricing support, are important for successful implementation of projects as a lack of adequate funds can prevent a project from moving forward. Incentives can result in lower operation costs or lower local costs of implementing a project.

Economic incentives are currently offered in the Region for decreasing water consumption, with a focus on reducing imported potable water use, and/or increasing local supply development through programs such as MWD's Local Resource Program, which promotes the development of local groundwater and recycled water resources. Several projects within the Region have benefited from the IRWM Program's Proposition 50 and Proposition 84 funding.

The Region should continue to seek incentives from all potential sources, and pass along those incentives directly to water customers with an emphasis on low income and disadvantaged communities. Given this, economic incentives strategies can be used to help achieve all of the Region's objectives.

### Outreach and Education

Outreach and Education are important components in all water resource management programs and projects. Performing outreach to stakeholders and providing education to the public improves the understanding of the critical water issues facing the Region, and the types of strategies that need to be implemented to improve the Region's water supply, quality, and habitat. In addition, performing outreach to other agencies and organizations allows for partnerships to be formed in order to enhance and forward programs and projects. The outreach and education strategy can be used to support all of the Region's objectives.

### Water and Culture

Water and Culture acknowledges the cultural connection tribes have with their water resources. Implementation of these strategies ensures that the water resources on tribal lands within the Region are managed sustainably to ensure water resources supply and quality is sufficient to maintain this cultural connection. Implementation of this strategy can indirectly support all of the Region's objectives as the water resources issues faced on tribal lands are similar to those in other areas of the Region.

### Water-Dependent Recreation

Water-Dependent Recreation seeks to enhance and protect water-dependent recreational opportunities and public access to recreational lands through water resources management. Water-related recreation within the Region includes opportunities to access or be alongside lakes, river corridors, or wetlands. Major water features in the Region include Vail Lake, Diamond Valley Lake, Lake Skinner, and the Santa Margarita River and its tributaries.

Strategies that improve the recreational experience, as well as better manage water resources, can include implementation of physical facilities such as trails and restrooms as well as interpretive signs and educational facilities. Improving recreation will help the Region to meet its objective to improve recreation and open space through multi-benefit projects. Protecting water-dependent recreational opportunities is also likely to help the Region to meet its goal of reducing controllable pollutant loads to 303(d) listed waters as quality is a necessary consideration in allowing recreational use of surface waters.

#### 4.1.7 Improve Flood Management

##### Flood Risk Management

Flood Risk Management is a key element of integrated flood management that focuses on protecting people, property and infrastructure from floods. Flood management employs both structural and non-structural measures for the preservation of existing natural floodplains, removing existing structures from areas subject to flooding, and/or implementing flood control measures such as channelization, detention and debris control, prepare for, respond to, and recover from a flood, minimize the loss of life and damage to property from flooding, while recognizing the benefits to ecosystems from periodic flooding. In many cases, a combination of measures must be considered and implemented in order to balance protection of people and property with environmental goals. This strategy can support the Region's objectives to enhance regional flood control with multi-benefit projects, and reduce municipal and private property damage risk.

## 4.2 Additional Climate Change Mitigation Strategies

The Region identified specific climate change adaptation and mitigation strategies at a climate change workshop conducted by the SAC in November 2013. While the majority, if not all, of the RMS already listed in this chapter will help to also adapt to climate change, the Region identified additional strategies that would specifically mitigate against climate change through a reduction in energy consumption and GHGs. These include:

- *Optimize sanitary sewer systems:* Optimizing sanitary sewer systems will reduce energy used to treat wastewater as well as increase the volume of recycled water available, and help to both adapt to climate change by increasing supplies available to the Region, and mitigate against climate change by reducing emissions.
- *Improve efficiency of drinking water treatment and distribution systems:* Improving the efficiency of treatment and distribution systems will reduce the energy used to treat and distribute drinking water as well as reduce in-system water losses, helping to both adapt to and mitigate against climate change.
- *Develop an inventory of emissions from water and wastewater systems:* Developing an inventory of emissions generated by water and wastewater systems will allow the Region

to better understand its carbon footprint and set targets for reducing emissions and mitigate against climate change.

- *Increase the use of renewable energy sources:* Increasing the use of renewable energy sources for powering water and wastewater treatment and distribution systems will reduce the Region's carbon footprint, and help to mitigate against climate change.

### 4.3 Impacts and Benefits of Implementing Strategies

The Region has identified the IRWM Plan's potential impacts and benefits relative to the strategies discussed above. Given the integrated nature of the Region, it is difficult to determine what strategies would provide a benefit or disproportionate impact to DACs or create environmental justice concerns. Identification of project-specific impacts and benefits, particularly those to DACs and environmental justice concerns, will improve as projects are closer to implementation, at which point a detailed project-specific impact and benefit analysis can occur as part of the NEPA and/or CEQA process.

Tables 4-3 through 4-10 below list each of the IRWM Plan strategies and their potential impacts and benefits that could occur over the next 20 years. Strategies are grouped consistent with the CWP RMS as follows: reduce water demand; improve flood management; improve operational efficiency and transfers; increase water supply, improve water quality, practice resources stewardship; and related to the interaction of people and water. These impacts and benefits will be reviewed and updated as described in Chapter 6 as part of IRWM Plan management.

**Table 4-3: Impacts and Benefits of Strategies that Reduce Water Demand**

Strategy	Within IRWM Region		Inter-regional	
	Potential Impacts	Potential Benefits	Potential Impacts	Potential Benefits
Agricultural Water Use Efficiency	Decreased flow to downstream users	Decreased potable water demand Decreased dry weather runoff and pollutant loads to waterways Reduced pumping costs Improved ability to meet water supply needs and decreased dependence on imported supply	Loss of flow to downstream users	Increased available Bay-Delta and Colorado River supply and/or environmental flows Improved air quality through decreased GHG and other emissions associated with imported water Decreased energy consumption for water treatment and conveyance associated with imported water
Urban Water Use Efficiency	Loss of revenue to water agencies	Decreased potable water demand Decreased dry weather runoff and pollutant loads to waterways Reduced pumping costs Improved ability to meet water supply needs and decreased dependence on imported supply	None identified	Increased available Bay-Delta and Colorado River supply and/or environmental flows Improved air quality through decreased GHG and other emissions associated with imported water Decreased energy consumption for water treatment and conveyance associated with imported water

**Table 4-4: Impacts and Benefits of Strategies that Improve Flood Management**

Within IRWM Region		Inter-regional	
Strategy	Potential Impacts	Potential Benefits	Potential Impacts
Flood Management	<p>Increased short-term construction and site-specific impacts</p> <p>Changes in sediment loads and distribution</p>	<p>Reduced risk to property and life</p> <p>Reduced flood insurance costs</p> <p>Increased water supply, water quality, habitat and recreation</p> <p>Advancement of integrated flood management engineering and application for use by other entities</p>	<p>Altered sediment loads to downstream regions</p>
			<p>Advancement of integrated flood management engineering and application for use by other entities</p> <p>Reduced flood risk to downstream regions related to high peak flows</p>

**Table 4-5: Impacts and Benefits of Strategies that Improve Operational Efficiency and Transfers**

Within IRWM Region		Inter-regional	
Strategy	Potential Impacts	Potential Benefits	Potential Impacts
Conveyance – Regional/ Local	<p>Increased short-term construction and site-specific impacts</p>	<p>Reduced system loss</p> <p>Improved water system reliability</p> <p>Improved ability to meet water supply needs and decreased dependence on imported supply</p>	<p>None identified</p>
			<p>Increased available Bay-Delta and Colorado River supply and/or environmental flows</p> <p>Improved air quality through decreased GHG and other emissions associated with imported water</p> <p>Decreased energy consumption for water treatment and conveyance associated with imported water</p>

		Inter-regional	
Within IRWM Region		Potential Benefits	Potential Impacts
Strategy	Potential Impacts	Potential Benefits	Potential Impacts
System Reoperation	Increased short-term construction and site-specific impacts	<p>Improved water system reliability</p> <p>Improved ability to meet water supply needs and decreased dependence on imported supply</p> <p>Decreased energy consumption and associated GHG emissions for water conveyance</p>	<p>Reduced in-stream flow to downstream regions</p>
Water Transfers	Reduced return flows Loss of agricultural land	<p>Increased water supply in normal, drought and emergency conditions</p> <p>Improved economic stability and environmental conditions</p>	<p>Reduced return flows</p> <p>Loss of agricultural land</p>
		<p>Increased available Bay-Delta and Colorado River supply and/or environmental flows</p> <p>Improved air quality through decreased GHG and other emissions associated with imported water</p> <p>Decreased energy consumption for water treatment and conveyance associated with imported water</p>	<p>Financial for the agency providing the source water</p> <p>Beneficial use of resources otherwise unused</p>

**Table 4-6: Impacts and Benefits of Strategies that Increase Water Supply**

Within IRWM Region		Inter-regional	
Strategy	Potential Impacts	Potential Benefits	Potential Impacts
Conjunctive Management & Groundwater	<p>Increased short-term construction and site-specific impacts</p> <p>Increased local energy and GHG emissions associated with pumping levels</p> <p>Environmental impacts of removing flood flows</p>	<p>Improved ability to meet water supply needs and decreased dependence on imported supply</p> <p>Improved water supply reliability</p> <p>Increased available water supply to meet demand from growth</p> <p>Improved groundwater basin yield and production flexibility</p> <p>Increased water quality protection</p>	<p>None identified</p>
Desalination	<p>Increased construction-related impacts</p> <p>Increased treatment level and associated increased energy use and GHG emissions</p> <p>Increased brine management and disposal issues</p>	<p>Improved ability to meet water supply needs and decreased dependence on imported supply</p> <p>Advancement of desalination engineering and application for use by other entities</p>	<p>None identified</p>
			<p>Increased available Bay-Delta and Colorado River supply and/or environmental flows</p> <p>Increased water quality protection to Lower Santa Margarita Watershed</p> <p>Improved air quality through decreased GHG and other emissions associated with imported water</p> <p>Decreased energy consumption for water treatment and conveyance associated with imported water</p>
			<p>Increased available Bay-Delta and Colorado River supply and/or environmental flows</p> <p>Improved air quality through decreased GHG and other emissions associated with imported water</p> <p>Decreased energy consumption for water treatment and conveyance associated with imported water</p> <p>Advancement of desalination engineering and application for use by other entities</p>

		Inter-regional	
Within IRWM Region		Potential Impacts	Potential Benefits
Strategy	Municipal Recycled Water	<p>Increased construction-related and site-specific impacts</p> <p>Increased local energy use, and GHG emissions associated with higher treatment levels</p> <p>Reduced effluent discharge available for in-stream flows</p> <p>Increased need for recharge facility capacity</p> <p>Increased need for brine disposal</p>	<p>Improved ability to meet water supply needs and decreased dependence on imported supply</p> <p>Increased water quality and beneficial use of WWTP/ recycled water flows</p> <p>Improved groundwater basin yield and production flexibility</p> <p>Advancement of technology and application for use by other entities</p> <p>Decreased long-term water costs</p> <p>Increased habitat offset areas</p>
	Surface Storage – Regional/ Local	<p>Increased short-term construction and site-specific impacts</p> <p>Altered riparian flows and habitat quality</p> <p>Increased evaporative losses</p>	<p>Reduced effluent discharge available for in-stream flows in downstream regions</p> <p>Altered downstream flows and habitat quality in downstream regions</p>

**Table 4-7: Impacts and Benefits of Strategies that Improve Water Quality**

		Inter-regional			
		Within IRWM Region			
Strategy	Potential Impacts	Potential Benefits	Potential Impacts	Potential Benefits	
Drinking Water Treatment and Distribution	<p>Increased short-term construction and site-specific impacts</p> <p>Increased local energy use, and GHG emissions associated with higher treatment levels</p>	<p>Improved water quality and local water supply availability</p> <p>Reduced drinking water-related health problems</p>	None identified	<p>Increased available Bay-Delta and Colorado River supply and/or environmental flows</p> <p>Decreased energy consumption for water treatment and conveyance associated with imported water</p>	
Matching Water Quality to Use	None Identified	<p>Decreased water treatment costs</p> <p>Improved ability to meet water supply needs and decreased dependence on imported supply</p>	None Identified	<p>Increased available Bay-Delta and Colorado River supply and/or environmental flows</p> <p>Decreased energy consumption for water treatment and conveyance associated with imported water</p>	
Pollution Prevention	<p>Increased short-term construction and site-specific impacts</p> <p>Increased local energy, and GHG emissions associated with higher treatment levels</p>	<p>Improved water quality</p> <p>Reduced need for other water management and treatment options</p> <p>Enhanced recreation, water supply and habitat</p>	None identified	<p>Reduced pollutant loads</p> <p>Enhanced recreation, water supply and habitat</p>	
Salt & Salinity Management	Increased brine/ salt disposal issues	<p>Decreased damage to crop yields and farmland</p> <p>Reduced corrosive damage to equipment</p> <p>Improved water quality</p> <p>Increased local water supply</p>	None identified	<p>Improved water quality</p> <p>Increased available Bay-Delta and Colorado River supply and/or environmental flows</p> <p>Decreased energy consumption for water treatment and conveyance associated with imported water</p>	

Strategy	Within IRWM Region		Inter-regional	
	Potential Impacts	Potential Benefits	Potential Impacts	Potential Benefits
Urban Runoff Management	<p>Increased construction of individual projects</p> <p>Reduced in-stream flows</p>	<p>Decreased urban runoff</p> <p>Reduced pollutants to receiving waters</p> <p>Improved habitat and recreation</p> <p>Improved ability to meet water supply needs and decreased dependence on imported supply</p> <p>Improved air quality through decreased GHG and other emissions relative to treated and pumped supplies</p>	<p>Loss of drainage flow and in-stream flow to down-stream regions</p>	<p>Increased available Bay-Delta and Colorado River supply and/or environmental flows</p> <p>Improved habitat and recreation</p> <p>Improved air quality through decreased GHG and other emissions associated with imported water</p> <p>Decreased energy consumption for water treatment and conveyance associated with imported water</p> <p>Improved water quality</p>

**Table 4-8: Impacts and Benefits of Strategies that Practice Resources Stewardship**

Strategy	Within IRWM Region		Inter-regional	
	Potential Impacts	Potential Benefits	Potential Impacts	Potential Benefits
Agricultural Land Stewardship	Limited urban land use development	Increased water supply, quality, flood control, recreation and habitat Reduced soil erosion	None identified	Improved ability to increase habitat corridors
Ecosystem Restoration	Increased short-term construction and site-specific impacts Limiting urban land use development	Reduced invasive species, and increased native and endangered species Improved passive recreation, education, water quality, water supply and flood control Improved ability to increase or maintain habitat corridors	None Identified	Improved ability to increase or maintain habitat corridors
Forest Management	None identified	Improved water supply, water quality, flood control, habitat and recreation	None identified	Improved water supply, water quality, flood control, habitat and recreation
Land Use Planning and Management	None identified	Improved water supply, water quality, flood control, habitat and recreation	None identified	None identified
Recharge Area Protection	Increased short-term construction and site-specific impacts	Improved water supply, water quality, flood control, habitat and recreation	None identified	None identified
Sediment Management	Sediment disposal or relocation	Improved water quality, flood control, water supply	None identified	Improved water quality
Watershed Management	Increased short-term construction and site-specific impacts	Improved water supply, water quality, flood control, habitat and recreation	None identified	Improved water supply, water quality, flood control, habitat and recreation

**Table 4-9: Impacts and Benefits of Strategies Related to People and Water**

Strategy	Within IRWM Region		Inter-regional	
	Potential Impacts	Potential Benefits	Potential Impacts	Potential Benefits
Economics Incentives Policy	None identified	Increased project implementation	None identified	Increased project implementation
Outreach and Education	None identified	Increased water supply, water quality, flood control, habitat and recreation	None identified	Interregional collaboration
Water and Culture	None identified	Increased water supply, water quality, flood control, habitat and recreation	None identified	Improved water supply, water quality, flood control, habitat and recreation
Water-Dependent Recreation	<p>Increased human activity in natural areas</p> <p>Increased potential for water quality degradation</p> <p>Increased potential impacts to cultural resources</p> <p>Increased potential for disrupting or displacing wildlife</p>	<p>Increased water supply, water quality, flood control, habitat and recreation</p> <p>Reduced overuse and improved quality of existing recreation facilities, enhancing the recreational experience</p> <p>Improved potential economic benefits to recreation-supporting businesses</p>	None identified	Increased recreational opportunities and experiences

**Table 4-10: Impacts and Benefits of Strategies Related to Climate Change Mitigation**

Within IRWM Region		Inter-regional	
Strategy	Potential Impacts	Potential Benefits	Potential Impacts
Optimize sanitary sewer systems	Increased short-term costs for implementing an optimization program	Decreased energy consumption and associated GHG emissions for wastewater conveyance and treatment Increased availability of recycled water	None identified
Improve efficiency of drinking water treatment and distribution systems	Increased short-term costs for implementing a program to improve efficiency	Decreased energy consumption and associated GHG emissions for drinking water treatment and distribution Reduced in-system water loss	None identified
Develop an inventory of emissions from water and wastewater systems	Increased short-term costs for developing an inventory of emissions	Improved ability to reduce energy consumption and associated GHG emissions from water and wastewater systems	None identified
Increase the use of renewable energy sources	Increased cost of diversifying energy sources	Improved ability to reduce GHG emissions from water and wastewater systems	None identified
		Increased available Bay-Delta and Colorado River supply and/or environmental flows Improved air quality through decreased GHG and other emissions associated with imported water Decreased energy consumption for water treatment and conveyance associated with imported water	Improved air quality through decreased GHG and other emissions associated with imported water Decreased energy consumption for water treatment and conveyance associated with imported water
		Increased available Bay-Delta and Colorado River supply and/or environmental flows Improved air quality through decreased GHG and other emissions associated with imported water Decreased energy consumption for water treatment and conveyance associated with imported water	Improved air quality through decreased GHG and other emissions associated with imported water Decreased energy consumption for water treatment and conveyance associated with imported water
		Improved ability to reduce energy consumption and associated GHG emissions from water and wastewater systems	None identified
		Improved ability to reduce GHG emissions from water and wastewater systems	None identified

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## 5 Projects

Implementing projects is an integral part of the IRWM Plan, providing the primary means for meeting the IRWM Plan objectives. This chapter describes how the Region works to develop projects to better meet the Region's objectives, and presents the process used by the Region to submit, review, and prioritize projects in order to implement the IRWM Plan.

### 5.1 Project Development

One of the key aspects in developing an IRWM Plan is the facilitation of multiple benefit integration of implementation projects and activities that reflects the Regional interests of all stakeholders. The IRWM Plan needs to tell a cohesive story, yet fairly reflect the interests of all stakeholders through the projects and programs included to meet the objectives of the IRWM Plan. These objectives, described in detail in Chapter 3, support the stated Goals and include:

**Goal 1: Increase diversification of the water supply portfolio**

1a. Reduce regional potable water consumption

1b. Increase local supply development

**Goal 2: Maximize groundwater potential**

2a. Improve quality and ability to access and increase groundwater supply

2b. Increase knowledge of groundwater supply potential

**Goal 3: Protect and improve local surface water quality**

3a. Reduce controllable pollutant sources to 303(d) listed receiving waters

**Goal 4: Promote integrated flood management**

4a. Enhance regional flood control by implementing multiple benefit projects

4b. Reduce municipal and private property damage risk

**Goal 5: Protect, restore and enhance aquatic/riparian habitat**

5a. Protect and create aquatic/riparian habitat

5b. Enhance riparian corridors on existing land-use

**Goal 6: Promote economic, social, land use and environmental sustainability**

6a. Support water resources projects that positively impact DACs

6b. Improve recreation opportunities and open space through multiple benefit projects

6c. Adapt to and mitigate against climate change by promoting adaptation strategies and reducing water related greenhouse gas emissions

Part of the benefit of IRWM planning is addressing similar objectives among regional projects, and coordinating projects to better accomplish the Region's objectives. Implementation of integrated, regional projects can allow for greater levels of water resources benefits, and provide additional benefits such as cost-effectiveness, cost sharing, added expertise, and increased

opportunity for funding from a variety of sources. The Region's efforts to develop integrated, regional projects are described below.

### 5.1.1 Project Development and Integration Workshops

One way in which the Region is facilitating project development and integration is through periodic project workshops, the first of which was held on July 17, 2013. This workshop allowed project proponents to present and discuss their projects with other stakeholders in the Region, and provided opportunities for:

- *Facilitating partnerships:* Establishing partnerships creates efficiencies through sharing of data, funds, resources and infrastructure.
- *Multiplying benefits:* Integrated projects provide opportunities for attaining multiple regional goals.
- *Expanding geography:* Implementing watershed-wide or regional-scale projects can benefit from economies of scale and address multiple watershed functions to resolve conflicts between uses.

### 5.1.2 Project Identification in Planning Studies

In addition to facilitating integration through workshops, the Region has conducted studies that may be used to identify additional integration opportunities and project concepts, including the *Santa Margarita Region Retrofit Program Study*, the *Temecula Valley Basin SNMP*, and the *DAC Groundwater Study in the Anza Area*.

The *Santa Margarita Region Retrofit Program Study* presents a set of tools through which project sponsors can identify appropriate stormwater and dry weather runoff BMPs to improve surface water quality. The study also identifies potential sites for runoff BMP retrofits in the cities of Temecula, Murrieta, and Wildomar. Stormwater BMPs described in this study could potentially provide benefits beyond surface water quality benefits, including water supply and flood benefits through the retention and infiltration of stormwater runoff, or habitat benefits through planting of native species at BMP sites. The types of programs identified in this study include:

- Regulatory requirements such as zoning, landscaping, building codes, irrigation codes or other municipal codes



- Special district or area programs where a combination of funding, incentives or regulations are applied to a specific area
- Incentive programs that provide financial compensation to property owners who perform activities such as rainwater harvesting (rain barrels or cisterns), converting landscapes to xeriscape or low-water-use plantings, retrofitting irrigation systems to improve efficiency and reduce dry weather runoff, or making land available for BMPs to treat runoff from existing developed surfaces
- Land or easement purchases for the use of private property to treat stormwater runoff

The *Temecula Valley Basin SNMP* was developed in compliance with the California Recycled Water Policy to manage salts, nutrients, and other significant chemical compounds throughout the Temecula Valley Groundwater Basin. The SNMP proposes a number of implementation actions to ensure compliance with water quality objectives and protection of beneficial uses of groundwater in the Temecula Valley Groundwater Basin, and to meet the overall supply needs of the Region, including:

- Continued groundwater quality monitoring to assess groundwater basin and aquifer health
- Continued modeling and research to assess groundwater basin and aquifer behavior
- Coordination among water suppliers and stormwater agencies to increase knowledge of proposed stormwater compliance projects/operations and their effects on salt and nutrient loads to groundwater
- Coordination among water suppliers and wastewater service providers to support implementation of sewer service
- Implementation of a public outreach program to educate the public on impacts associated with the use of self-generating water softeners and proper wastewater disposal practices to minimize wastewater salinity
- Continued evaluation of opportunities to expand groundwater recharge/recovery efforts, and evaluation of opportunities to improve groundwater quality through recycled water demineralization, potable reuse, and brine export
- Coordination between stormwater Copermittees to assess opportunities for water quality improvement's through stormwater capture and implementation of low-impact development opportunities

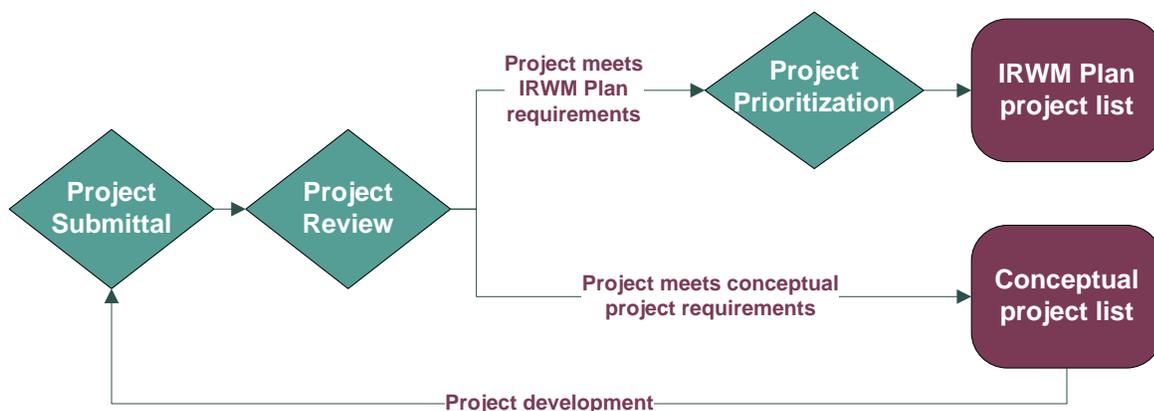
These implementation actions can be incorporated into projects to help the Region to meet its groundwater supply and quality objectives.

The *DAC Groundwater Study in the Anza Area* was completed in order to better define the groundwater basin, and collect new data on groundwater levels and quality. Generally, the study recommends continued monitoring of groundwater levels and quality which may in turn lead to identification of projects to improve groundwater in the Anza area.

## 5.2 Project Submittal, Review and Prioritization Process

The project submittal process is a dynamic and on-going process to allow for new and updated projects to be readily incorporated into the IRWM Plan. Submitted projects are reviewed for inclusion in the IRWM Plan, and then prioritized. Projects that do not yet meet the IRWM Plan requirements, but through further development could potentially benefit the Region, are considered conceptual projects. Although not in the IRWM Plan yet, these conceptual projects are still tracked as part of the IRWM planning process. Figure 5-1 shows an overview of this process. The following discussion provides detail on the procedures for submitting, reviewing, and prioritizing projects for the IRWM Plan.

**Figure 5-1: Overview of Project Submittal, Review and Prioritization Process**



### 5.2.1 Procedures for Submitting a Project to be Included in the Plan

The Region encourages projects to be submitted or updated by stakeholders on an ongoing basis. At certain key times, the Region will also conduct a “Call for Projects” to support IRWM Plan updates and funding opportunities. The Region encourages stakeholders to submit projects using the Region’s Project Nomination Form (see Appendix F). Each Call for Projects provides dates by which projects will need to be submitted or updated in order for a project to be considered for inclusion in IRWM Plan updates and for funding applications. Notification is emailed to the stakeholder email list discussed in Chapter 1, provided at regular SAC meetings and posted on the program website: <http://www.ranchowater.com/index.aspx?nid=200>.

Once a project has been submitted, it’s retained in a list of submitted projects for subsequent review by the Region for potential acceptance into the IRWM Plan. The last Call for Projects concluded in October 2013 for inclusion of projects in this 2014 IRWM Plan Update.

#### Eligible Projects

The Region encourages submittal of projects that will meet the goals and objectives of the IRWM Plan, including projects that:

- Increase diversification of the Region’s water supply portfolio

- Maximize groundwater potential
- Protect and improve local surface water quality
- Promote integrated flood management
- Protect, restore and enhance aquatic/riparian habitat
- Promote economic, social, land use and environmental sustainability

Projects may include implementation projects or plans and studies. The Region encourages submittal of conceptual projects, though only more fully developed projects that meet DWR guidelines are included in the IRWM Plan, as discussed on the following pages.

### Submittal Process

Stakeholders may submit or update projects using the Project Nomination Form provided in Appendix F and posted on the program website. This form is filled in by the project proponents and then emailed to the USMW IRWM Program Manager. The form may be used to submit both conceptual and IRWM Plan projects, and provides the instructions for completion of each type of project. For stakeholders without internet access, a hard copy form may be obtained by contacting the IRWM Program Manager at Rancho California Water District at (951) 296-6900.

### Required Project Information

Many projects submitted will be at differing stages of development but could, when implemented, provide equal benefits to the Region. In order for projects to be included in the IRWM Plan, sufficient technical development and vetting of the project needs to be completed by the project sponsor so as to determine the feasibility that the stated benefits can actually be achieved. Therefore, the IRWM Region is interested in projects at all stages of development. The sidebar lists the information required for conceptual projects, and the information required for IRWM Plan projects. IRWM Plan projects and conceptual projects are reviewed by the Region as needed, but not less than on an annual basis, following the procedures discussed later in this chapter.

#### Conceptual Projects required information:

- Project title
- Potential project benefits
- Project type
- Project description
- Project status
- Project location
- Project purpose and need
- Project sponsor
- Potential project partners

#### IRWM Plan Projects include all of the above information plus the following:

- Detailed project goals and objectives
- Resource Management Strategies utilized
- Legislative (Prop 84 of subsequent legislation) project elements met
- Sustainability features
- Quantified benefits
- Integration and regionality elements
- Disadvantaged Community and Native American Tribal Community benefits
- Project costs and potential funding

### 5.2.2 Procedures for Review of Projects to Implement the Plan

As with project submittal, project review is intended to be an ongoing process to occur at least once a year. All projects submitted to the Region are reviewed by the Project Review Subcommittee. The Project Review Subcommittee, composed of volunteer members of the SAC, determine whether the submitted information is sufficient to allow the project to be included in the IRWM Plan, or if it will be included in the list of conceptual projects. To do this, the Project Review Subcommittee reviews and classifies projects according to the following requirements:

#### Conceptual Project Requirements:

- General project information provided is sufficient to understand the project (Project Nomination Form, Question 1)
- Project sponsor information has been provided (Project Nomination Form, Question 2)
- Project partner information has been provided, if applicable (Project Nomination Form, Question 3)

#### IRWM Plan Project Requirements:

- Requirements for conceptual projects have been met (see above)
- Project objectives align with the Region's objectives (Project Nomination Form, Question 4)
- Integrated elements of the project have been described (Project Nomination Form, Question 6)
- Project costs and benefits are described, or an economic or unit cost analysis has been performed (Project Nomination Form, Questions 5 and 8)
- Project potential to promote economic, social, land use and/or environmental sustainability has been described (Project Nomination Form, Questions 4b and 7)

Once the projects are classified as either a conceptual or IRWM Plan projects, the Project Review Subcommittee provides a recommendation to the RWMG for adoption of the project lists which can be found on the IRWM Program website. The projects included in Appendix G meet the criteria for IRWM Plan projects as of October 2013 when the 2013 project review was completed. This is a living project list to allow for ongoing submittal of projects.

### 5.2.3 Prioritizing Projects

Projects that meet the requirements for inclusion in the IRWM Plan will help the Region to meet the objectives identified on the first page of this chapter and in Chapter 3. DWR guidance has indicated that IRWM Regions should develop a process to prioritize these projects relative to stated objectives. All projects accepted for inclusion in the IRWM Plan are prioritized. Conceptual projects and studies/plans are not prioritized as they will not yet provide direct benefits to the Region, though the Region recognizes the importance of these projects.

The prioritization of projects occurs at the time of project review and is also completed by the Project Review Subcommittee. The Project Review Subcommittee then provides the scores to the RWMG for approval as part of the IRWM Plan project list. Although project review and classification is an ongoing process, project prioritization is only conducted on an as-needed basis.

Table 5-1 shows the project prioritization criteria, questions, scoring and weighting. The overall criteria and weighting were determined by the SAC, while the associated scoring was determined by the Project Review Subcommittee. During development of the scoring process, the Subcommittee chose not to classify projects into categories but instead organized the project list based upon the individual score. The prioritization process can be modified as desired by the Project Review Subcommittee and RWMG for each prioritization exercise. This general project prioritization process is adaptable to specific funding opportunity criteria for use in grant applications. Appendix G includes the project scoring completed by the Project Review Subcommittee, subsequently approved by the RWMG.

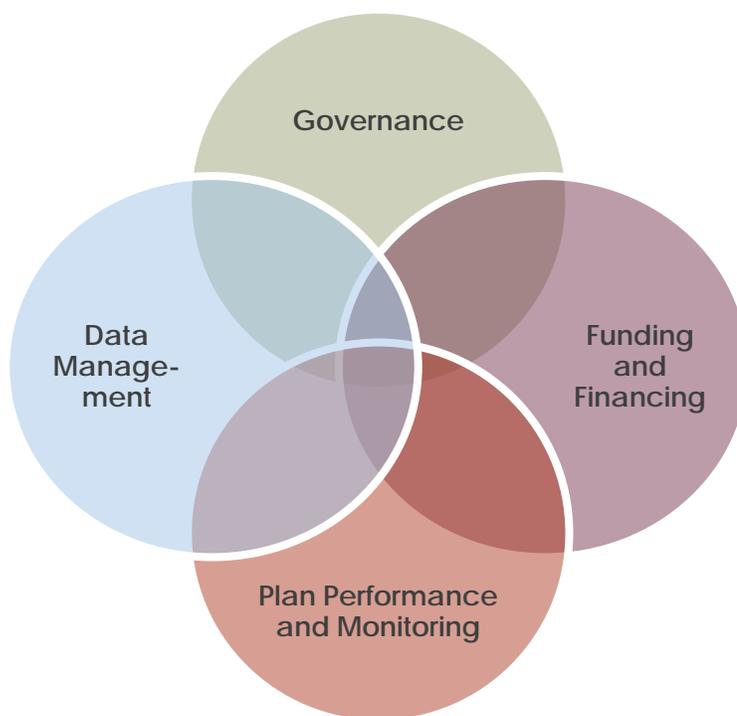
**Table 5-1: Project Prioritization Criteria and Scoring**

Criteria	Relevant Questions	Scoring	Weighting
<b>Project Relevance</b>	<ul style="list-style-type: none"> <li>Does the project meet one Plan goal?</li> <li>Does the project meet any legislative (Prop 84 or subsequent legislation) goals?</li> <li>Does the project use a Regional Management Strategy?</li> </ul>	<p><b>1 Point:</b> Meets a Plan goal</p> <p><b>2 Points:</b> Meets a Plan goal and a legislative (Prop 84 or subsequent legislation) goal</p> <p><b>3 Points:</b> Meets a Plan goal, a legislative (Prop 84 or subsequent legislation) goal and uses a regional management strategy</p>	30%
<b>Integration and Regionalism</b>	<ul style="list-style-type: none"> <li>Does the project benefit more than one service area/agency/group?</li> <li>Does the project help meet at least two Plan goals?</li> </ul>	<p><b>1 Point:</b> Benefits multiple service areas/groups</p> <p><b>2 Points:</b> Helps to meet at least two objectives and goals</p> <p><b>3 Points:</b> Meets more than two objectives; OR meets at least two objectives and goals AND benefits multiple service areas/groups</p>	30%
<b>Cost Efficiency</b>	<ul style="list-style-type: none"> <li>Has the project completed a cost/benefit analysis?</li> <li>Does the project have any quantifiable benefits identified?</li> </ul>	<p><b>0 Points:</b> The project has no quantifiable benefits</p> <p><b>1 Point:</b> The project has quantifiable benefits</p> <p><b>2 Points:</b> The project has a favorable unit cost assessment and has quantifiable benefits</p> <p><b>3 Points:</b> The project has a favorable benefit cost ratio</p>	20%
<b>Sustainability</b>	<ul style="list-style-type: none"> <li>Does the project promote economic, social, land use or environmental sustainability?</li> <li>Does the project mitigate against or help adapt to climate change?</li> <li>Does the project benefit a DAC and/or Tribe?</li> </ul>	<p><b>0 Points:</b> The project does none of these</p> <p><b>1 Point:</b> The project does one of these</p> <p><b>2 Points:</b> The project does two of these</p> <p><b>3 Points:</b> The project does three of these</p>	20%

## 6 Implementation

This chapter provides the roadmap for accomplishing the Region's objectives and implementing the projects included in this IRWM Plan. As described in Chapter 1, the Region's water agencies, flood control districts, counties, cities, federal, state and local agencies, and other stakeholder groups have been working across jurisdictional boundaries to develop and implement water resource management projects that have multiple benefits. This multi-jurisdictional coordination, along with the Region's governance structure established in the Region's MOU, promotes resource integration that supports implementation of the IRWM Plan. This resource integration allows for coordination among stakeholders, combining of agency resources for more efficient implementation of projects, sharing of differing expertise or technical capacity to aid in IRWM Plan updates, and common protocols to ensure data management compatibility.

The Region intends to continue with the governance structure laid out in Chapter 1. In addition to this, successful Plan implementation depends upon performance and monitoring to ensure the Region is meeting its objectives, collaborative data management that coordinates efforts among stakeholders, and a plan for continued funding and financing of the IRWM Program. The four components depicted in Figure 6-1 provide the overall implementation framework. The following sections describe how the Region will continue to successfully implement its IRWM Plan in the context of plan performance and monitoring, data management, and funding and financing. The implementation plan discussed here was developed to incorporate and complement implementation strategies from other planning efforts, including the *Temecula Valley Basin SNMP*, the *Santa Margarita Region Retrofit Program Study*, and the *DAC Groundwater Study in the Anza Area*.



**Figure 6-1: Plan Implementation Framework**

## 6.1 Plan Performance and Monitoring

The success of the IRWM Plan depends on how well the Region achieves its objectives through fostering of continued integrated and regional planning within the USMW Region. In order to ensure that the Region is making progress implementing the IRWM Plan, the Region reviews and presents Plan performance in three areas:

1. *Plan Objectives:* The Region tracks progress in meeting the Plan’s objectives by measuring performance of IRWM Plan projects, and examines project benefits relative to the Plan objectives.
2. *Project Monitoring:* The Region uses each project’s monitoring plan to track performance of implemented projects, and generates feedback to improve the IRWM process and projects for future Plan updates.
3. *Outreach and Governance:* The Region conducts outreach and uses its current governance structure to foster the development of integrated and regional projects, and enhance plan performance.

**Figure 6-2: Plan Performance and Monitoring Areas**

Plan Objectives	Project Monitoring	Outreach and Governance
<ul style="list-style-type: none"> <li>• IRWM Plan project performance</li> <li>• Non-IRWM Plan project performance</li> <li>• Project benefits relative to objectives</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring data</li> <li>• Feedback to improve IRWM process and projects</li> </ul>	<ul style="list-style-type: none"> <li>• RWMG and SAC</li> <li>• DAC/tribal outreach</li> <li>• Tri-County FACC</li> <li>• Other Regions</li> <li>• DWR</li> </ul>

### 6.1.1 Plan Objectives

The Region’s progress in meeting IRWM Plan objectives is measured using the performance measures described in Chapter 3, and also shown in Table 6-1. Each performance measure listed includes the potential source of the data or information necessary. For example, the objective to reduce regional potable water consumption (Objective 1a) can be evaluated by reviewing the gallons per capita per day (GPCD) and AFY of water use as reported in urban/agricultural water management plans and affiliated water use reduction plans. The values reported in these plans can be compared from year to year in order to determine the Region’s progress.

The IRWM Program Manager is responsible for monitoring progress on meeting the IRWM Plan’s objectives on a periodic basis. The results of these evaluations are presented as performance reports at SAC meetings, and made available on the program website. The information and results gathered through this exercise can then be incorporated into other region-wide monitoring reports, such as the “State of the Watershed” as desired by the Region’s stakeholders.

**Table 6-1: Objectives and Performance Measures**

Objective	Performance Measure
<b>Goal 1: Increase diversification of the water supply portfolio</b>	
1a: Reduce regional potable water consumption	<ul style="list-style-type: none"> <li>• GPCD consumption as reported in Urban Water Management Plans and affiliated water use reductions plans</li> <li>• AFY of agricultural water use as reported in Agricultural Water Management Plans</li> </ul>
1b: Increase local supply development	<ul style="list-style-type: none"> <li>• AFY of local supply development as reported in Urban Water Management Plans</li> <li>• AFY of local supply development as reported in Agricultural Water Management Plans</li> <li>• AFY of groundwater production as reported in Annual Watermaster Reports and annual groundwater production reports</li> </ul>
<b>Goal 2: Maximize groundwater potential</b>	
2a: Improve quality and ability to access and increase groundwater supply	<ul style="list-style-type: none"> <li>• AFY of groundwater production as reported in annual groundwater production reports</li> <li>• AFY of groundwater production as reported in Urban Water Management Plans</li> <li>• AFY of groundwater production and improvement in groundwater quality as reported in Annual Watermaster Reports</li> <li>• Concentration of constituents of concern, including TDS and nitrate (NO<sub>3</sub>), in groundwater as monitored by the United States Geological Survey (USGS)</li> </ul>
2b: Increase knowledge of groundwater supply potential	<ul style="list-style-type: none"> <li>• Development of groundwater management plans and policies</li> <li>• Development of basin studies</li> </ul>
<b>Goal 3: Protect and improve local surface water quality</b>	
3a: Reduce controllable pollutant sources to 303(d) listed receiving waters	<ul style="list-style-type: none"> <li>• Concentrations and/or loadings of constituents of concern as reported in MS4 Permit water quality monitoring trend analyses (wet and dry measurements)</li> <li>• Constituent loading as estimated in stormwater quality BMP project reporting as required by City Planning Departments</li> <li>• Source identification monitoring as reported by MS4 Co-Permittees</li> </ul>
<b>Goal 4: Promote integrated flood management</b>	
4a: Enhance regional flood control by implementing multiple benefit projects	<ul style="list-style-type: none"> <li>• Number of multiple benefit projects implemented in Region</li> </ul>

Objective	Performance Measure
4b: Reduce municipal and private property damage risk	<ul style="list-style-type: none"> <li>Project flood risk reduction analysis results</li> </ul>
<b>Goal 5: Protect, restore and enhance aquatic/riparian habitat</b>	
5a: Protect and create aquatic/riparian habitat	<ul style="list-style-type: none"> <li>Acres of new or protected habitat in land-use maps or through MSHCP mechanisms</li> <li>Documentation of stream connectivity through sustained flows sufficient for fish and volitional passage</li> <li>Invasive species distribution and abundance as reported in surveys</li> </ul>
5b: Enhance riparian corridors on existing land-use	<ul style="list-style-type: none"> <li>Length of riparian corridor enhanced in land-use maps or through MSHCP mechanisms</li> <li>Results of invasive species removal efforts</li> <li>River flow monitoring during/after supply diversions</li> </ul>
<b>Goal 6: Promote economic, social, land use and environmental sustainability</b>	
6a: Support water resources projects that positively impact DACs	<ul style="list-style-type: none"> <li>Number of DAC projects in IRWM Plan and implemented in the Region with DAC benefits</li> </ul>
6b: Improve recreation opportunities and open space through multiple benefit projects	<ul style="list-style-type: none"> <li>Number of projects implemented in Region with recreation benefits</li> </ul>
6c: Adapt to and mitigate against climate change by promoting adaptation strategies and reducing water related greenhouse gas emissions	<ul style="list-style-type: none"> <li>Number of projects implemented in Region that promote adaptation strategies and reduce water related greenhouse gas emissions</li> </ul>

### 6.1.2 Project Monitoring Plans

Projects that have been funded through IRWM-related grants are required to have monitoring plans implemented by their project sponsors prior to construction. Project sponsors are responsible for monitoring their projects in order to track progress in obtaining the expected project benefits. The required contents of the project monitoring plans include:

- Description of what is being monitored for each project
- Measures to remedy or react to problems encountered during monitoring
- Location of monitoring
- Monitoring frequency
- Monitoring protocols/methodologies, including who is responsible for monitoring
- Procedures to keep track of what is monitored

- Procedures to ensure monitoring schedule is maintained and adequate resources (including funding) are available

The IRWM Program Manager is responsible for also administering the grant awards received through the IRWM Program. The contracts between DWR and the grant administrator include regular reporting requirements on the implementation and monitoring of all projects funded through the Program. As a result, the IRWM Program Manager is already responsible for compiling the data gathered from project monitoring into a performance report. This performance report and the data files are not only provided to DWR, but are also presented at SAC meetings and posted on the program website. Project monitoring data also plays a part in the evaluation of the Region's progress in meeting its Plan objectives, and allows the Region to amend or update Plan elements in response to findings. For example, project monitoring information can be used to inform the Region's priorities, which in turn inform the project review and prioritization process.

### 6.1.3 Outreach and Governance

Outreach and governance activities are a key part of the Region's ability to foster the development of integrated and regional projects. Continued outreach and governance also enhances plan performance and ensures that the Region is in compliance with existing and future DWR requirements. Included in this is ongoing DAC and tribal outreach that will ensure progress is being made towards improving the water resources of these communities.

The Region will continue to hold RWMG meetings quarterly and SAC meetings at least annually in order to give updates on Plan performance and foster project development. The IRWM Plan performance updates include progress on implementation of projects, status of meeting Plan objectives, and news on other stakeholder activities that may help meet Plan objectives. Meeting notes are sent to stakeholders through emails, and posted to the program website by the Program Manager.

Finally, the Region will continue coordination with neighboring IRWM regions through Tri-County FACC meetings and separate meetings with other Regions as needed, as well as with DWR to evaluate how implementation of the IRWM Plan benefits or impacts neighboring Regions.

## 6.2 Data Management

The IRWM Plan has been prepared through a collaborative process that has generated and will continue to generate data and information to support its implementation. This data can be a valuable resource to stakeholders, regional entities, and the state. The Region's stakeholders can utilize data developed through the IRWM Plan process to better manage water supply reliability, water quality monitoring, invasive species removal, aquatic/riparian habitat management, species of concern, recreation and open space, land use development, climate change impacts, and project progress.

The USMW IRWM Program website serves as the Region's primary data management system. Public meeting dates, agendas, and meeting summaries are posted on the main page of the website at <http://www.ranchowater.com/index.aspx?nid=200>. Data and information collected and developed through Plan performance tracking, including project monitoring, are made available on the website as well. The following information provides details on data collection techniques, data dissemination, coordination with state databases, and data needs.

### 6.2.1 Data Collection

As mentioned under Section 6.1, data is collected from a number of sources to evaluate Plan performance, including:

- Urban Water Management Plans
- Agricultural Water Management Plans
- Annual Watermaster Reports
- Groundwater Management Plans
- US Geological Survey (USGS) groundwater monitoring databases
- Basin Studies
- MS4 Permit water quality monitoring
- Stormwater BMP project reporting
- General Plan land use
- MSHCP implementation data
- Stream connectivity and fish passage documentation
- Project progress reports

The data and information provided in these sources is expected to come from existing databases and monitoring efforts with established procedures. The Region assumes that the agencies and organizations performing these monitoring efforts have validation procedures in place to ensure accuracy of the data.

The IRWM Program Manager maintains a central data management system to manage IRWM Program and project data and performance. Stakeholders can send data to the Program Manager, who deposits the project data into the Region's data management system. The IRWM Program Manager uses the data management system to compile periodic IRWM Plan and project performance reports. Depending on project implementation or the overall activity of the IRWM Plan, the reports are prepared annually.

### 6.2.2 Data Dissemination

Data dissemination occurs through several mechanisms including SAC meetings, website postings, email notices, and agency contacts. The CEQA and NEPA process for implementation projects also provides opportunities for public input, review, and data dissemination.

Stakeholder workshops and SAC meetings are a primary means for data dissemination where partner agencies and organizations provide handouts, slideshow presentations, and hold question/answer periods regarding implemented projects and programs. The IRWM Plan and project performance reports prepared by the IRWM Program Manager are posted on the program website for the public to access. The performance reports include a description of recent activities on the IRWM Plan, project status updates, and performance statistics on meeting objectives.

### 6.2.3 Compatibility with Statewide Databases

The Region's agencies coordinate with the state to maximize opportunities to share data and meet statewide data needs. To the extent possible, data collected under the IRWM Plan is in a format compatible with statewide data programs, including the programs described in Table 6-2. To accomplish this, project sponsors work with the coordinating state agency to obtain the appropriate data formats for submission to these programs. In addition, the IRWM Program Manager standardizes data gathered through IRWM planning efforts to integrate with applicable state data programs.

Additional data beyond that resulting from IRWM-funded project monitoring programs can also be added to the Region's data management website; however, the format and content of that data may or may not meet state standards since it was not necessarily funded through a state program. The Region has indicated that if stakeholders wish to share data within the Region, the IRWM Program data management system can be used for that purpose.

### 6.2.4 Data Needs

Although a great amount of valuable data can and is collected through IRWM project implementation, regional stakeholders have identified the need for additional data to better characterize the needs, issues and objectives for the Region. Some specific data needs have been identified as a result of the planning efforts completed through the planning studies conducted concurrently with preparation of this Plan (e.g. the *Temecula Valley Basin SNMP*, the *Santa Margarita Region Retrofit Program Study*, and the *DAC Groundwater Study in the Anza Area*). Among the many goals set forth in the *Temecula Valley Basin SNMP* is the continual improvement of data and analysis through continued monitoring of groundwater quality, focusing on TDS and nitrate, and groundwater levels. The SNMP also identifies the need for more specific loading information from agricultural and irrigation users.

**Table 6-2: State Databases**

Program	Coordinating Agency	Description
California Environmental Data Exchange Network (CEDEN)	SWRCB	System designed to facilitate integration and sharing of water quality, aquatic habitat, and wildlife health data collected for streams, lakes, rivers and the coastal ocean.
Water Data Library	DWR	Stores data from various monitoring stations, including groundwater level wells, water quality stations, surface water stage and flow sites, rainfall/climate observers, and well logs.
California Statewide Groundwater Elevation Monitoring Program (CASGEM)	DWR	Groundwater monitoring program designed to monitor and report groundwater elevations in all or part of a groundwater basin.
Surface Water Ambient Monitoring Program (SWAMP)	SWRCB	Statewide monitoring effort to assess conditions of surface waters. Also includes collection of information for other TMDL, non-point source, and watershed project support programs.
Groundwater Ambient Monitoring and Assessment Program (GAMA)	SWRCB	Includes a statewide basin assessment project that monitors groundwater for chemicals at low detection limits. GAMA objectives are to improve statewide ambient groundwater quality monitoring and assessment and availability of groundwater quality information.
California Environmental Information Clearinghouse	California Natural Resources Agency (CNRA)	Online directory used for reporting and discovery of information resources for California. Includes data resources for cities, counties, utilities, state and federal agencies, private businesses, and academic institutions that have spatial and other types of data resources.
Integrated Water Resources Information System (IWRIS)	DWR	Web-based GIS application that allows entities to access, integrate, query and visualize multiple sets of data simultaneously. Note that this is a data management tool, not a database.
California Environmental Resources Evaluation System (CERES)	CNRA	Includes environmental information catalog to share information about state resources. The goal of CERES is to improve environmental analysis and planning by integrating natural and cultural resource information from multiple contributors.

The *Santa Margarita Region Retrofit Program Study* identifies data needs through its planned monitoring program, including measurement of the effectiveness of runoff management programs, identification of pollutant sources, prioritized drainage areas that need management actions, and information to implement required BMP improvements.

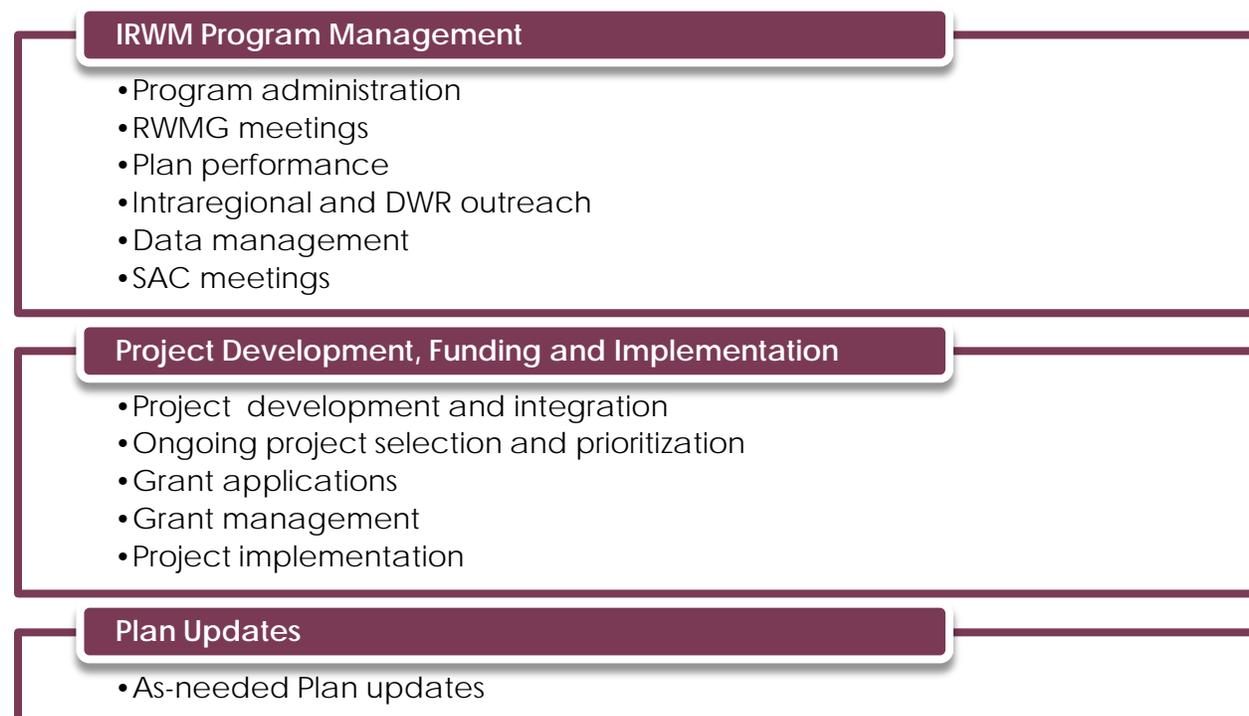
The *DAC Groundwater Study in the Anza Area* has found that long-term groundwater level monitoring across the Cahuilla Valley Groundwater Basin is not available as monitoring wells do not exist in parts of the basin. Long-term groundwater level data is needed to better understand the impact pumping has on the basin.

Beyond these studies, the Region has identified local climate change modeling as a data need. Current climate change modeling data for the Region is limited to temperature, precipitation, imported water supplies, and wildfire risk. To better understand how climate change will impact local water resources, additional modeling is needed to better understand how climate change will affect local water supplies, water quality, flood risk, recreation, habitat, and demand.

### 6.3 Funding and Financing

The Region plans for and secures funding and financing to implement the IRWM Plan, including ongoing program management activities, project development and implementation, and IRWM Plan updates. Each of these components has specific activities included under it which are shown in Figure 6-3.

**Figure 6-3: IRWM Activities Requiring Funding and Financing**



### 6.3.1 Funding and Financing Options

Potential funding sources and methods include:

#### Sources

- Ratepayers
- Operating Funds
- Water Enterprise Funds
- Assessments/Fees/Taxes
- Loans/Grants
- Bonds

#### Methods

- In-Kind Time
- Annual Dues
- As-Needed Assessments
- Grants/Loans

Given that local revenue sources are not sufficient to fully fund all aspects of the IRWM Program's financing needs over the IRWM Plan's 20-year planning horizon, the Region funds its IRWM Program activities using a combination of local, state and federal funds. The following is a program-level description of the sources of funding that are or could be utilized for the ongoing funding of the IRWM Plan.

#### Local Financing

Local financing, particularly in-kind services provided by members of the RWMG and stakeholders, is the most important financing resource used to implement the IRWM Program. All of the Region's program management activities (program administration, meetings, plan performance monitoring, outreach, and data management), project development and integration activities, and even funding and financing development are contributed as in-kind services. The capability of entities to continue to dedicate staff resources for implementation of the IRWM Plan is critical to the success of the IRWM Program.

In addition to in-kind services, project implementation and O&M costs are typically funded by the local project sponsors or partners through ratepayers, operating funds, water enterprise funds, assessments, fees and taxes. Even project sponsors who receive grant funds are typically required to provide local cost share.

#### State Financing

The Region has pursued funding to implement projects in its IRWM Plan in the past, including grant opportunities through Propositions 50 and 84. The Region will continue to evaluate and apply for state funding opportunities, such as the Proposition 84, Round 3 grant program and future IRWM funding sources for IRWM project implementation. Other state funding opportunities will also be evaluated, such as State Revolving Fund (SRF) loans, SWRCB grants, and CDPH grants.

#### Federal Financing

Local agencies may seek federal funding opportunities to fund projects as they become available. For example, the U.S. Bureau of Reclamation (USBR) WaterSMART grant program provides

funding for various types of water supply improvement projects, including water and energy efficiency improvement, system optimization review, and advanced water treatment pilot and demonstration projects. USBR also operates the WaterSMART Title XVI Program, which provides grants for water reclamation and reuse. Agencies within the Region have been successful in securing USBR WaterSMART, CALFED, and Water Conservation Field Services Grant funding to fund individual projects and programs, and to leverage state funds to make a project more cost effective.

### 6.3.2 Financing Plan

Table 6-3 shows the Region's funding and financing plan to achieve the IRWM Program management, project development and implementation, and IRWM Plan Update activities.

**Table 6-3: Financing Plan**

Activity	Approximate Cost or Time Commitment	Funding Source and Percent of Cost	Funding Source Certainty/Longevity
<b>IRWM Program Management</b>			
<ul style="list-style-type: none"> <li>RWMG Meetings</li> <li>Plan Performance</li> <li>Intra-regional/ DWR Outreach</li> <li>Data Management</li> <li>Program Administration</li> </ul>	320 hrs/yr	<u>In-kind:</u> <ul style="list-style-type: none"> <li>80% Program Manager</li> <li>20% RWMG Agencies</li> </ul>	<ul style="list-style-type: none"> <li>On-going agency staff allocations</li> <li>RWMG agency operating budget</li> </ul>
<ul style="list-style-type: none"> <li>SAC Meetings</li> </ul>	180 hrs/yr	<u>In-kind:</u> <ul style="list-style-type: none"> <li>75% SAC members</li> <li>25% Program Manager</li> </ul>	<ul style="list-style-type: none"> <li>On-going agency staff allocations</li> </ul>
<b>Project Development, Funding and Implementation</b>			
<b>Project Development</b> <ul style="list-style-type: none"> <li>Development/ Integration Workshops</li> <li>Project Subcommittee Meetings</li> </ul>	120 hrs/yr	<u>In-kind:</u> <ul style="list-style-type: none"> <li>60% Program Manager</li> <li>40% Subcommittee agencies</li> </ul>	<ul style="list-style-type: none"> <li>On-going agency staff allocations</li> </ul>
<b>Grant Applications</b>	\$20K/project for consultant support  25 hours/project for in-kind	<u>In-kind:</u> <ul style="list-style-type: none"> <li>40% Project sponsor costs</li> <li>60% Program Manager</li> </ul> <u>Funds:</u> RWMG Agencies	<ul style="list-style-type: none"> <li>Contingent on funding available and the number of projects</li> <li>Contingent on grant program success</li> </ul>

Activity	Approximate Cost or Time Commitment	Funding Source and Percent of Cost	Funding Source Certainty/Longevity
Grant Management	100 hours/year	<u>In-kind:</u> <ul style="list-style-type: none"> <li>80% Program Manager</li> <li>20% Local Project Sponsors/Project Managers</li> </ul>	<ul style="list-style-type: none"> <li>Contingent on funding available and the number of projects</li> <li>Contingent on grant program success</li> </ul>
Project Implementation	Cost varies by type and size of project	<u>In-Kind:</u> 100% Project sponsor  <u>Funds:</u> <ul style="list-style-type: none"> <li>Project sponsor agencies</li> <li>State and Federal Grants</li> <li>State and Federal Loans</li> </ul>	<ul style="list-style-type: none"> <li>Agency funding and staff allocations</li> <li>Contingent on funding available</li> <li>Contingent on grant program success</li> </ul>
<b>Plan Updates</b>			
As-needed Plan Updates	Cost expected to vary depending on scale of plan update.	<u>In-Kind:</u> <ul style="list-style-type: none"> <li>75% Program Manager</li> <li>25% RWMG Agencies</li> </ul> <u>Funds:</u> <ul style="list-style-type: none"> <li>RWMG Agencies</li> <li>State Grants</li> </ul>	<ul style="list-style-type: none"> <li>Agency funding and staff allocations</li> <li>Contingent on funding available</li> <li>Contingent on grant program success</li> </ul>

Though not included in the above financing plan, additional planning needs have been identified in the Region through the update of the IRWM Plan and associated planning efforts, and will be funded as they're better defined and as funding/financing becomes available. The following lists some of the identified planning needs:

- *Temecula Valley Basin SNMP*
  - Continue and expand the groundwater recharge program
  - Evaluate and implement water quality protection projects, where economically feasible
  - Coordinate with land use and regulatory agencies to incorporate RCWD water quality concerns into land use planning decisions
  - Encourage extension of sewers and discourage septic tank discharges that do not comply with Basin Plan groundwater quality objectives

- *Santa Margarita Region Retrofit Study*
  - Develop stormwater management projects using the tools developed as part of the Study to address the specific water quality concerns in the Region
- *DAC Groundwater Study in the Anza Area*
  - Continued study of the structure of the local aquifers in areas where landowner permission could not be obtained for the purposes of the study
  - Continue monitoring of groundwater levels to understand long-term groundwater trends
- Other potential plans and studies identified by stakeholders, including:
  - Conduct recycled water retrofit studies to determine the areas most appropriate for expansion of the recycled water system
  - Stormwater runoff management in the Anza area to reduce instances of flooding that occur in the area
  - Climate change modeling to further analyze prioritized climate change related vulnerabilities

## 6.4 Adaptive Management

The IRWM Plan is a living document, and as such is expected to be updated periodically (at least every five years). The Region will utilize an adaptive management approach to IRWM Plan implementation so that monitoring results inform future planning and implementation, and allow for improvement and modification of the Region's needs, goals and objectives, RMS, IRWM Plan impacts and benefits, and project prioritization. In particular, there is a level of uncertainty in projecting the impacts of climate change that will require such an approach, and enable the Region to respond to changes in climatic conditions or new information from climate models. For example, if climate models indicate that decreases in local surface water flows will reduce the volume of water that can be recharged to aquifers, the Region may choose to alter its project prioritization scheme to encourage the implementation of more recycled water projects or water use efficiency projects to increase local supplies. The implementation framework laid out in this chapter will allow the Region to respond to these types of changes efficiently and in a manner beneficial to the various stakeholders in the Region.

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## **Appendix A: Public Notices and Executed Resolutions of Adoption**

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# THE PRESS-ENTERPRISE

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Publication(s): The Press-Enterprise

PROOF OF PUBLICATION OF

Ad Desc.: / IRWM Plan

I am a citizen of the United States. I am over the age of eighteen years and not a party to or interested in the above entitled matter. I am an authorized representative of THE PRESS-ENTERPRISE, a newspaper in general circulation, printed and published daily in the County of Riverside, and which newspaper has been adjudicated a newspaper of general circulation by the Superior Court of the County of Riverside, State of California, under date of April 25, 1952, Case Number 54446, under date of March 29, 1957, Case Number 65673, under date of August 25, 1995, Case Number 267864, and under date of February 4, 2013, Case Number RIC 1215735; that the notice, of which the annexed is a printed copy, has been published in said newspaper in accordance with the instructions of the person(s) requesting publication, and not in any supplement thereof on the following dates, to wit:

07/20, 08/02/2013

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

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At: Riverside, California



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P.O. BOX 9017  
TEMECULA, CA 92590

Ad Number: 0001095742-01

P.O. Number: IRWM Plan

Ad Copy:

RANCHO CALIFORNIA WATER DISTRICT  
42135 Winchester Road  
Temecula, California

Public Notice

Temecula, CA- The Upper Santa Margarita Watershed (USMW) Regional Water Management Group (RWMG) is updating the USMW Planning Region Integrated Regional Water Management (IRWM) Plan. IRWM Plans are regional plans designed to improve collaboration in water resources management. The USMW RWMG is comprised of the following three agencies: Rancho California Water District, Riverside County, and the Riverside County Flood Control and Water Conservation District.

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The USMW Planning Region is currently updating the 2007 USMW IRWM Plan to comply with new State integrated planning requirements, improve the content and continue Region's eligibility for future grant funding. The 2014 IRWM Plan Update allows regional stakeholders to revisit the Plan goals, objectives and priorities in light of changes that have occurred since 2007. The Plan provides an approach for: 1) coordinating, refining and integrating existing planning efforts within a comprehensive, regional context; 2) identifying specific regional and watershed-based priorities for implementation projects; and 3) providing funding support for the plans, programs, and projects of existing agencies and stakeholders.

All interested stakeholders are invited to participate in the IRWM Plan Update effort, providing an opportunity to incorporate additional stakeholder interests into the Plan. Participation is possible through several means, including attending Stakeholder Advisory meetings and public workshops, and by reviewing draft materials.

For more information and to be added to the USMW IRWM Stakeholder Contact List, please contact Denise Landstedt, IRWM Program Manager at (951) 296-6916 or at [landstedt@rancho.water.com](mailto:landstedt@rancho.water.com) or visit <http://www.ranchowater.com/index.aspx?nid=200>.

July 23, 2013

7/26, 8/2

K. Garcia  
CF

G1020.01

AUG 08 2013

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Temecula, California

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July 23, 2013

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# PROOF OF PUBLICATION (2015.5 C.C.P.)

AUG 08 2013

STATE OF CALIFORNIA  
County of Riverside

Proof of Publication of

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**July 26<sup>TH</sup>, 2013**  
**August 2<sup>ND</sup>, 2013**

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**RANCHO CALIFORNIA WATER DISTRICT**  
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July 23, 2013

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**PUBLIC NOTICE FOR ADOPTION OF THE 2014 UPPER SANTA MARGARITA WATERSHED INTEGRATED REGIONAL WATER MANAGEMENT PLAN UPDATE  
MAY 15, 2014**

Temecula, CA - Notice is hereby given that the Board of Directors of the Rancho California Water District on Thursday, May 15, 2014, at or after 8:30 a.m. at the District's Headquarters located at 42135 Winchester Road, Temecula, California 92590, intends to consider adoption of the 2014 Upper Santa Margarita Watershed (USMW) Integrated Regional Water Management (IRWM) Plan Update.

The USMW Regional Water Management Group (RWMG) has updated the USMW IRWM Plan. IRWM Plans are regional plans designed to improve collaboration in water resources management. The USMW RWMG is comprised of the following three agencies: Rancho California Water District, the County of Riverside, and the Riverside County Flood Control and Water Conservation District.

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The 2014 IRWM Plan Update has been prepared to comply with new State integrated planning requirements, improve the content and continue the Region's eligibility for future grant funding. The 2014 IRWM Plan Update process included a series of stakeholder workshops to provide information and receive input to refine the Plan goals, objectives and priorities in light of changes that have occurred since 2007. The Plan provides an updated approach for: 1) coordinating, refining, and integrating existing planning efforts within a comprehensive, regional context; 2) identifying specific regional and watershed-based priorities for implementation projects; and 3) providing funding support for the plans, programs, and projects of existing agencies and stakeholders.

The Draft 2014 USMW IRWM Plan can be viewed at: <http://www.ranchowater.com/index.aspx?NID=256>

For more information or to be added to the USMW IRWM Stakeholder Contact List, visit <http://www.ranchowater.com/index.aspx?NID=258> or contact Denise Landstedt, IRWM Program Manager at (951) 296-6916 or [irwm@ranchowater.com](mailto:irwm@ranchowater.com).  
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#### PUBLIC NOTICE NOTICE OF INTENTION TO ADOPT THE 2014 UPPER SANTA MARGARITA WATERSHED INTEGRATED REGIONAL WATER MANAGEMENT PLAN UPDATE

Notice is hereby given that the Riverside County Board of Supervisors and the Riverside County Flood Control and Water Conservation District Board of Supervisors on Tuesday, May 20, 2014, at or after 9:00 a.m. at the County Administration Center at 4080 Lemon Street, Riverside, CA 92501, intends to consider adoption of the 2014 Upper Santa Margarita Watershed (USMW) Integrated Regional Water Management (IRWM) Plan Update.

The USMW Regional Water Management Group (RWMG) has updated the USMW IRWM Plan. IRWM Plans are regional plans designed to improve collaboration in water resources management. The USMW RWMG is comprised of the following three agencies: Rancho California Water District, County of Riverside, and Riverside County Flood Control and Water Conservation District.

The first USMW IRWM Plan was published in 2007, following a lengthy and collaborative effort among water retailers, wastewater agencies, stormwater and flood managers, watershed groups, the business community, tribes, disadvantaged communities, agriculture, and non-profit stakeholders to improve water resources planning in the USMW IRWM Plan Region.

The 2014 IRWM Plan Update has been prepared to comply with new state integrated planning requirements, improve the content and continue the region's eligibility for future grant funding. The 2014 IRWM Plan Update process included a series of stakeholder workshops to provide information and receive input to refine the IRWM Plan goals, objectives and priorities in light of changes that have occurred since 2007. The IRWM Plan provides an updated approach for: 1) coordinating, refining and integrating existing planning efforts within a comprehensive, regional context; 2) identifying specific regional and watershed-based priorities for implementation projects; and 3) providing funding support for the plans, programs, and projects of existing agencies and stakeholders.

The Draft 2014 USMW IRWM Plan can be viewed at <http://www.ranchowater.com/index.aspx?NID=256>

For more information or to be added to the USMW IRWM Plan Stakeholder Contact List, visit <http://www.ranchowater.com/index.aspx?NID=258> or contact Denise Landstedt, IRWM Plan Program Manager at 951.296.6916 or [irwm@ranchowater.com](mailto:irwm@ranchowater.com). 5/5, 5/12

The Desert Sun  
750 N Gene Autry Trail  
Palm Springs, CA 92262  
760-778-4578 / Fax 760-778-4731

**Certificate of Publication**

**State Of California ss:  
County of Riverside**

**Advertiser:**

RIV. CO. FLOOD CONTROL & WATER  
1995 MARKET ST  
RIVERSIDE CA 925011

2000434240

I am over the age of 18 years old, a citizen of the United States and not a party to, or have interest in this matter. I hereby certify that the attached advertisement appeared in said newspaper (set in type not smaller than non pariel) in each and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

**Newspaper:** .The Desert Sun

5/4/2014 5/11/2014

I acknowledge that I am a principal clerk of the printer of The Desert Sun, printed and published weekly in the City of Palm Springs, County of Riverside, State of California. The Desert Sun was adjudicated a newspaper of general circulation on March 24, 1988 by the Superior Court of the County of Riverside, State of California Case No. 191236.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 11th day of May, 2014 in Palm Springs, California.

  
\_\_\_\_\_  
**Declarant's Signature**

No 0736  
County of Riverside  
4080 Lemon Street, 4th Floor,  
Riverside, CA 92501  
Riverside County Flood Control and  
Water Conservation District  
1995 Market Street, Riverside, CA 92501

**PUBLIC NOTICE  
NOTICE OF INTENTION TO ADOPT THE  
2014 COACHELLA VALLEY  
INTEGRATED REGIONAL WATER  
MANAGEMENT PLAN UPDATE**

Notice is hereby given that the Riverside County Board of Supervisors and the Riverside County Flood Control and Water Conservation District Board of Supervisors on Tuesday, May 20, 2014, at or after 9:00 a.m. at the County Administration Center at 4080 Lemon Street, Riverside, CA 92501, intends to consider adoption of the 2014 Coachella Valley Integrated Regional Water Management (CVIRWM) Plan Update.

The Coachella Valley Regional Water Management Group (CVRWMG) has completed and adopted the 2014 update of the CVIRWM Plan. The CVIRWM Plan was created to comply with new state guidelines for integrated planning requirements which continue the region's eligibility for future grant funding which satisfies the State Department of Water Resources (DWR) requirements under Proposition 84 and to provide a mechanism for coordinating water resource planning efforts, identify regional priorities for implementation, and generate funding support for the plans, programs, and projects of existing agencies and stakeholders.

The final 2014 CVIRWM Plan is available for review at [www.cvrwmg.org](http://www.cvrwmg.org) or for additional information please contact Public Information Associate Katie Ruark at 760.323.4971 x. 184.

Published: 5/4, 5/11/14



**Production Method**  
AdBooker

**Pick Up**

**Ad Number** 0010833920-01  
**Ad Type** CLS NC Legal

**Ad Size** 3.22 x 4.51  
**Columns/Inches** 2x4.51  
**Color**

**WYSIWYG Content**

**PUBLIC NOTICE FOR ADOPTION OF THE  
2014 UPPER SANTA MARGARITA WATERSHED  
INTEGRATED REGIONAL WATER MANAGEMENT  
PLAN UPDATE MAY 15, 2014**

Temecula, CA - Notice is hereby given that the Board of Directors of the Rancho California Water District on Thursday, May 15, 2014, at or after 8:30 a.m. at the District's Headquarters located at 42135 Winchester Road, Temecula, California 92590, intends to consider adoption of the 2014 Upper Santa Margarita Watershed (USMW) Integrated Regional Water Management (IRWM) Plan Update.

The USMW Regional Water Management Group (RWMG) has updated the USMW IRWM Plan. IRWM Plans are regional plans designed to improve collaboration in water resources management. The USMW RWMG is comprised of the following three agencies: Rancho California Water District, the County of Riverside, and the Riverside County Flood Control and Water Conservation District.

The first USMW IRWM Plan was published in 2007, following a lengthy and collaborative effort among water retailers, watershed agencies, stormwater and flood managers, watershed groups, the business community, tribes, disadvantaged communities, agriculture, and non-profit stakeholders to improve water resources planning in the USMW IRWM Region.

The 2014 IRWM Plan Update has been prepared to comply with new State integrated planning requirements, improve the content and continue the Region's eligibility for future grant funding. The 2014 IRWM Plan Update process included a series of stakeholder workshops to provide information and receive input to refine the Plan goals, objectives and priorities in light of changes that have occurred since 2007. The Plan provides an updated approach for: 1) coordinating, refining, and integrating existing planning efforts within a comprehensive, regional context; 2) identifying specific regional and watershed-based priorities for implementation projects; and 3) providing funding support for the plans, programs, and projects of existing agencies and stakeholders.

The Draft 2014 USMW IRWM Plan can be viewed at:  
<http://www.ranchowater.com/index.aspx?NID=256>

For more information or to be added to the USMW IRWM Stakeholder Contact List, visit <http://www.ranchowater.com/index.aspx?NID=258> or contact Denise Lamstedt, IRWM Program Manager at (951) 296-6916 or [irwm@ranchowater.com](mailto:irwm@ranchowater.com).  
Published: April 29, 2014 and May 6, 2014 10833920C

<b>Product</b>	<b>Zone</b>	<b>Placement</b>	<b>Position</b>	<b>Start Date</b>	<b>End Date</b>	<b>Insertions</b>
UTSanDiego Mobile	Digital	NC Legals	NCT Legals	04/29/2014	05/06/2014	2
UTSanDiego Online	Digital	NC Legals	NCT Legals	04/29/2014	05/06/2014	2
UTSanDiego Print	CAL	NC Legals	NCT Legals	04/29/2014	05/06/2014	2

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**RESOLUTION NO. 2014-5-2**

**RESOLUTION OF THE BOARD OF DIRECTORS OF  
RANCHO CALIFORNIA WATER DISTRICT, RIVERSIDE  
COUNTY, CALIFORNIA, ADOPTING THE UPPER SANTA  
MARGARITA WATERSHED 2014 INTEGRATED  
REGIONAL WATER MANAGEMENT PLAN UPDATE**

WHEREAS, in 2002, California voters approved Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002, which allocated funding to projects that are part of an Integrated Regional Water Management (IRWM) Plan; and

WHEREAS, the benefits of integrated regional planning for water resources management activities include increased efficiency and effectiveness, enhanced collaboration across agencies, stakeholders, and IRWM region boundaries, and improved responsiveness to regional needs and priorities; and

WHEREAS, state statute and guidelines require that before IRWM grant funds are provided for water management projects that are part of an IRWM Plan, the governing boards of participating agencies must adopt the IRWM Plan; and

WHEREAS, in 2007, the District entered into a Memorandum of Understanding (MOU) with the County of Riverside and the Riverside County Flood Control and Water Conservation District forming the Upper Santa Margarita Watershed Regional Water Management Group; and

WHEREAS, the MOU designates the District as the lead agency for preparation and updates of the Upper Santa Margarita Watershed IRWM Plan; and

WHEREAS, in 2007, the District prepared and adopted the first Upper Santa Margarita Watershed Integrated Regional Water Management (IRWM) Plan under Proposition 50 guidelines and standards; and

WHEREAS, in November 2006 California voters passed Proposition 84, the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Public Resources Code Sections 75001-75130), which required that IRWM Plans be updated to new guidelines in order to be eligible for Proposition 84 grant funding; and

WHEREAS, the District entered into an IRWM Implementation Round 1 Grant Agreement with the California Department of Water Resources (DWR), which requires update of the USMW IRWM Plan within two years or May 31, 2014 of execution of the grant agreement; and

WHEREAS, the District entered into an IRWM Planning Grant Round 2 Grant Agreement to help prepare the 2014 USMW IRWM Plan Update; and

WHEREAS, the District has developed the 2014 USMW IRWM Plan Update pursuant to Senate Bill 1672 of the State of California, known as the Integrated Regional Water Management Planning Act of 2002, to encourage local agencies to work cooperatively to manage local and imported water supplies to improve the quantity, quality, and reliability of those supplies; and

WHEREAS, the 2014 USMW IRWM Plan Update provides an implementation framework to track performance measures, maintaining the IRWM Plan Project List, and periodically updating the IRWM Plan as conditions warrant, providing funding and resources are available; and

WHEREAS, adoption of the 2014 USMW IRWM Plan Update does not entail a direct commitment of resources, and implementation of each project will be the responsibility of the project proponent and any applicable project partners, and there is no joint commitment or responsibility by the IRWM Plan participants to implement any or all of the projects; and

WHEREAS, the IRWM Plan is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines §15262 and §15306 because the IRWM Plan involves planning studies for possible actions that the participating agencies have not yet approved and consists of basic data collection that would not result in the disturbance of any environmental resources; and

WHEREAS, the IRWM Plan is a complementary planning document to participating agencies' individual plans and programs and does not supersede such plans and programs, and adoption of the IRWM Plan does not prohibit nor affect in any way a participating agencies' planning efforts separate from the IRWM Plan; and

WHEREAS, on April 17, 2014, the Board of Directors' Planning and Administration Committee reviewed the 2014 USMW IRWM Plan Update with staff; and

WHEREAS, the Notice of Intention to Adopt the 2014 USWM IRWM Plan Update was properly noticed and on May 15, 2014, the Board of Directors reviewed and considered the 2014 UWM IRWM Plan Update with staff and the general public.

NOW THEREFORE, it is hereby resolved by the Board of Directors of the Rancho California Water District as follows:

Section 1. Adopt the Upper Santa Margarita Watershed 2014 Integrated Regional Water Management Plan Update.

Section 2. Direct District staff to submit the adopted 2014 Integrated Regional Water Management Plan Update to the California Department of Water Resources.

BE IT FURTHER RESOLVED, that the General Manager and/or his designee is hereby authorized and empowered to perform program management for the Upper Santa Margarita Watershed IRWM Region, including grant acquisition and management, maintain the IRWM Plan Project List, track performance measures, and perform periodic IRWM Plan updates.

ADOPTED, SIGNED, AND APPROVED this 15<sup>th</sup> day of May 2014.



---

Stephen J. Corona, President of the  
Board of Directors of the  
Rancho California Water District

ATTEST:



---

Kelli E. Garcia, Secretary of the  
Board of Directors of the  
Rancho California Water District

STATE OF CALIFORNIA )  
 )ss.  
COUNTY OF RIVERSIDE )

I, KELLI E. GARCIA, Secretary of the Board of Directors of the Rancho California Water District, do hereby certify that the foregoing Resolution No. 2014-5-2 was duly adopted by the Board of Directors of said District at an adjourned regular meeting thereof held on the 15<sup>th</sup> day of May 2014 and that it was so adopted by the following vote:

AYES:	DIRECTORS:	Corona, Hoagland, Plummer, Stewart, and Ziemer
NOES:	DIRECTOR:	Drake
ABSENT:	DIRECTOR:	Herman
ABSTAIN:	DIRECTORS:	None

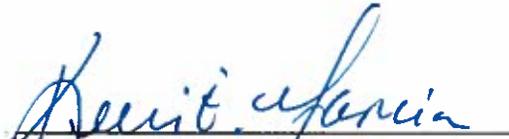
  
Kelli E. Garcia, Secretary of the  
Board of Directors of the  
Rancho California Water District



STATE OF CALIFORNIA    )  
  )ss.  
COUNTY OF RIVERSIDE    )

I, KELLI E. GARCIA, Secretary of the Board of Directors of the Rancho California Water District, do hereby certify that the above and foregoing is a full, true, and correct copy of Resolution No. 2014-5-2 of said Board, and that the same has not been amended or repealed.

DATED:     May 15, 2014

  
\_\_\_\_\_  
Kelli E. Garcia, Secretary of the  
Board of Directors of the  
Rancho California Water District



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**BOARD OF SUPERVISORS**

**RIVERSIDE COUNTY FLOOD CONTROL  
AND WATER CONSERVATION DISTRICT**

**RESOLUTION NO. F2014-11**

**SUPPORTING AND ADOPTING THE UPPER SANTA MARGARITA WATERSHED  
INTEGRATED REGIONAL WATER MANAGEMENT PLAN**

**WHEREAS**, the Rancho California Water District, County of Riverside and Riverside County Flood Control and Water Conservation District have partnered by signing a Memorandum of Understanding (MOU) forming a Regional Water Management Group (RWMG); and

**WHEREAS**, working with the stakeholders and partners of the Upper Santa Margarita Watershed (USMW), the RWMG has prepared an update to the Upper Santa Margarita Watershed Integrated Regional Water Management Plan (Plan); and

**WHEREAS**, adoption of the Plan in no way commits a participating agency to a financial or any other regulatory obligation and does not legally bind the agency to any future activities or specific projects; and

**WHEREAS**, the Plan represents all entities significant to water management planning in the region in addressing water resources as well as other interested stakeholders and has provided the framework and procedures used to govern, collaborate, and plan activities, as well as pursue funding opportunities within the Plan program; and

**WHEREAS**, the agencies, partners, and stakeholders are committed to integrated planning efforts in an open, accessible process and have acted in good faith in planning and implementing the Plan; and

**WHEREAS**, the Plan will help secure significant funding for resources in the Upper Santa Margarita Watershed through the California Department of Water Resources (DWR), The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84) (Public Resources Code section 75001 *et seq.*), and other funding sources through the Plan process; now, therefore,

FORM APPROVED COUNTY COUNSEL  
BY: AKS 5-8-14 DATE  
AARON C. GETTIS

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**BE IT RESOLVED, FOUND, DETERMINED, AND ORDERED** by the Board of Supervisors of the Riverside County Flood Control and Water Conservation District in regular session assembled on May 20, 2014 hereby adopts the Upper Santa Margarita Watershed Integrated Regional Water Management Plan and supports the submittal of the updated Plan to DWR for the benefit of the residents of the entire Upper Santa Margarita Watershed.

ROLL CALL:

Ayes: Jeffries, Tavaglione, Stone and Benoit  
Nays: None  
Absent: Ashley

The foregoing is certified to be a true copy of a resolution duly adopted by said Board of Supervisors on the date therein set forth.

KECIA HARPER-IHEM, Clerk of said Board  
By  Deputy

2  
3 RESOLUTION NO. 2014-101

4  
5 **A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE**  
6 **COUNTY OF RIVERSIDE SUPPORTING AND ADOPTING THE**  
7 **UPPER SANTA MARGARITA WATERSHED INTEGRATED**  
8 **REGIONAL WATER MANAGEMENT PLAN**

9 **WHEREAS**, the Rancho California Water District, County of Riverside, and Riverside County  
10 Flood Control and Water Conservation District have partnered by signing a Memorandum of  
11 Understanding forming a Regional Water Management Group (RWMG); and

12 **WHEREAS**, working with the stakeholders and partners of the Upper Santa Margarita Watershed  
13 the RWMG has prepared an update to the Upper Santa Margarita Watershed Integrated Regional Water  
14 Management Plan (Plan); and

15 **WHEREAS**, adoption of the Plan in no way commits a participating agency to a financial or any  
16 other regulatory obligation and does not legally bind the participating agency to any future activities or  
17 specific projects; and

18 **WHEREAS**, the Plan represents all entities significant to water management planning in the area  
19 in addressing water resources as well as other interested stakeholders and has provided the framework and  
20 procedures used to govern, collaborate, and plan activities, as well as pursue funding opportunities within  
21 the Plan's program; and

22 **WHEREAS**, the agencies, partners, and stakeholders are committed to integrated planning efforts  
23 in an open and accessible process and have acted in good faith in preparing and implementing the Plan;  
24 and

25 **WHEREAS**, the Plan will help secure significant new funding for resources in the Upper Santa  
26 Margarita Watershed through the California Department of Water Resources, The Safe Drinking Water,  
27 Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition  
28 84) (Public Resources Code section 75001 *et seq.*), and other funding sources through the Plan process;  
now, therefore,

FORM APPROVED COUNTY COUNSEL  
BY:  AARON C. GETTIS  
DATE: 5-8-14

1           **BE IT RESOLVED, FOUND, DETERMINED, AND ORDERED** by the Board of Supervisors  
2 County of Riverside in regular session assembled on May 20, 2014 hereby adopts the Upper Santa  
3 Margarita Watershed Integrated Regional Water Management Plan and supports the submittal of the Plan  
4 to the Department of Water Resources for the benefit of the residents of the entire Upper Santa Margarita  
5 Watershed.

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9 G:\PROPERTY\MDUSEK\ACG\RESO 2014-101.DOC

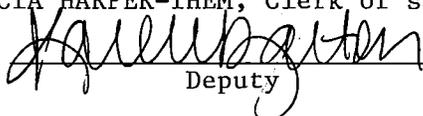
10 ROLL CALL:

11 Ayes:           Jeffries, Tavaglione, Stone and Benoit  
12 Nays:           None  
13 Absent:         Ashley

14           The foregoing is certified to be a true copy of a resolution duly  
15 adopted by said Board of Supervisors on the date therein set forth.

16           KECIA HARPER-IHEM, Clerk of said Board

17 By

18   
19 Deputy

**Appendix B: Memorandum of Understanding to  
Conduct Integrated Regional Water Management  
Planning for the Upper Santa Margarita Watershed**

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**MEMORANDUM OF UNDERSTANDING  
TO CONDUCT INTEGRATED REGIONAL WATER MANAGEMENT PLANNING  
FOR THE UPPER SANTA MARGARITA WATERSHED**

This Memorandum of Understanding ("MOU") is made and entered into this 31<sup>st</sup> day of August 2010 ("Effective Date") among the RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, hereinafter called "DISTRICT", the COUNTY OF RIVERSIDE, hereinafter called "COUNTY", and the RANCHO CALIFORNIA WATER DISTRICT, hereinafter called "RCWD".

RECITALS

A. WHEREAS, the Department of Water Resources is administering a grant program for Integrated Regional Water Management or "IRWM" Planning and;

B. WHEREAS, DISTRICT, COUNTY, and RCWD, each hereinafter individually called "AGENCY" and collectively "AGENCIES", are willing to cooperate and work collaboratively with the stakeholders of the Upper Santa Margarita Watershed in Riverside County to prepare the IRWM Plan for the geographic area described on Exhibit 'A' attached hereto ("Planning Region") as accepted by the Department of Water Resources in the Regional Acceptance Process; and

C. WHEREAS, the AGENCIES collectively cover the entire planning area to be covered by this IRWM Plan that contains significant need for major public infrastructure and conservation projects; and

D. WHEREAS, the AGENCIES collectively have made significant investments in planning for flood control, management and water conservation, water supply and reliability, recycled water, habitat preservation and conservation and related water management strategies; and

E. WHEREAS, the AGENCIES collectively and with the Stakeholder Advisory Committee represent all entities significant to water management planning in the area; and

F. WHEREAS, the AGENCIES have the authority and willingness to act in the best interest of the Planning Region in planning and implementing IRWM efforts; and

G. WHEREAS, the AGENCIES are committed to conduct planning efforts in an open accessible process including the Stakeholder Advisory Committee and the public; and

H. WHEREAS, RCWD is willing to take the lead funding role in contracting for planning, making application for funding and implementing funded efforts on behalf of Eastern Municipal Water District and Western Municipal Water District and the Planning Region; and

I. WHEREAS, the AGENCIES have the institutional and fiscal capacity and systems to carry out planning and implementation efforts; and

J. WHEREAS, the AGENCIES are willing to provide funding or in-kind assistance as set forth herein and as mutually agreeable in separate board actions; and

K. WHEREAS, the AGENCIES previously executed a Memorandum of Understanding in 2007, which expires on December 31, 2010 and all AGENCIES wish to continue the efforts under this agreement which supersedes the 2007 agreement; and

L. WHEREAS, The AGENCIES will each benefit from their participation in this MOU.

NOW, THEREFORE, the AGENCIES hereby mutually agree as follows:

1. RCWD shall facilitate the completion of work required to collect and compile existing plans and current information into an IRWM Plan and submit a grant application to the State for funding consideration.

2. Each AGENCY hereby designates its General Manager or Chief Executive to represent its board as the person charged with the authority to review and approve the IRWM Plan for the Planning Region or extending this agreement.

3. The MOU authorizes that applications be made to the California Department of Water Resources or other State or Federal Departments to obtain Integrated Regional Water Management Planning and Implementation Grants pursuant to the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Public Resource Code Section 75001 et seq.), and the Disaster Preparedness and Flood Prevention Bond Act of 2006, (Public Resource Code Section 7096 et seq.), or future sources of funding and to enter into agreements to receive grant funds for the Upper Santa Margarita IRWM Watershed Planning area. The General Manager of RCWD is hereby authorized and directed to prepare the necessary data, conduct investigations, file such applications, and execute grant agreements with the California Department of Water Resources, contract to disburse funds to designated partners or sub-grantees, and to make changes as needed to contracts or other documents to implement the IRWM process to the benefit of the Planning Region.

4. This MOU authorizes the establishment of a Stakeholder Advisory Committee (hereinafter "Committee") subject to the terms of this MOU and any applicable rules that the AGENCIES may promulgate. The AGENCIES will review and select by consensus the members of the Committee from stakeholder organizations in the Planning Region. Stakeholders represent their agency or organization and serve at the pleasure of the AGENCIES and may not be required to contribute funds except in-kind services. No more than one representative of any organization shall be named to the Committee. The representative shall represent all interests of the organization and the region. The Committee acts in an advisory role to the AGENCIES for plan goals and priorities outreach and project

integration. Stakeholders need not be a member of the Committee to participate in the planning process. The Committee may become dormant or be disbanded if no planning efforts are ongoing or it is no longer needed.

5. The plan, application and related efforts provided for in this MOU aggregate, compile and integrate existing plans and documents as well as solicit new projects and programs. Nothing in these plans, documents or actions, limits the authority of the AGENCIES or their powers or modifies any of the referenced plans, ordinances or actions of the AGENCIES, committee members or stakeholders.

6. Nothing contained within this MOU binds the parties beyond the scope or term of this MOU unless specifically documented in subsequent MOU amendments or contracts. Moreover, this MOU does not require any commitment of funding beyond those voluntarily committed by separate board actions but recognizes in-kind contributions of AGENCIES and stakeholders.

7. The AGENCIES cannot be assured of the results or success of the IRWM plan and application for funding. Nothing within this MOU should be construed as creating a promise or guarantee of future funding nor shall any liability accrue to the AGENCIES from any third party or one of the AGENCIES should funding not be forthcoming. Nor shall any additional liability accrue to RCWD by its willingness to act as lead for contracting and application on behalf of the AGENCIES.

8. This MOU may be terminated by any of the AGENCIES with 120 days notice to all AGENCIES and stakeholders. The term of this MOU is from its effective date shown above to December 31, 2015, unless extended or replaced by other agreements.

9. Withdrawal of AGENCIES or addition of other agencies not included will be allowed with the concurrence of the parties and upon execution of this agreement's terms by their governing board.

10. Any notices sent or required to be sent to any party shall be mailed to the following addresses:

RIVERSIDE COUNTY FLOOD CONTROL  
AND WATER CONSERVATION DISTRICT  
1995 Market Street  
Riverside, CA 92501

COUNTY OF RIVERSIDE  
4080 Lemon Street, 14<sup>th</sup> Floor  
Riverside, CA 92501-3656

RANCHO CALIFORNIA WATER DISTRICT  
42135 Winchester Road  
Temecula, CA 92590

11. Each AGENCY, to the fullest extent permitted by law, shall defend, indemnify and hold harmless the other AGENCIES, their consultants, and each of their directors, officers, agents, and employees from and against all liability, claims, damages, losses, expenses and other costs including costs of defense and attorneys' fees, arising out of or resulting from or in connection with the performance of the work performed pursuant to this MOU; such obligation shall not apply to any loss, damage or injury, as may be caused solely and exclusively by the fault or negligence of an AGENCY.

12. This MOU is to be construed in accordance with the laws of the State of California.

13. If any provision of this MOU is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions shall be declared severable and shall be given full force and effect to the extent possible.

14. Any action at law or in equity brought by any of the parties hereto for the purpose of enforcing a right or rights provided for by this MOU shall be tried in a court of competent jurisdiction in the County of Riverside, State of California, and the parties hereto waive all provisions of law providing for change of venue in such proceedings to any other county.

15. This MOU is the result of negotiations between the parties hereto and with the advice and assistance of their respective counsel. No provision contained herein shall be construed against DISTRICT solely because, as a matter of convenience, it prepared this MOU in final form.

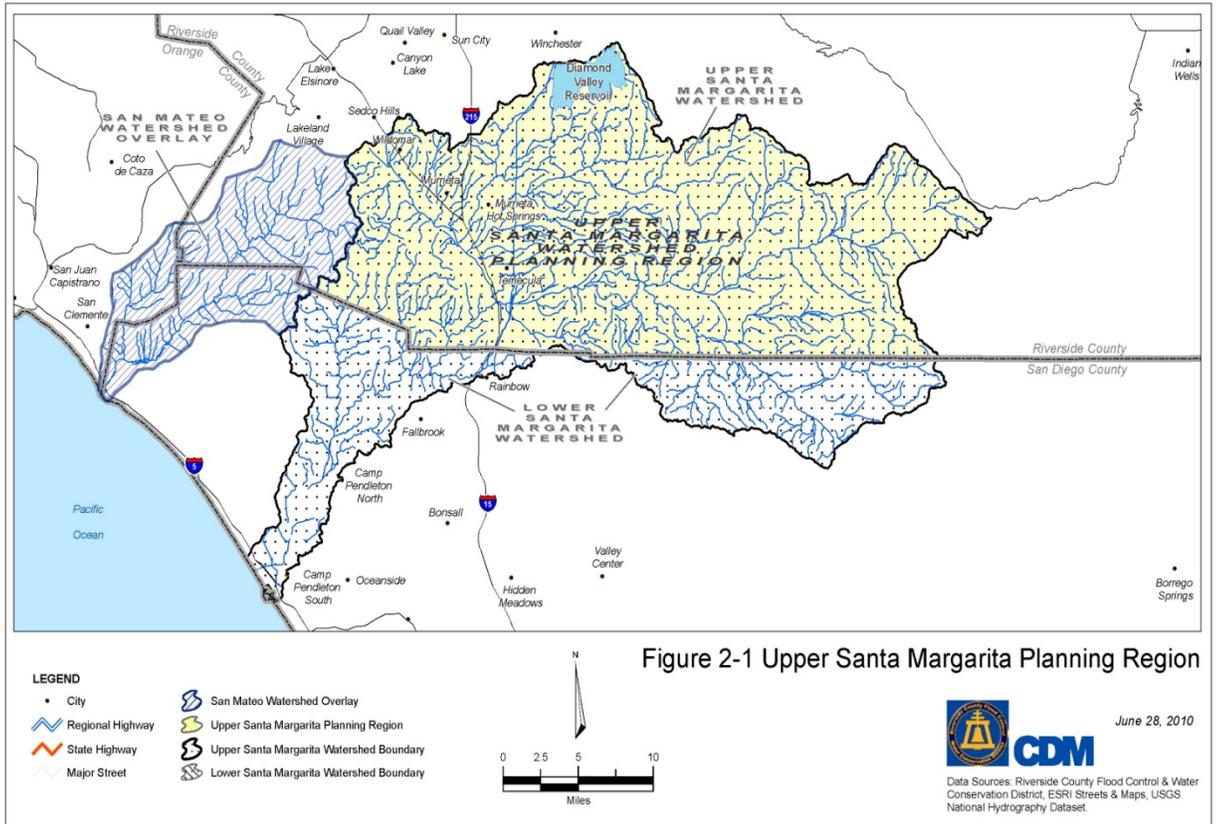
16. Any waiver by AGENCIES of any breach by the other of any one or more of the terms of this MOU shall not be construed to be a waiver of any subsequent or other breach of the same or of any other term hereof. Failure on the part of any of the respective AGENCIES to require from the others exact, full and complete compliance with any terms of the MOU shall not be construed as in any manner changing the terms hereof, or stopping the respective AGENCIES from enforcement hereof.

17. This MOU may be executed and delivered in any number of counterparts or copies, hereinafter called "COUNTERPART", by the parties hereto. When each party has signed and delivered at least one COUNTERPART to the other parties hereto, each COUNTERPART shall be deemed an original and, taken together, shall constitute one and the same MOU, which shall be binding and effective as to the parties hereto.

18. This MOU is intended by the parties hereto as their final expression with respect to the matters herein, and is a complete and exclusive statement of the terms and conditions thereof. This MOU shall not be changed or modified except by the written consent of all parties hereto.

# ATTACHMENT A

## GEOGRAPHIC DESCRIPTION OF THE PLANNING REGION



RECOMMENDED FOR APPROVAL:

COUNTY OF RIVERSIDE

By Marion Ashley  
MARION ASHLEY, Chairman  
Riverside County Board of Supervisors

APPROVED AS TO FORM:

ATTEST:

PAMELA J. WALLS  
County Counsel

KECIA HARPER\_IHEM  
Clerk of the Board

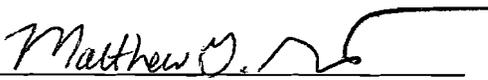
By David Huff  
DAVID HUFF  
Deputy County Counsel

By Kecia Harper\_Ihem  
Deputy

Dated August 6, 2010 (SEAL)

RECOMMENDED FOR APPROVAL:

RANCHO CALIFORNIA WATER DISTRICT

By   
MATT STONE, General Manager

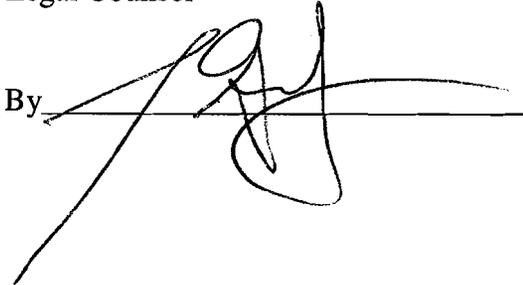
By   
LISA HERMAN, Board President

APPROVED AS TO FORM:

  
C. MICHAEL COWETT  
Legal Counsel

ATTEST:

KELLI E. GARCIA  
Secretary of the Board of Directors

By 

By 

Memorandum of Understanding  
NPDES – Santa Margarita IRWM

---

WHEN DOCUMENT IS FULLY EXECUTED RETURN  
CLERK'S COPY  
to Riverside County Clerk of the Board, Stop 1010  
Post Office Box 1147, Riverside, Ca 92502-1147  
Thank you.

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement on

AUG 31 2010  
(to be filled in by Clerk of the Board)

RECOMMENDED FOR APPROVAL: **RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT**

By Sten Thomas  
WARREN D. WILLIAMS  
General Manager-Chief Engineer

By Marion Ashley  
MARION ASHLEY, Chairman  
Riverside County Flood Control and Water Conservation District Board of Supervisors

APPROVED AS TO FORM:

PAMELA J. WALLS  
County Counsel  
By David Huff  
DAVID HUFF  
Deputy County Counsel

ATTEST:  
KECIA HARPER-IHEM  
Clerk of the Board  
By Kecia Harper-Ihem  
Deputy

Dated \_\_\_\_\_

(SEAL)

AM:cw  
P8/132612

Memorandum of Understanding  
To Conduct Integrated Regional Water Management  
Planning for the Upper Santa Margarita Watershed

AUG 31 2010 11.3

## **Appendix C: Stakeholder Advisory Committee Organizing Statement**

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**STAKEHOLDER ADVISORY COMMITTEE ORGANIZATION STATEMENT  
TO CONDUCT INTEGRATED REGIONAL WATER MANAGEMENT PLANNING  
FOR THE UPPER SANTA MARGARITA WATERSHED**

The RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, hereinafter called "DISTRICT", the COUNTY OF RIVERSIDE, hereinafter called "COUNTY", and the RANCHO CALIFORNIA WATER DISTRICT, hereinafter called "RCWD", have executed a Memorandum of Understanding authorizing a Stakeholder Advisory Committee (SAC) as follows:

Organizing Recitals

- A. WHEREAS, the Department of Water Resources and the State Water Resources Control Board are administering a grant program for Integrated Regional Water Management or "IRWM" Planning and;
- B. WHEREAS, DISTRICT, COUNTY, and RCWD, each hereinafter individually called "AGENCY" and collectively "AGENCIES", are willing to cooperate and work collaboratively with the stakeholders of the Santa Margarita Watershed in Riverside County to complete preparation of the first IRWM Plan for the area; and
- C. WHEREAS, the AGENCIES collectively cover the entire planning area to be covered by this IRWM plan that contains significant need for major public infrastructure and conservation projects; and
- D. WHEREAS, the AGENCIES collectively have made significant investments in planning for flood control, management and water conservation, water supply and reliability, recycled water, habitat preservation and conservation and related water management strategies.
- E. WHEREAS, the AGENCIES have the authority and willingness to act in the best interest of the region in planning and implementing IRWM efforts; and
- F. WHEREAS, the AGENCIES are committed to conduct planning efforts in an open accessible process including the Stakeholder Advisory Committee and the public; and
- G. WHEREAS, the AGENCIES collectively and with the Stakeholder Advisory Committee represent all entities significant to water management planning in the area; and
- H. WHEREAS, RCWD is willing to take the lead funding role in contracting for planning, making application for funding and conveying implementation grant funds to project proponents on behalf of Eastern and Western Municipal Water districts and the planning area; and
- I. WHEREAS, the AGENCIES have the institutional and fiscal capacity and systems to carryout planning and implementation efforts; and
- J. WHEREAS, the AGENCIES are willing to provide funding or in-kind assistance as set forth herein in and as mutually agreeable in separate board actions; and
- K. WHEREAS, The AGENCIES will each benefit from their participation in this Agreement; and

THEREFORE, the AGENCIES have organized the Stakeholder Advisory Committee as follows:

- 1. The SAC is authorized under the Memorandum of Understanding Signed by the AGENCIES.
- 2. Stakeholders do not need to be SAC Members, herein after "MEMBERS" to participate in the IRWM planning process and efforts.
- 3. Stakeholders do not need to be MEMBERS to submit their goals, priorities and projects.
- 4. The AGENCIES signing the MOU will solicit, review and select MEMBERS by consensus from the stakeholder organizations in the region wishing to participate.
- 5. Not more than one representative from each organization will serve on the SAC at the same time.
- 6. MEMBERS shall serve at the pleasure of the AGENCIES.
- 7. MEMBERS are not required to contribute funds except as in-kind services.

8. The SAC and its MEMBERS act in an advisory role to the AGENCIES for plan goals and priorities, stakeholder outreach, and project integration.
9. MEMBERS shall accept their appointment to the SAC by submitting a letter of participation.
10. MEMBERS shall participate in all stakeholder workshops and comply with the consensus rules and roles as defined below or refined by the SAC for orderly progress.
  - a. MEMBERS must represent the entire Upper Santa Margarita Watershed and their organization, not solely their own interests.
  - b. MEMBERS shall inform the SAC on any issue where they may have a conflict of interest, personal interest or investment or financial gain in any project or area where advice is solicited.
  - c. MEMBERS shall provide advice to the SAC and this advice shall be reported on the basis of consensus of the MEMBERS, if reasonable consensus is not reached on an issue the diversity of the opinions will be reflected in the recommendation.
  - d. MEMBERS are not generally required to vote, except in rare circumstances, but will provide input and may rank priorities and goals or provide recommendations and advice based on their background and knowledge.
  - e. MEMBERS will keep their organizations and constituents informed of the needs, issues and progress of the SAC.
11. The SAC may become dormant or be disbanded if no planning efforts are ongoing or it is no longer needed.
12. This SAC may be dissolved by a consensus of the AGENCIES with 60 days notice to all AGENCIES and stakeholders. The term of this agreement is from the date signed to December 31, 2009 unless extended or replaced by other agreements.
13. MEMBERS wishing to withdraw from the SAC should provide written notice 60 days prior to effective withdrawal.
14. Addition of other MEMBERS is allowed with concurrence of the AGENCIES and acceptance of Organizing Statement and submission of participation letter.

**Appendix D: Memorandum of Understanding for  
IRWM Planning and Funding in the San Diego  
Funding Area**

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**INTEGRATED PLANNING  
AND MANAGEMENT INC.**  
GENERATING VALUE THROUGH INTEGRATION

360 Lakeside Ave.  
Redlands, CA 92373  
(909) 793-8498 www.intpln.com

June 12, 2009

Perry Louck, Director of Planning  
Rancho California Water District  
42135 Winchester Road  
Temecula, CA 92590

*R. Louck*  
JUN 15 2009

RCWD  
Distribution Stamp  
With  
Attach  
Perry   
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Central Files   
Copied and  
distributed by: AC

Dear Mr. Louck,

Please find enclosed your agencies Original Memorandum of Understanding for Integrated Regional Water Management Planning and Funding in the San Diego Sub-Region Funding Area with attached original signatures. The Tri-County FACC agreement is fully executed among all nine parties. I want to thank all the staff, legal counsels and management that worked on the agreement. They all contributed greatly to its success.

It was our pleasure to help facilitate and coordinate this one of a kind agreement in an IRWM funding in California. We look forward to working with you in the future.

Thank you for your support and cooperation. If you have any questions please do not hesitate to contact me directly.

Sincerely,

Daniel B. Cozad  
Principal  
Integrated Planning and Management Inc.

**MEMORANDUM OF UNDERSTANDING  
FOR INTEGRATED REGIONAL WATER MANAGEMENT PLANNING AND  
FUNDING IN THE SAN DIEGO SUB-REGION FUNDING AREA**

**PARTIES:**

This Memorandum of Understanding (MOU) is entered into this 28<sup>th</sup> day of April 2009 (Effective Date) among the Parties listed below:

**1. San Diego County Regional Water Management Group (RWMG), hereinafter SDRWMG Planning Region Agencies, includes the following members:**

**CITY OF SAN DIEGO, hereinafter SD CITY; COUNTY OF SAN DIEGO, hereinafter SD COUNTY; and SAN DIEGO COUNTY WATER AUTHORITY, hereinafter SDCWA.**

**2. Orange County RWMG, hereinafter OCRWMG Planning Region Agencies, includes the following members: COUNTY OF ORANGE, hereinafter ORANGE COUNTY; MUNICIPAL WATER DISTRICT OF ORANGE COUNTY, hereinafter MWDOC; and SOUTH ORANGE COUNTY WASTERWATER AUTHORITY, hereinafter SOCWA.**

**3. Riverside County Upper Santa Margarita RWMG, hereinafter RCRWMG Planning Region Agencies, includes the following members: RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, hereinafter RCFCWCD; COUNTY OF RIVERSIDE, hereinafter RIVERSIDE COUNTY; and RANCHO CALIFORNIA WATER DISTRICT, hereinafter RCWD.**

Agencies acting collectively under this agreement are the TRI-COUNTY FUNDING AREA COORDINATING COMMITTEE, hereinafter called the TRI-COUNTY FACC. The agencies also are sometimes referred to in this MOU collectively as "Parties" and individually as "Party."

**RECITALS:**

- A. Proposition 84, the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Act (Public Resources Code, sections 75020-75029), authorizes the Legislature to appropriate funding for competitive grants for Integrated Regional Water Management (IRWM) projects. Funding is administered by the Department of Water Resources (DWR).
- B. The intent of the Act is to encourage integrated regional strategies for management of water resources and to provide funding through competitive grants, for projects that protect communities from drought, protect and improve water quality, promote environmental stewardship, and improve local water security by reducing dependence on imported water.
- C. The San Diego Sub-Region, also known as the San Diego Funding Area, comprises the three Parties – the SDRWMG, OCRWMG and RCRWMG. The boundaries of the SDRWMG, OCRWMG and RCRWMG are shown in Attachment A, and coordinated through this MOU.
- D. 1. The San Diego Sub-Region has been allocated \$91 million through Proposition 84.  
2. For the purposes of this agreement, the formula for allocating funds among the Parties will be based on a combination of land area and population as of 2007. The division of funding shall be consistent with Attachment B.
- E. DWR may establish standards to guide the selection of IRWM projects within the funding areas identified in the measure and shall defer to approved local project selection,

reviewing projects only to ensure they are consistent with Public Resources Code section 75028 (a).

- F. Each Party has prepared an accepted IRWM plan and desires close coordination to enhance the quality of planning, identify opportunities for supporting common goals and projects, and improve the quality and reliability of water in the Funding Area. The Parties will coordinate and work together with their advisory groups to identify projects of value across planning regions, identify funding for highly ranked projects, and support implementation.
- G. The San Diego Funding Area will balance the necessary autonomy of each planning region to plan for itself at the appropriate scale with the need to coordinate among themselves to improve inter-regional cooperation and efficiency. By consensus, the Parties have developed an agreement to improve the IRWM planning process in the Funding Area to coordinate planning across planning region lines and facilitate the appropriation of funding for IRWM projects by DWR.
- H. The Parties will coordinate on grant funding requests to ensure that the sum of the total grant requests does not exceed the amount identified for the funding region.

The RECITALS are incorporated herein and the PARTIES hereby mutually agree as follows:

### 1. Definitions

The following terms and abbreviations, unless otherwise expressly defined in their context, shall mean:

- A. **Funding Area** – The 11 regions and sub-regions referenced in Public Resources Code section 75027(a) and allocated a specific amount of funding to support IRWM activities. The San Diego Funding Area incorporates lands in the San Diego Regional Water Quality Control Board jurisdiction as of 2004, including portions of San Diego, Orange and Riverside counties.
- B. **RWMG** – An RWMG is comprised of at least three agencies, two of which must have statutory authority over water management. An RWMG is the documented leader of IRWM planning and implementation efforts in a planning region.
- C. **Planning Region** – Planning regions integrate stakeholders, agencies and projects in their regions and coordinate with other planning regions and DWR. The boundaries of the three planning regions in the San Diego Funding Area shown in attachment A.
- D. **Tri-County Funding Area Coordinating Committee (Tri-County FACC)** – Will comprise at least one representative from each recognized RWMG in the Funding Area. The Tri-County FACC will meet periodically to discuss issues pertaining to the Funding Area and make recommendations to the RWMGs.
- E. **Watershed Overlay Areas** – Identified areas within a watershed that cross planning region boundaries. Watershed Overlay Areas will be subject to special coordination and collaboration between the appropriate planning regions to ensure maximum watershed benefits in the IRWM plans of the Funding Area. The Santa Margarita and the San Mateo Watershed Overlays are shown in Attachment A.
- F. **Watershed Overlay Subcommittee** – The overlay subcommittee will be formed to identify projects that pertain to the watershed overlay areas and recommend them to the Tri-County FACC. The Subcommittee will comprise a representative of each Party in the watershed overlay area as well as other stakeholders agreed upon by the parties. The overlay subcommittee will meet at least twice during the update planning process to coordinate planning and project review; further meetings will occur as necessary. Meetings of the subcommittee will be open to all Tri-County FACC members.
- G. **Watershed Overlay Projects** – Projects identified in an Watershed Overlay Area identified as valuable and benefiting from cross boundary coordination.

- H. **Common Programs** – Programs eligible for IRWM funding that are identified by the Tri-County FACC as benefiting the entire Funding Area and have participation from at least two Planning Regions.
- I. **Advisory Committee**– The recognized committee of stakeholders advising a planning region’s RWMG and/or governing agencies on key issues related to IRWM planning and grant applications.

## **2. General Planning Cooperation via Tri-County FACC**

All planning regions will meet at least twice per year through the Tri-County FACC. The actual number of meetings will depend on the amount and intensity of planning and coordination efforts of the Planning Regions. The efforts of the Tri-County FACC will be to enhance the quality of planning, identify opportunities for supporting common goals and projects, and to improve the quality and reliability of water in the Funding Area. The planning efforts will support the watershed-based approach through integration and coordination across planning regions in the watershed overlay areas.

## **3. Mutual Plan Reference and Consistency**

Each plan prepared in the funding area will contain references to the entire Funding Area, to the coordination that is occurring among planning regions, and to this MOU. Each planning region will share its description of these matters with other planning regions to promote consistency with the goal of using common language as the IRWM plans are modified. The three RWMGs also will seek to place these common sections in the same location in their plans. Further consistency or cooperative efforts may be added with the agreement of the Parties.

## **4. Coordination of Submittals and Applications**

To facilitate DWR’s review process, all planning regions will coordinate their Region Acceptance Process submittals and IRWM grant applications. To the greatest extent practicable, the planning regions will develop common sections, tables and maps and place them in the same locations in their submittals and applications. The planning regions will preface their submittals and applications with information noting the common material and its location in the documents.

## **5. Watershed Overlay Areas**

Through the Tri-County FACC or the overlay subcommittee, the planning regions will cooperate in identifying Overlay Projects that cross Planning Region boundaries. Overlay Projects that benefit multiple planning regions will be identified and may be jointly funded, administered, or implemented. A watershed overlay subcommittee of the Tri-County FACC will be formed for the Santa Margarita Watershed and the San Mateo Creek Watershed overlay areas as shown in Attachment A. Overlay Projects of importance to the Watershed Overlay Area planning regions would be recommended for coordination and due consideration in those Planning Regions’ project selection processes.

## **6. Common Programs**

The common programs found by the Tri-County FACC to be of high value for all planning regions will be identified and recommended for high priority placement in the planning regions’ ranking of projects for funding. While each planning region will select projects in accordance with its own process, the regions will cooperate on the implementation of common projects programs if these efforts are selected for funding.

**7. Advisory Committee Cross Membership**

Each planning region with an advisory committee will invite the other advisory committees in the Funding Area to participate as a non-voting member in its committee to promote understanding, communication and coordination.

**8. Scope of the Agreement**

Nothing contained within this MOU binds the parties beyond the scope or term of this MOU unless specifically documented in subsequent agreements, amendments or contracts. Moreover, this MOU does not require any commitment of funding beyond that which is voluntarily committed by separate board actions, but recognizes in-kind contributions of RWMG agencies and stakeholders. Non-substantive or minor changes to this MOU that have the support of all RWMG agencies may be documented to become part of this MOU.

**9. Term of Agreement**

The term of this MOU is from its Effective Date shown above to December 31, 2014 unless extended by mutual agreement of the Parties.

**10. Modification or Termination**

This MOU may be modified or terminated with the concurrence of the RWMG agencies and effective upon execution of the modification or termination by all the RWMG agencies.

**11. Withdrawal**

Any PARTY may withdraw from the Tri-County FACC after giving a written 60-day notice to the other Parties.

**12. Notice**

Any notices sent or required to be sent to any party shall be mailed to the following addresses:

**SDRWMG Agencies**

Ken Weinberg, Director of Water Resources  
San Diego County Water Authority  
4677 Overland Ave., San Diego CA 92129

Marsi Steirer, Deputy Director of Water Resources and Planning  
City of San Diego  
600 B Street, Suite 400, San Diego CA 92101

Kathleen Flannery, CAO Project Manager  
County of San Diego  
1600 Pacific Highway, Room 212, San Diego CA 92101

**OCRWMG Agencies**

Mary Anne Skorpanich, Director, OC Watersheds  
Orange County Public Works  
333 W. Santa Ana Blvd., 5<sup>th</sup> Floor, Santa Ana, CA 92701

Karl Seckel, Assistant General Manager  
Municipal Water District of Orange County  
18700 Ward Street, Fountain Valley, CA 92708

Tom Rosales, General Manager  
South Orange County Wastewater Authority  
34156 Del Obispo Street, Dana Point, CA 92629

RCRWMG Agencies  
Perry Louck, Director of Planning  
Rancho California Water District  
42135 Winchester Road, Temecula, CA 92590

Mike Shetler, Senior Management Analyst  
County of Riverside  
4080 Lemon Street 4th floor, Riverside, CA 92501

Warren D. Williams  
Riverside County Flood Control and Water Conservation District  
1995 Market St. Riverside, CA 92501

### **13. Funding Uncertainties**

The RWMG agencies cannot be assured of the results of these coordination efforts and applications for funding. Nothing within this MOU should be construed as creating a promise or guarantee of future funding. No liability or obligation shall accrue to the Parties if DWR does not provide the funding. The Parties are committed to planning and coordinating notwithstanding IRWM funding. The form of such coordination may change based on the sources of funding.

### **14. Indemnification**

To the fullest extent permitted by law, each Party shall defend, indemnify and hold harmless the other Parties, their consultants, and each of their directors, officers, agents, and employees from and against all liability, claims, damages, losses, expenses, and other costs including costs of defense and attorneys' fees, arising out of or resulting from or in connection with work performed pursuant to this MOU. Such obligation shall not apply to any loss, damage, or injury, as may be caused by the sole negligence or willful misconduct of a Party, its directors, officers, employees, agents, and consultants.

### **15. Other Provisions**

The following provisions and terms shall apply to this agreement.

- A. This MOU is to be construed in accordance with the laws of the State of California. Any action at law or in equity brought by any of the Parties shall be brought in a court of competent jurisdiction in Riverside, Orange or San Diego Counties, and the parties hereto waive all provisions of law providing for change of venue in such proceedings to any other county.
- B. If any provision of this MOU is held by a court to be invalid, void or unenforceable, the remaining provisions shall be declared severable and shall be given full force and effect to the extent possible.
- C. This MOU is the result of negotiations between the parties hereto and with the advice and assistance of their respective counsels. No provision contained herein shall be construed against any Party because of its participation in preparing this MOU.
- D. Any waiver by a Party of any breach by the other of any one or more of the terms of this MOU shall not be construed to be a waiver of any subsequent or other breach of the same or of any other term hereof. Failure on the part of any of the respective Parties to require

from the others exact, full and complete compliance with any terms of the MOU shall not be construed to change the terms hereof or to prohibit the Party from enforcement hereof.

- E. This MOU may be executed and delivered in any number of counterparts or copies, hereinafter called "Counterpart", by the parties hereto. When each Party has signed and delivered at least one Counterpart to the other parties hereto, each Counterpart shall be deemed an original and, taken together, shall constitute one and the same MOU, which shall be binding and effective as to the Parties hereto.
- F. This MOU is intended by the parties hereto as their final expression with respect to the matters herein, and is a complete and exclusive statement of the terms and conditions thereof. This MOU shall not be changed or modified except by the written consent of all Parties hereto.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the dates shown on the attached counterpart signature pages:

**San Diego County Water Authority**

In WITNESS WHEREOF, each party hereto has executed this AGREEMENT as of the date set forth above.

Date: April 20, 2009

By:   
KEN WEINBERG  
Director of Water Resources

APPROVED AS TO FORM  
San Diego County Water Authority

Date: April 8, 2009

By:   
General Counsel  
San Diego County Water Authority

**City of San Diego**

In WITNESS WHEREOF, each party hereto has executed this AGREEMENT as of the date set forth above.

CITY OF SAN DIEGO

Date:

4/13/09

By:

  
W. DOWNS PRIOR  
Principal Contract Specialist

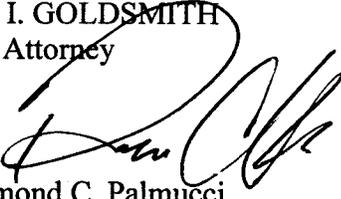
I HEREBY APPROVE the form and legality of the foregoing Memorandum of Understanding.

JAN I. GOLDSMITH  
City Attorney

Date:

4/14/09

By:

  
Raymond C. Palmucci  
Deputy City Attorney

Mr. W. Downs Prior  
City of San Diego  
Purchasing and Contracting Department  
1200 3<sup>rd</sup> Avenue, Suite 200  
San Diego, CA 92101

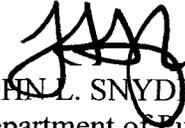
**San Diego County**

In WITNESS WHEREOF, each party hereto has executed this AGREEMENT as of the date set forth above.

Date:

5/4/09

By:



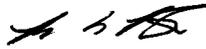
JOHN L. SNYDER, Director  
Department of Public Works

APPROVED AS TO FORM  
County Counsel  
San Diego County, California

Date:

4/28/09

By:



Deputy County Counsel

John L. Snyder, Director  
Department of Public Works  
County of San Diego  
5555 Overland Ave, Bldg.2, Mailstop O332  
San Diego, CA 92123

# Attachment A

## Orange County Agencies

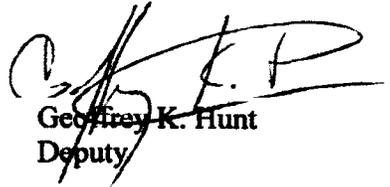
IN WITNESS WHEREOF, each party hereto has executed this Agreement by a duly authorized representative as of the date set forth above.

### ORANGE COUNTY PUBLIC WORK

By   
Name: Bryan Speegle  
Title: Director

Date May 19, 2009

### APPROVED AS TO FORM: COUNTY COUNSEL

By   
Name: Geoffrey K. Hunt  
Title: Deputy

Date

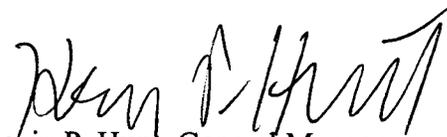
5/24/2009

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

By:

  
Wayne A. Clark, President

By:

  
Kevin P. Hunt, General Manager

APPROVED AS TO FORM:



Daniel Payne, McCormick, Kidman & Behrens  
Legal Counsel for Municipal Water District  
of Orange County

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

By   
Chairman

By   
Secretary

APPROVED AS TO FORM:  
BOWIE, ARNESON, WILES & GIANNONE  
Legal Counsel-South Orange County Wastewater Authority

By   
Patricia B. Giannone

**MEMORANDUM OF UNDERSTANDING  
FOR INTEGRATED REGIONAL WATER MANAGEMENT PLANNING AND  
FUNDING IN THE SAN DIEGO SUB-REGION FUNDING AREA**

**RANCHO CALIFORNIA WATER DISTRICT**  
A California Water District

By:   
MATT STONE, General Manager

Date: 4-20-2009

ATTEST:

  
KELLI GARCIA, District Secretary

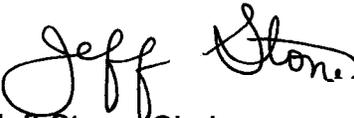
APPROVED AS TO FORM:

Pamela Walls  
County Counsel

By 

David H.K. Huff  
Assistant County Counsel

County of Riverside  
Board of Supervisors

By 

Jeff Stone, Chairman  
Supervisor, Third District  
Riverside County Board of Supervisors

ATTEST:

KECIA HARPER-IHEM  
Clerk of the Board

Date: MAR 31 2009

By   
Deputy

MAR 31 2009 3.7

IN WITNESS WHEREOF, the parties hereto have executed this

Agreement on **MAR 31 2009**  
(to be filled in by Clerk of the Board)

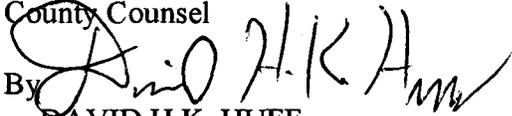
RECOMMENDED FOR APPROVAL: **RIVERSIDE COUNTY FLOOD CONTROL  
AND WATER CONSERVATION DISTRICT**

By   
WARREN D. WILLIAMS  
General Manager-Chief Engineer

By   
MARION ASHLEY, Chairman  
Riverside County Flood Control and  
Water Conservation District Board of  
Supervisors

APPROVED AS TO FORM:

PAMELA J. WALLS  
County Counsel

By   
DAVID H.K. HUFF  
Deputy County Counsel

Dated **3/19/09**

ATTEST:

**KECIA HARPER-IHEM**  
Clerk of the Board

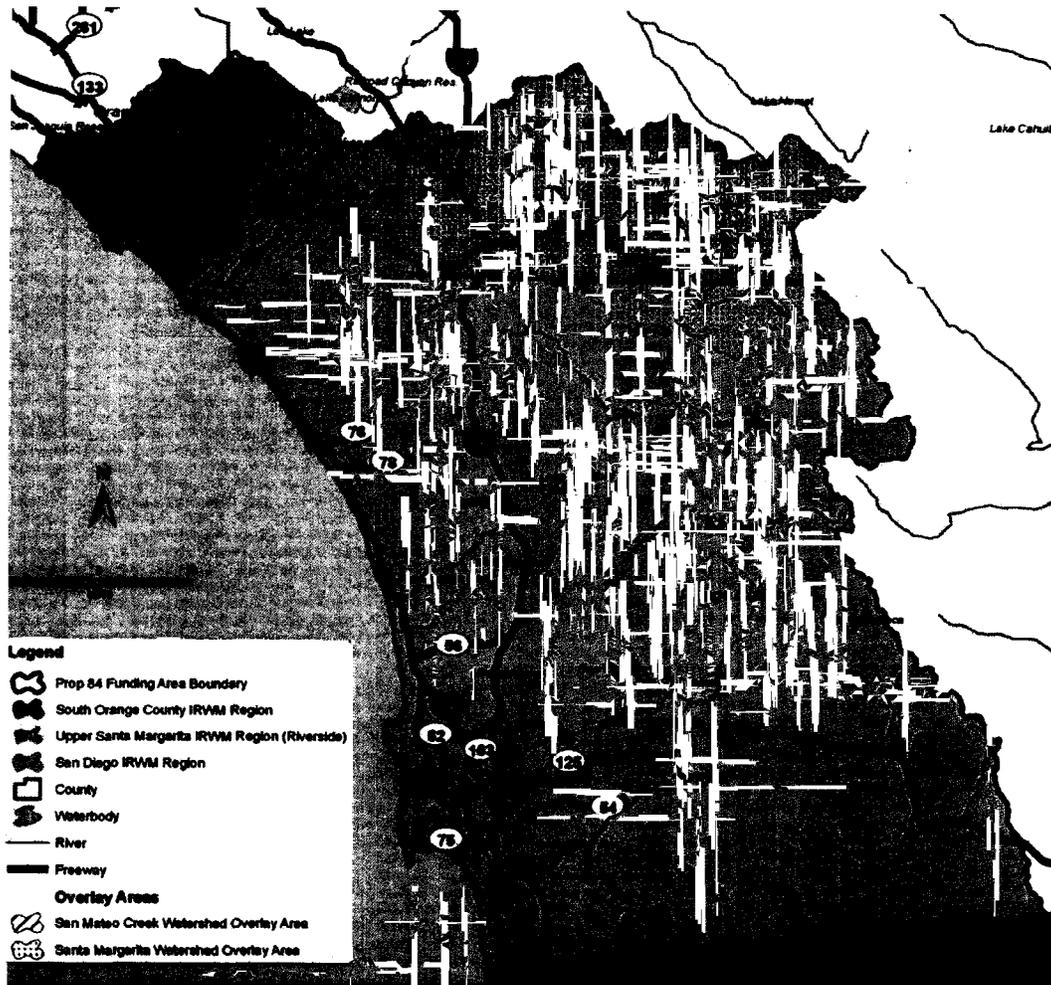
By   
Deputy

(SEAL)

**MAR 31 2009 11.4**

**Attachment A**  
**Funding Area and Planning Region Boundaries with Watershed Overlay Areas**

The San Diego, Orange County and Riverside County Upper Santa Margarita planning regions are of an appropriate scale to allow integrated planning and provide for proper local interaction. The creation of planning regions larger than those outlined in the map below would limit local involvement and reduce the value of the planning to the region, the funding area, and the state.



**Attachment B**  
**Allocation of Proposition 84 Funds**

Each of the three planning regions has IRWM project and program needs that far exceed the funding allocated to the funding area. Significant local match funding for selected projects is available in each planning region. Funding for planning and timing of implementation may vary among the planning regions. Because of these factors and because not all of the Proposition 84 funding will be made available at the same time, the Tri-County FACC members will cooperate and coordinate on individual funding cycle applications to ensure that the sum of the total grant requests does not exceed the amount identified for the funding region in any given cycle. Total allocations to the parties will be divided according to the schedule below. The allocations are based on a formula that is similar to that used to allocate funding in the Proposition 84 bond language. (Note: Proposition 84 allocates \$91 million to the San Diego Funding Area. DWR has indicated it will spend approximately 5 percent of the funds for program delivery costs. Therefore, the allocations to the three planning regions are indicated in percentages of the total funds that will be available over the life of the program.)

Planning Region	Population	Acres Area	Allocations (in % of \$ totals)		
			\$25 M on Land	\$66 M on Population	Total
Riverside Upper Santa Margarita	253,329	405,233	16.4%	6.4%	9.1%
South Orange County	597,348	168,192	6.8%	15.2%	12.9%
San Diego County	3,092,351	1,901,203	76.9%	78.4%	78%
<b>Total</b>	<b>3,943,028</b>	<b>2,474,628</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

## Appendix E: Public Outreach Materials

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# Upper Santa Margarita Watershed Integrated Regional Water Management Program



## What is an Integrated Regional Water Management Project?

**Integrated regional water management projects** provide multiple benefits across an entire region. They implement multiple solutions to:

- Ensure a greater level of benefits for the region
- Increase cost-effectiveness
- Leverage expertise of project partners
- Increase their chance of funding

Overall: Integration creates enhanced, cost-effective projects that help the region meet multiple regional goals.

### Facilitating Partnerships

Establishing partnerships creates efficiencies through sharing data, funds, resources and infrastructure.

The *Native Botanical Garden Project* will be implemented by the South Coast Resource Conservation and Development Council, sited at the Hamilton Museum, and monitored and maintained by both the High Country Conservancy and the Anza Community Beautification and Garden Projects Committee.

### Expanding Geography

Implementing watershed-wide or regional-scale projects can benefit from economies of scale and address multiple watershed functions to resolve conflicts between uses.

The *Santa Margarita Region Retrofit Opportunities Study* will prioritize target areas for recycled water retrofits across the Region, helping to address the impacts of existing development on the watershed and allowing for better stewardship of resources throughout the Santa Margarita watershed.

### Multiplying Benefits

Integrated projects provide opportunities for reaching multiple regional goals.

The *Recycled Water and Plant Material Conversion Project* will convert irrigation systems to use recycled water, improving water supply reliability, and reducing dry weather runoff and greenhouse gas emissions.

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# Upper Santa Margarita Watershed Integrated Regional Water Management Program



## Is Your Community on the Map Below? IRWM can help!

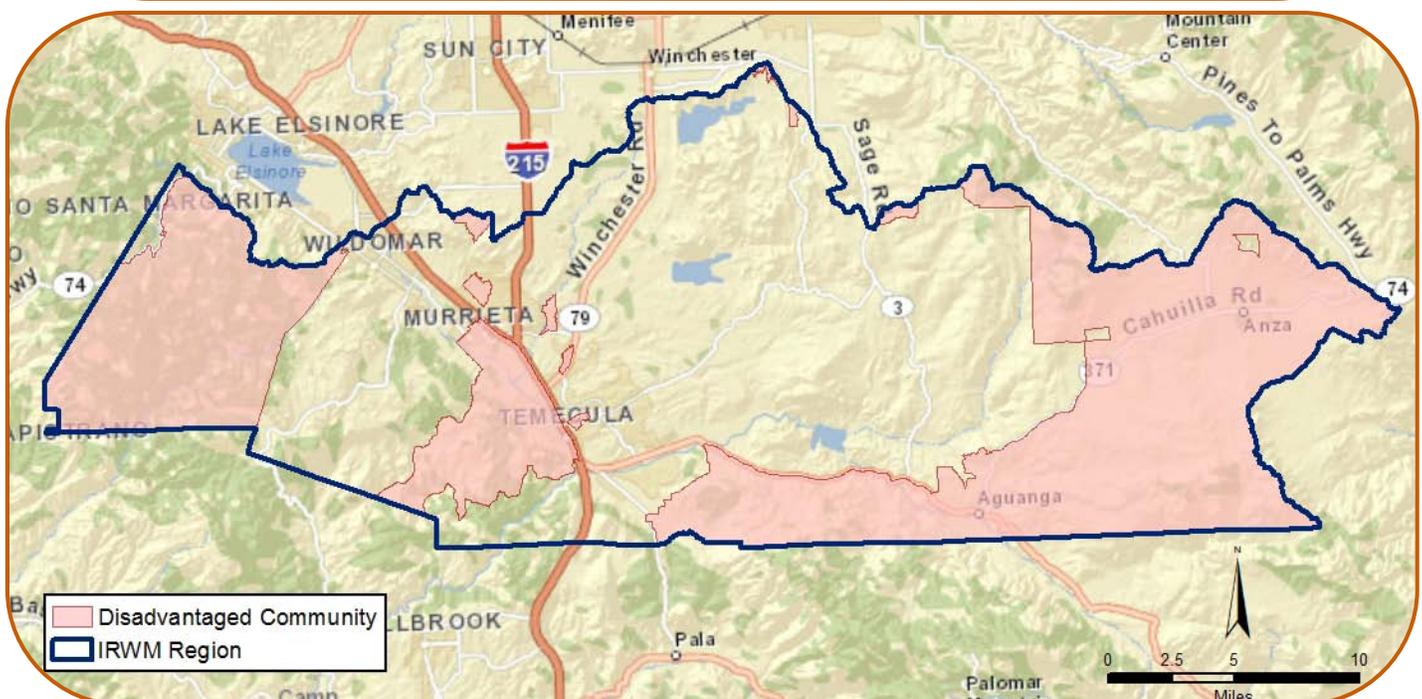
IRWM planning is your opportunity to address the water supply and water quality needs of your disadvantaged community (DACs). A DAC is defined as a community whose median household income is 80% or less than the statewide median household income. In the Upper Santa Margarita Watershed IRWM Region, DAC areas are shown on the map below. The State's IRWM program can assist your DAC in:

- Identifying, documenting, and prioritizing failing infrastructure, as well as providing technical guidance
- Providing financial or staff resources to develop water resource related projects
- Processing grant applications and contracts to fund these projects

The first step is to include your DAC water supply and quality needs, priorities and projects in the Region's IRWM Plan. Contact Denise Landstedt, USMW IRWM Program Manager at [landstedtd@ranchowater.com](mailto:landstedtd@ranchowater.com) or (951) 296-6916 to get started.

The *Native Botanical Garden Project*, included in the Region's Proposition 84, Round 2 implementation grant application, will be sited in the disadvantaged community of Anza to help increase water awareness.

This project will seek to improve water conservation regionally by educating and encouraging property owners to use native plants in their landscape.



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# Upper Santa Margarita Watershed Integrated Regional Water Management Program



## Is Your Tribal Community on the Map Below? IRWM can help!

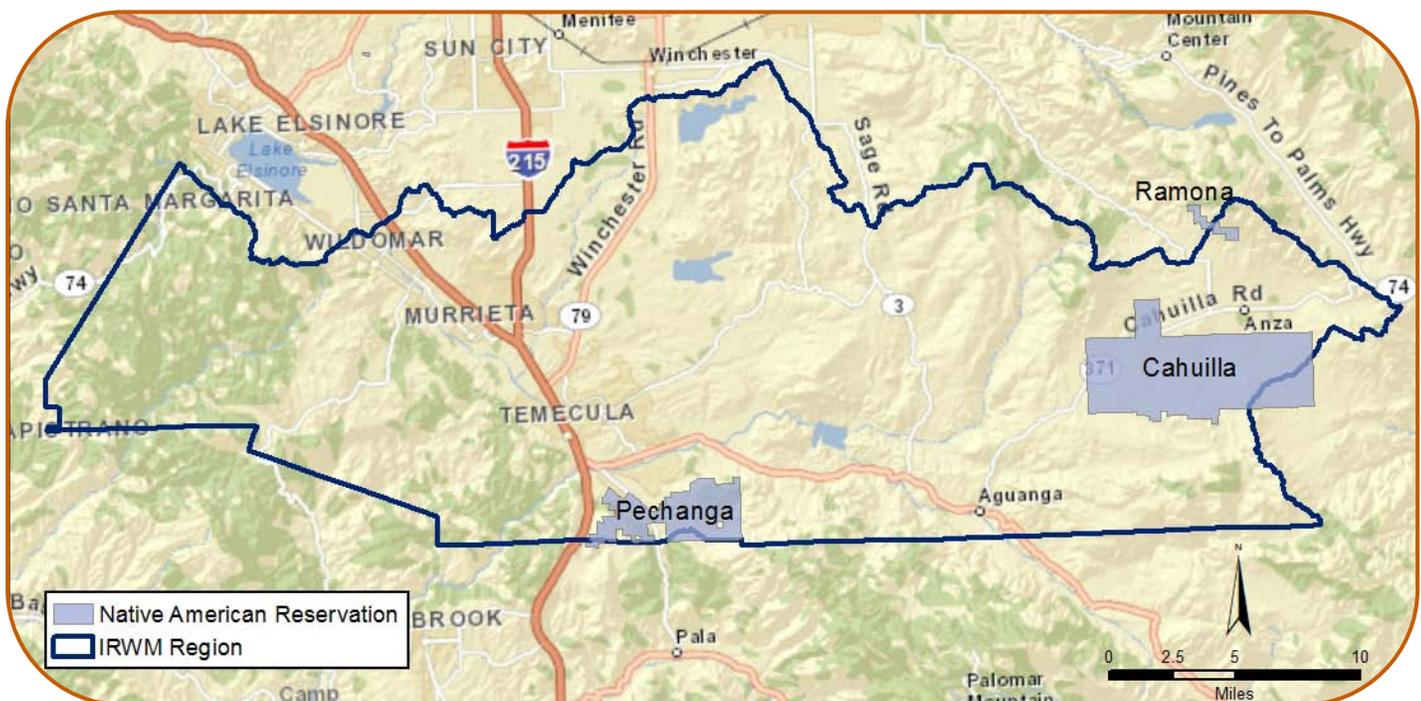
IRWM planning is your opportunity to address the water supply and water quality needs of your tribal community. Statewide, water entities have been challenged in addressing tribal communities' water needs. Locally, many of these water supply and quality issues have been resolved. However, if you experience funding shortfalls for needed projects, inadequate staff, or are concerned about tribal sovereignty issues, the State's IRWM program may be able to help your tribe. The State's IRWM program can assist your tribal community in:

- Identifying, documenting, and prioritizing failing infrastructure, as well as providing technical guidance
- Providing financial or staff resources to develop water resource related projects
- Processing grant applications and contracts to fund these projects

The first step is to include your tribal community water supply and quality needs, priorities and projects in the Region's IRWM Plan. Contact Denise Landstedt, USMW IRWM Program Manager at [landstedtd@ranchowater.com](mailto:landstedtd@ranchowater.com) or (951) 296-6916 to get started.

The goals of IRWM planning are to:

- Foster regional partnerships and resolve conflicts
- Integrate resource management decisions
- Diversify regional water portfolios
- Reduce costs and maximize value
- Provide for sustainability



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# Upper Santa Margarita Watershed

## Integrated Regional Water Management Program

Issue 1  
November 21, 2012

### The USMW 2014 IRWM Plan Update Needs Your Input!

#### Why Participate?

The 2014 IRWM Plan Update is a stakeholder-dependent process that will improve the current plan to meet recent State requirements, better characterize regional water management issues and identify projects needing funding to meet measurable objectives.

#### Stakeholder input is needed to:

- Identify Water Management Needs & Issues
- Determine Water Supply, Water Quality, Habitat and Flood Management Objectives
- List and Prioritize Regional Projects
- Plan for Climate Change
- Integrate land-use and other water planning and regulatory objectives and requirements

#### Project Funding

The USMW Region will have over **\$5 Million** available under California Proposition 84 for projects part of an approved IRWM Plan. Other funding programs through agencies like the State Water Resources Control Board and California Resources Agency are requiring projects to be included in an IRWM Plan to receive funding.

#### How to Participate

All interested parties are invited to attend the **Stakeholder Advisory Committee (SAC)** Meetings. The SAC is a regional forum to discuss Plan update topics as well as provide information on funding and other IRWM planning efforts. Contact Denise Landstedt to reserve a spot at the next meeting at [landstedtd@ranchowater.com](mailto:landstedtd@ranchowater.com).

The SAC meets quarterly on second Wednesdays from **1:00 to 3:00 pm** at:

**Rancho California  
Water District**  
42135 Winchester Rd.  
Temecula, CA 92590

#### SAC Meeting Dates

- **December 12, 2012**
- **February 13, 2013**
- **May 8, 2013**
- **August 14, 2013**
- **November 13, 2013**

Under the California Department of Water Resources Proposition 84 IRWM Program, the USMW Region has been awarded over **\$2.3 Million** in planning and project funding for:

- **Santa Margarita River Watershed Nutrient Initiative**
  - **Temecula Basin Salt/Nutrient Management Plan**
- **Vail Lake Stabilization & Conjunctive Use Project**
  - **Agricultural Irrigation Efficiency Program**
  - **Santa Margarita Region Retrofit Study**
  - **Anza Groundwater Study**
  - **IRWM Plan Update**



Upper Santa Margarita  
Watershed IRWM Region

Learn more about the USMW IRWMP at [www.ranchowater.com/irwmp.aspx](http://www.ranchowater.com/irwmp.aspx)

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# Upper Santa Margarita Watershed Integrated Regional Water Management Program

Issue 2  
July 2013

## USMW IRWM Program Call-For-Projects!

### What Projects Are Encouraged?

The USMW IRWM Program is conducting a “call for projects” to be included in the Region’s IRWM Plan Update. Although projects are accepted on a continuing basis and the Project List will be updated periodically, only projects submitted by September 27, 2013 will be evaluated for inclusion in the adopted version of the 2014 IRWM Plan Update.

The USMW IRWM Program is accepting project submittals that will meet the goals and objectives of the USMW IRWM Plan including:

- Increase diversification of the Region’s water supply portfolio
- Maximize groundwater potential
- Protect and improve local surface water quality
- Promote integrated flood management
- Protect, restore and enhance aquatic/riparian habitat
- Promote economic, social, land use and environmental sustainability

Projects included as part of the 2014 USMW IRWM Plan, as well as projects subsequently added to the IRWM Plan Project List, may be eligible for Prop 84, Round 3 grant funds being applied for in late 2014.

Other state grant programs are also requiring projects to be included in IRWM Plans such as those under the State Water Resources Control Board and California Resources Agency.

### How Are Projects Submitted?

Projects can be submitted for inclusion in the 2014 IRWM Plan via a form available on the USMW IRWM website beginning July 17, 2013:

[www.ranchowater.com/irwmp.aspx](http://www.ranchowater.com/irwmp.aspx). Forms should be submitted via email to Denise Landstedt ([landstedtd@ranchowater.com](mailto:landstedtd@ranchowater.com) or 42135 Winchester Road, Temecula, CA 92590). A project development and integration workshop will be held on July 17, 2013 to explain the submittal process, and allow project sponsors and partners to discuss their projects to promote project development and integration.

### How Are Projects Evaluated?

The USMW IRWM Region’s Project Review Subcommittee will review all submitted projects to determine whether the project should be included in the 2014 IRWM Plan. Projects will be reviewed for several criteria to ensure they will help to meet the needs of the Region including:

- Relevancy to the Region’s water related goals and objectives
- Level of integration and regionalism
- Cost efficiency (the benefits in relation to the project’s costs)
- Contribution to sustainability goals

Projects not yet ready for inclusion in the 2014 IRWM Plan will be included in a list of conceptual projects that is maintained for future project development activities conducted by the Region.



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# Upper Santa Margarita Watershed Integrated Regional Water Management Program

Issue 3  
October 2013

## The USMW IRWM Program is Conducting a Climate Change Workshop!

### Climate Change Impacts to Region

Studies show climate change may impact the USMW Region...



Increases in temperature of 2°F to 4°F by 2050, and 6°F to 9°F by 2100

Decreases in rainfall by 2 to 4 inches by 2050, and 3 to 6 inches by 2100



Decreases in State Water Project deliveries by 25%, and 20% from Colorado River by 2100

Slightly increased wildfire risk



### Climate Change in the IRWM Plan Update

As part of the 2014 IRWM Plan Update, DWR requires the USMW Region consider climate change. To accomplish this, the Region will incorporate climate change into various chapters of the 2014 IRWM Plan Update, as shown below.

#### Chapter 2: Region Description

- Climate change effects and impacts
- Climate change vulnerabilities

#### Chapter 3: Objectives and Priorities

- Climate change related objective

#### Chapter 4: Regional Water Management Strategies

- Strategies to adapt to and mitigate against climate change

#### Chapter 5: Projects

- Climate change adaptation and mitigation included as part of prioritization

#### Chapter 6: Implementation

- Plan for further data gathering and analysis of vulnerabilities

### USMW Climate Change Workshop

The Region would like your input on the vulnerability of the Region's water resources to climate change if you have experience in the following areas of water resources management:

Water Demand

Water Supply

Water Quality

Flooding

Ecosystems and Habitat

Hydropower

The workshop will be held during the next USMW IRWM stakeholder meeting.

**November 13, 2013**  
**(1:00 to 3:00 pm)**  
**42135 Winchester Road**  
**Temecula, CA 92590**

Please join us to help assess the Region's vulnerability to climate change!

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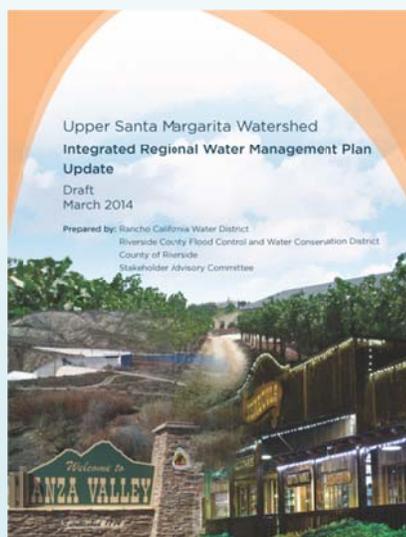
# Upper Santa Margarita Watershed Integrated Regional Water Management Program

Issue 4  
March 2014

## The Draft 2014 USMW IRWM Plan Update is Available for Public Review!

### How has the IRWM Plan been updated?

The Region's stakeholders have been participating in the development of an update to the 2007 USMW IRWM Plan since late 2012. The resulting Draft 2014 USMW IRWM Plan Update reflects the current and projected challenges, opportunities, goals and strategies of the USMW IRWM Region that have occurred since 2007, and meets new State IRWM Program requirements. The update process incorporated information from recent studies as well as input



received through regional stakeholder workshops and meetings. A summary of each chapter of the draft IRWM Plan is provided in this newsletter. We look forward to receiving your input on the Draft 2014 USMW IRWM Plan.

### How can I submit comments?

Comments on the draft USMW IRWM Plan may be submitted through **March 28, 2014** by completing the form available at [www.ranchowater.com/irwmp.aspx](http://www.ranchowater.com/irwmp.aspx).

The form is a Word document that can be filled out either electronically or by hand. Comment forms should be submitted to Denise Landstedt of Rancho California Water District via:

Email: [irwm@ranchowater.com](mailto:irwm@ranchowater.com)

Mail:  
Rancho California Water District  
Denise Landstedt  
IRWM Program manager  
42135 Winchester Rd,  
Temecula, CA 92590

### Where is the IRWM Plan available?

The draft IRWM Plan is available for public review on the USMW IRWMP website at [www.ranchowater.com/irwmp.aspx](http://www.ranchowater.com/irwmp.aspx). For a CD copy of the draft IRWM Plan, please contact Denise Landstedt at [landstedtd@ranchowater.com](mailto:landstedtd@ranchowater.com) or (951) 296-6916. For information on the IRWM Program, please consult the USMW IRWM website, or the California Department of Water Resource's website: [www.water.ca.gov/irwm/](http://www.water.ca.gov/irwm/).



## 2014 USMW IRWM Plan Update Overview



### Chapter 1: Regional Planning, Governance, Outreach and Coordination

Explains how the IRWM Plan was developed and how the Region is organized, including regional governance, stakeholder involvement, and regional coordination.

### Chapter 2: Region Description

Describes the region as it is today, including boundaries, water demand and supply, water quality, ecological and environmental processes, land uses, social and economic characteristics and trends, and climate.



### Chapter 3: Objectives and Priorities

Discusses the Region's updated planning issues, goals and objectives as well as performance measures for measuring progress in meeting objectives, and consistency of the objectives with statewide priorities.

### Chapter 4: Regional Water Management Strategies

Includes water management strategies that will help achieve the Region's objectives, as well as the potential impacts and benefits of implementing the strategies.

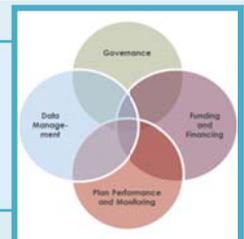


### Chapter 5: Projects

Describes the Region's project development efforts, and the processes for project submittal, review and prioritization.

### Chapter 6: Implementation

Discusses how the Region will continue the IRWM Program and implement the IRWM Plan, including plan performance and monitoring, data management, and funding and financing.



## Acknowledgements

The Update of the IRWM Plan would not have been possible without the participation of the following entities:

Anza Groundwater Association, Boojum Institute, Butterfield Multi-Use Trails, Cahuilla Band of Indians, California Department of Fish and Game, Citizens for Quality of Life – Murrieta, City of Murrieta, City of Temecula, County of Riverside, Eastern Municipal Water District, Elsinore Murrieta Anza RCD, Hamilton Museum (Anza), League of Women's Voters, Marine Corps Base Camp Pendleton, Pechanga Band of Luiseno Indians, Rancho California Water District, Riverside County Farm Bureau, Riverside County FC&WCD, Riverside Lands Conservancy, San Diego RWQCB, San Diego State University, Southwestern Riverside County Multi-Species Reserve, The High Country Conservancy, The Nature Conservancy, Trout Unlimited, United States Army Corps of Engineers, United States Bureau of Reclamation, United States Fish and Wildlife Service, United States Forest Service, Western Municipal Water District

## Appendix F: Project Nomination Form

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## Upper Santa Margarita Watershed IRWM Plan Update

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### 2013 PROJECT NOMINATION FORM

The Project Nomination Form is for projects that will meet the goals, objectives and priorities of the 2014 USMW IRWM Plan Update.

The Project Nomination Form provides the essential information of a proposed project to be considered as either a *conceptual project* or an *IRWM Plan project*, defined as follows:

- *Conceptual projects* are implementation projects that are still in the planning stages and not ready to proceed, but meet the goals and objectives of the 2014 USMW IRWM Plan. *To have your project be considered as conceptual project* for further development as part of the USMW IRWM Program, you must be able to complete at least the first portion of this form highlighted in orange.
- *IRWM Plan projects* are implementation projects that meet the goals, objectives and priorities of the 2014 USMW IRWM Plan and have been developed sufficiently to meet specific criteria provided by the California Department of Water Resources. *To have your project considered as an IRWM Plan project*, you must be able to complete all questions in this form, in both the sections highlighted in orange and blue.

*Complete the form and return with supporting attachments, as needed, to Denise Landstedt at [landstedtd@ranchowater.com](mailto:landstedtd@ranchowater.com).*

*Questions: Contact Denise Landstedt, Rancho California Water District, (951) 296-6916*



# UPPER SANTA MARGARITA WATERSHED INTEGRATED REGIONAL WATER MANAGEMENT PLANNING REGION

Newly Submitted Project

Previously Submitted Project

## 1. General Project Information (Required for all projects)

a. Project Title

b. Potential Project Benefits (Check all that specifically apply)

- Increase diversification of water supply portfolio
- Maximize groundwater potential
- Protect and improve local surface water quality
- Promote integrated flood management
- Protect, restore and enhance aquatic/riparian habitat
- Promote economic, social, land use and environmental sustainability

c. Project Type

- Construction
- Program
- Study/Investigation

d. Project Description

e. Project Status, Timeline, and Readiness to Proceed

*Include anticipated start and completion dates; status of planning, design, or construction; status of environmental documentation; status of permitting – local or regional, status of approval to implement the project, other items to demonstrate readiness to proceed.*

f. Project Location

g. Purpose and Need



**UPPER SANTA MARGARITA WATERSHED INTEGRATED  
REGIONAL WATER MANAGEMENT PLANNING REGION**

**2. Project Sponsor/Lead Agency Information (Required for all projects)**

a. Agency/Organization Name

b. Contact Person (name and title)

c. Email

d. Phone

e. Address

f. Adopted the USMW IRWM Plan: Y/N

g. Urban water supplier: Y/N

i. If yes, status of 2010 Urban Water Management Plan:

ii. If yes, status of AB1420 compliance:

**3. Project Partners (Required for all projects - note if not applicable)**

a. Agency/Organization Name:

b. Contact Person (name and title):

c. Email:

d. Phone:

e. Cell Phone (optional):



# UPPER SANTA MARGARITA WATERSHED INTEGRATED REGIONAL WATER MANAGEMENT PLANNING REGION

f. **Address:**

g. **Project Partner Type:**

- Collaborative Planning
- Direct Funding
- In-Kind Services
- Co-Operator/Co-Manager

#### 4. Project Goals and Objectives (Required for inclusion in the IRWM Plan)

a. List the Project's Goals and Objectives:

- 1.
- 2.
- 3.

b. Check which IRWM Plan Goals and Objectives the project meets :

*Goal 1: Increase diversification of water supply portfolio*

- Reduce regional potable water consumption.
- Increase local supply development.

*Goal 2: Maximize groundwater potential*

- Improve quality and ability to access and increase groundwater supply.
- Increase knowledge of groundwater supply potential.

*Goal 3: Protect and improve local surface water quality*

- Reduce controllable pollutant sources to 303(d) listed receiving waters.

*Goal 4: Promote integrated flood management*

- Enhance regional flood control by implementing multiple benefit
- Reduce municipal and private property damage risk.

# UPPER SANTA MARGARITA WATERSHED INTEGRATED REGIONAL WATER MANAGEMENT PLANNING REGION

*Goal 5: Protect, restore and enhance aquatic/riparian habitat*

- Protect and create aquatic/riparian habitat.
- Enhance riparian corridors on existing land use.

*Goal 6: Promote economic, social, land use and environmental sustainability*

- Support water resources projects that positively impact DACs.
- Improve recreation opportunities and open space through multiple benefit projects.
- Adapt to and mitigate against climate change by promoting adaptation strategies and reducing water related greenhouse gas emissions.

c. Check which California Water Plan Resource Management Strategies the project meets:

<b>Reduce water demand</b>	<input type="checkbox"/> Agricultural water use efficiency <input type="checkbox"/> Urban water use efficiency <input type="checkbox"/> Improve operational efficiency and transfers <input type="checkbox"/> Conveyance - Delta	<input type="checkbox"/> Conveyance - Regional/local <input type="checkbox"/> System reoperation <input type="checkbox"/> Water transfers
<b>Increase water supply</b>	<input type="checkbox"/> Conjunctive Management & Groundwater <input type="checkbox"/> Desalination <input type="checkbox"/> Precipitation enhancement	<input type="checkbox"/> Recycled municipal water <input type="checkbox"/> Surface storage - CALFED <input type="checkbox"/> Surface storage - Regional/Local
<b>Improve water quality</b>	<input type="checkbox"/> Groundwater/Aquifer Remediation <input type="checkbox"/> Surface storage - Regional/Local <input type="checkbox"/> Drinking water treatment and distribution	<input type="checkbox"/> Pollution prevention <input type="checkbox"/> Salt and Salinity Management <input type="checkbox"/> Urban runoff management

# UPPER SANTA MARGARITA WATERSHED INTEGRATED REGIONAL WATER MANAGEMENT PLANNING REGION

<b>Practice Resources Stewardship</b>	<input type="checkbox"/> Agricultural lands stewardship	<input type="checkbox"/> Land use planning and management
	<input type="checkbox"/> Economic incentives	<input type="checkbox"/> Recharge areas protection
	<input type="checkbox"/> Ecosystem restoration	<input type="checkbox"/> Water-dependent recreation
	<input type="checkbox"/> Forest management	<input type="checkbox"/> Watershed management
<b>Improve Flood Management</b>	<input type="checkbox"/> Flood risk management	
<b>Other Strategies</b>	<input type="checkbox"/> Forest management	<input type="checkbox"/> Irrigated land retirement
	<input type="checkbox"/> Dewvaporation or atmospheric pressure desalination	<input type="checkbox"/> Rainfed agriculture
	<input type="checkbox"/> Fog collection	<input type="checkbox"/> Waterbag transport/storage technology

d. Check which Proposition 84 project elements the project meets:

- Water supply reliability, water conservation, and water use efficiency
- Stormwater capture, storage, clean-up, treatment, and management
- Removal of invasive, non-native species, the creation and enhancement of wetlands, and the acquisition, protection, and restoration of open space and watershed lands
- Non-point source pollution reduction, management, and monitoring
- Groundwater recharge and management projects
- Contaminant and salt removal through reclamation, desalting, and other treatment technologies and conveyance of reclaimed water for distribution to users
- Water banking, exchange, reclamation, and improvement of water quality
- Planning and implementation of multipurpose flood management and programs

# UPPER SANTA MARGARITA WATERSHED INTEGRATED REGIONAL WATER MANAGEMENT PLANNING REGION

- Watershed protection and management
- Drinking water treatment and distribution
- Ecosystem and fisheries restoration and protection

e. Check which sustainability features are part of the project:

- Measures to reduce greenhouse gas (GHG) emissions
- Measures to increase energy efficiency
- Measures to adapt to potential effects of climate change

## 5. Project Benefits and Benefit Accrual Locations (Required for inclusion in the IRWM Plan)

a. Project Benefits: Provide **quantification** of the benefits which the project will provide. *Please include units for all quantities.*

### **Goal: Increase diversification of water supply portfolio**

- Average annual yield of water supply reliability, conservation and water use efficiency
- Average annual yield of groundwater pumping
- Average annual yield of stormwater capture
- Average annual yield of recycled water
- Average annual yield of desalination
- Other (please describe):

### **Goal: Maximize groundwater potential**

- Capacity of groundwater treatment
- Capacity of recharge facility
- Other (please describe):

### **Goal: Protect and improve local surface water quality**

- Capacity of stormwater treatment project
- Other (please describe):



**UPPER SANTA MARGARITA WATERSHED INTEGRATED  
REGIONAL WATER MANAGEMENT PLANNING REGION**

**Goal: Promote integrated flood management**

Area that will benefit from improved flood management

Estimated annual value of flood damage reduction

Other (please describe):

**Goal: Protect, restore and enhance aquatic/riparian habitat**

Area of protected aquatic/riparian habitat

Area of enhanced aquatic/riparian habitat

Area of created aquatic/riparian habitat

Other (please describe):

**Goal: Promote economic, social, land use and environmental sustainability**

DAC population positively impacted

Area of recreation and/or open space improved

Estimated decrease in greenhouse gas emissions

Other (please describe):

**b. Location of Project Benefits**

Latitude

Longitude

Provide description of location of project benefits:



# UPPER SANTA MARGARITA WATERSHED INTEGRATED REGIONAL WATER MANAGEMENT PLANNING REGION

## 6. Integration and Regionality Elements of Project (Required for inclusion in the IRWM Plan)

*Identify any integration elements of your proposed project; this includes synergies or linkages with other projects in the region that result in added value or require coordinated implementation or operation (see definition below).*

**Integration Defined:** *Integrated project solutions ensure a greater level of benefits for the region and make project more viable within an IRWM grant program. Integration includes:*

- *Partnerships – Establishing partnerships creates efficiencies through sharing data, funds, resources and infrastructure.*
- *Benefits – Multiplying benefits provide opportunities for reaching multiple regional goals.*
- *Geography – Implementing watershed-wide or regional-scale projects can benefit from economies of scale and address multiple watershed functions to resolve conflicts between uses.*

## 7. Disadvantage Communities (DAC) and Native American Tribal Communities (NATC) (Required for inclusion in the IRWM Plan)

a. Project provides benefits to DAC

b. Project provides benefits to NATC

c. Describe the benefits to the DAC and/or NATC

d. Describe any Environmental Justice Concerns the project addresses:  
*Environmental Justice definition: "the fair treatment and meaningful involvement of all people regardless of race, color, sex, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies."*



# UPPER SANTA MARGARITA WATERSHED INTEGRATED REGIONAL WATER MANAGEMENT PLANNING REGION

## 8. Project Cost and Funding (Required for inclusion in the IRWM Plan)

a. Fill in project cost and funding information

Funding	Amount (\$)
Total Project Cost	
Anticipated Funding	
Match Contribution	
Local	
Federal	
In-Kind	
Other	

b. Explain source and commitment of match funding

c. Estimated annual operations and maintenance (O&M) costs

d. Explain sources and certainty of O&M funding

e. Has an economic or cost/benefit analysis been conducted for the project?  
If so, please describe the results.

## 9. Other Project Information Not Discussed Elsewhere in this Nomination Form

## Appendix G: Project List

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## USMW Project List- IRWM Plan Projects

Reviewed October 2013

Ref No.	Score	Lead Agency / Partners	Project Title	Project Description	Last Updated	Date Approved
<b>Implementation Projects</b>						
I-28	10.4	City of Temecula & City of Murrieta / RCWD	City Recycled Water Conversion Project	The proposed project will include the design and construction to retrofit the existing potable water irrigation system to a recycled water system at various locations in the cities of Temecula and Murrieta.	9/26/2013	11/6/2013
I-32	10.4	RCFC&FCD / U.S. Army Corps of Engineers	Murrieta Creek Phase II	The District is proposing to continue construction of the Murrieta Creek Flood Control, Environmental Restoration, and Recreation Project (Project). The proposed Project features a multi-use greenbelt channel. The Project also features a multi-use detention/sedimentation basin that includes habitat and wetlands and public recreation.	9/27/2013	11/6/2013
I-23	9.2	The High Country Conservancy	Community Garden Project	Create native plant garden with fruit trees and vegetable gardens (approx 10 acre site) with rain catchment system and storage tank, water conservation equipment, wells and pump repair, solar panel, energy efficient workshops, outdoor education, environmental stewardship, and community outreach.	2012	11/6/2013
I-24	9.2	Anza Civic Improvement League (ACIL)	Anza Community Beautification and Gardens Projects: Park Improvement and Water Conservation – Minor Park, Anza	Primary focus on beautification and preservation of Anza's only public community park.	2012	11/6/2013
I-31	9.2	RCWD	Wellhead Treatment Facilities – Well 102	The proposed wellhead treatment facilities for Well No. 102 will remove contaminants from the well discharge water, including total organic carbon, iron, and manganese, and will permit discharge of treated water to the Rancho California Water District's potable water system.	10/1/2013	11/6/2013

USMW Project List Recommendations – IRWM Plan Projects  
11/13/2013

Ref No.	Score	Lead Agency / Partners	Project Title	Project Description	Last Updated	Date Approved
I-27	7.6	EMWD	Temecula Old Town Sewer Relief Project	The proposed relief sewer to handle increased flows and reduce disturbances to businesses, would run in an easement behind existing buildings on the westerly side of Front Street in Old Town Temecula, adjacent to Murrieta Creek, and extend from 1 <sup>st</sup> Street northerly to Moreno Road.	2012	11/6/2013
I-26	6.4	EMWD	Temecula Valley RWRF Flood Improvements	Extend the 60-inch storm drain pipe into a modified onsite channel by constructing a concrete junction structure, widening the channel, installing a 2-ton rock slope protections downstream of the junction structure, and installing a 1-ton rock slope protection upstream of the junction structure. Replace undersized pipes to increase capacity to safely convey large storm flows to Murrieta Creek.	2012	11/6/2013
<b>Planning Projects</b>						
P-2	n/a	Anza Aguanga IRWMP Community Group	Anza Aguanga Groundwater Study – Phase II	Multi-phased project to evaluate the groundwater basin within the Anza and Aguanga Area. Includes sampling and development of a baseline; development of a flow model; groundwater recharge and basin management recommendations.	2012	11/6/2013
P-4	n/a	Rancho Glenoaks HOA	Upper Santa Gertrudis Creek Stormwater Management Plan	The assessment will identify areas of erosion, sediment, hydrologic connectivity to the Creek, and water quality concerns based on sampling. Recommendations addressing treatment alternatives to improve stream health and connectivity will be included.	2012	11/6/2013
P-6	n/a	RCFC&WCD	Santa Margarita Region Retrofit Opportunities Study and Program Framework	Project will include a study for retrofit opportunities and development of a retrofit program framework. The study will involve researching, inventorying and prioritizing areas of existing development as candidates for targeted retrofit projects.	2012	11/6/2013
P-8	n/a	The High Country Conservancy	Anza-Terwilliger Valley Groundwater Recharge Map and Recharge Monitoring Program	The proposed project would provide two essential components of a future groundwater management plan; a recharge map and a groundwater recharge monitoring program. The recharge map would also provide a preliminary design-level siting opportunities and constraints map for implementation of recharge facilities.	10/1/2013	11/6/2013